Curriculum Development and Quality Assurance in African Higher Education

Sixbert SANGWA

Curriculum Development and Quality Assurance in African Higher Education

Governance, Accreditation, Digital Transformation, and Institutional Resilience in the Age of Artificial Intelligence

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Dedication

To the glory of God, and to all who serve learners with truthfulness, wisdom and care.

For the teachers, scholars and stewards of African higher education whose quiet fidelity gives substance to its public promises.

“but test all things. Hold on to what is good.”

1 Thessalonians 5:21, Christian Standard Bible

Selected as an expression of the author’s commitment to disciplined discernment. The passage is interpreted in its ecclesial context in Chapter 11; it is not presented as a prescription for modern regulatory procedures.

Contents

List of figures....xvi

List of tables....xvii

Abbreviations and acronyms....xx

Preface....xxii

Acknowledgements....xxvi

About this book and how to use it....xxvii

Methodological and scholarly provenance....xxix

Part I. Foundations, Governance and Regulatory Context....1

1. Rethinking Higher Education Quality in a Rapidly Changing World....3

1.1 Introduction: The changing environment of higher education....4

1.2 Historical and philosophical purposes of higher education: Knowledge, truth, intellectual formation, professional competence, and public service....6

1.3 Competing conceptions of higher-education quality: Excellence, fitness for purpose, transformation, accountability, relevance, and public value....8

1.4 African higher education and Rwanda's evolving educational priorities....12

1.5 Massification, access, affordability, graduate employability, and educational inequality....14

1.6 Digital transformation beyond technology adoption: Organisational, pedagogical, institutional, and cultural change....17

1.7 Emerging pressures: Artificial intelligence, global crises, changing labour markets, environmental risks, and geopolitical fragmentation....20

1.8 Theoretical foundations: Critical realism, institutional theory, socio-technical systems, constructive alignment, and evaluative reasoning....22

1.9 Why fragmented quality-assurance approaches are increasingly inadequate....26

1.10 Towards integrated, evidence-traceable, enhancement-oriented quality governance....29

1.11 Implications for universities, regulators, students, employers, and society....34

1.12 Conclusion: Establishing the intellectual agenda for educational quality transformation....38

2. Higher Education Regulation, Qualifications, and Accreditation in Rwanda and Africa....41

2.1 Introduction to higher-education regulation and public accountability....42

2.2 Historical development of quality-assurance and accreditation systems in Africa....43

2.3 Rwanda’s higher-education governance architecture: Institutions, responsibilities and decision authority....45

2.4 The Higher Education Council: Accreditation, programme approval, evaluation and monitoring....47

2.5 The Rwanda Qualifications Framework: Levels, credits, progression and recognition....49

2.6 National requirements for programme development, validation, approval and modification....52

2.7 Quality assurance for distance, online, blended, virtual and AI-mediated education....55
2.8 Institutional autonomy, academic freedom, regulatory accountability and enhancement....58
2.9 Comparative regulatory approaches in Kenya, Ghana and South Africa....60
2.10 Continental and international reference frameworks....62
2.11 Cross-border programmes, prior learning, transnational education and emerging credentials....64
2.12 Regulatory uncertainty, policy change, conflicting provisions and documentary provenance....66
2.13 Strengthening Rwanda's regulatory and institutional quality-assurance practices....71
2.14 Conclusion: Regulation as a foundation for credible educational quality....73

3. Institutional Governance, Organisational Capability, and Sustainable Educational Quality....75

3.1 Introduction: From institutional readiness to enduring capability....76
3.2 University governance structures, leadership, institutional autonomy, and strategic accountability....78
3.3 Internal quality culture, organisational learning, and institutional effectiveness....80
3.4 Academic staffing: Recruitment, qualifications, workload, professional development, and succession....82
3.5 Curriculum-development and instructional-design capabilities....84
3.6 Educational infrastructure: Classrooms, laboratories, libraries, LMS platforms, digital systems, and connectivity....86
3.7 Academic research, postgraduate supervision, scholarly publication, and research-capacity development....89
3.8 Institutional information systems, evidence management, and learning analytics....91
3.9 Data governance, privacy, cybersecurity, and responsible technological procurement....93
3.10 Financial sustainability, resource allocation, partnerships, and operational scalability....95
3.11 Risk governance, institutional independence, strategic dependencies, and accountability....97
3.12 Institutional capability maturity, performance evaluation, and continuous improvement....99
Worked institutional illustration: rapid digital expansion....106
Worked institutional illustration: postgraduate research expansion....107
Implementation sequence and governance responsibilities....107
3.13 Conclusion: Institutional capability as the condition of credible educational promises....109

Part II. Curriculum Development, Digital Learning and Educational Effectiveness....111

4. Evidence-Based Curriculum Development and Programme Design in Higher Education....113

4.1 Introduction: Curriculum as educational philosophy, institutional strategy, and regulatory responsibility....114
4.2 Curriculum theories and approaches: Discipline-based, outcomes-based, competency-based, interdisciplinary, and transformative education....116
4.3 Identifying programme need: Educational, social, professional, research, economic, and labour-market analysis....118

4.4 Stakeholder consultation, benchmarking, and graduate competency profiling....121
4.5 Formulating programme aims, graduate attributes, and measurable programme learning outcomes....122
4.6 Aligning qualifications with national frameworks, award levels, credits, and notional learning hours....124
4.7 Designing module structures: Content coverage, progression, prerequisites, sequencing, and workload balance....125
4.8 Constructive alignment between programme outcomes, module learning outcomes, learning activities, and assessment....127
4.9 Integrating research, digital literacy, artificial intelligence, entrepreneurship, ethics, sustainability, and lifelong learning....129
4.10 Work-integrated learning, internships, clinical and professional placements, capstones, and applied research....131
4.11 Curriculum internationalisation, African contextual relevance, interdisciplinary education, and indigenous knowledge....132
4.12 Recognition of prior learning, micro-credentials, flexible pathways, and stackable qualifications....133
4.13 Developing programme specifications, module descriptions, teaching plans, and assessment matrices....135
4.13.1 Programme-needs and justification record....136
4.13.2 Graduate-competency and qualification-level profile....137
4.13.3 Controlled module-sequencing and workload map....137
4.13.4 Programme-to-module constructive-alignment register....138
4.13.5 Curriculum-coherence and evidence-sufficiency diagnostic....138
4.13.6 Controlled model programme specification....139
4.14 Internal curriculum validation, external review, evidence of implementation readiness, and regulatory submission....140
4.14.1 Context and limits of the hypothetical programme....142
4.14.2 Educational need and programme rationale....142
4.14.3 Award architecture and graduate attributes....143
4.14.4 Modules, credits and academic sequencing....144
4.14.5 Prerequisites and academic progression....145
4.14.6 Notional learning and delivery feasibility....146
4.14.7 Assessing progressive attainment....146
4.14.8 Example of a module and assessment blueprint....147
4.14.9 Institutional conditions and readiness evidence....148
4.14.10 Conditional internal judgement and corrective action....148
4.14.11 Accreditation dossier and evidence traceability....149
4.15 Curriculum evaluation, renewal, programme modification, and academic closure....151
4.16 Conclusion: Curriculum quality as a traceable educational commitment....153

5. Designing and Quality-Assuring Online, Blended, and Flexible Higher Education.....155

5.1 Introduction: The evolution of open, distance, blended, online, and flexible learning.....156

5.2 Distinguishing emergency remote teaching from intentionally designed online education.....158

5.3 Theoretical foundations of digital pedagogy: Community of Inquiry, transactional distance, self-regulated learning, and constructive alignment.....160

5.4 Selecting suitable delivery modalities for different disciplines, qualification levels, and learner groups.....163

5.5 Designing coherent online and blended learning pathways.....166

5.6 Synchronous and asynchronous instruction: Educational purposes, scheduling, interaction, and flexibility.....169

5.7 Learning-management-system architecture: Course shells, navigation, gradebooks, interaction, and learning analytics.....171

5.8 Digital resources, multimedia, open educational resources, copyright, and accessible learning content.....174

5.9 Digital laboratories, virtual simulations, practical learning, and discipline-specific limitations.....176

5.10 Teaching presence, student interaction, collaborative learning, feedback, and engagement.....178

5.11 Low-bandwidth education, mobile learning, offline access, and affordable participation.....180

5.12 Faculty development, instructional-design support, and online teaching competencies.....182

5.13 Online programme monitoring, evidence of learning, learner support, and quality enhancement.....184

5.14 Virtual-learning accreditation, programme readiness, and digital quality-assurance review.....187

5.15 Critical synthesis, professional implications, and conclusion.....191

6. Artificial Intelligence, Assessment Integrity, and the Future of Curriculum and Teaching.....195

6.1 Introduction: AI as an educational, epistemological, institutional, and governance challenge.....196

6.2 Historical evolution and educational applications of artificial intelligence.....198

6.3 Generative AI, agentic systems, adaptive learning, automated feedback, and intelligent tutoring.....199

6.4 AI and curriculum transformation: Graduate competencies, disciplinary knowledge, and professional readiness.....202

6.5 AI literacy and competency development for students, lecturers, academic leaders, and reviewers.....204

6.6 AI-assisted curriculum design, lesson planning, resource development, teaching, and academic research.....206

6.7 Assessment validity, authentic assessment, higher-order reasoning, and evidence of individual learning.....208

6.8 Academic integrity, authorship, AI disclosure, plagiarism, and limitations of detection systems.....211

6.9 Assessment redesign: Oral defence, portfolios, supervised performance, process evidence, and workplace-based assessment.....214

6.10 Algorithmic bias, data protection, transparency, explainability, and learner rights.....216

6.11 Academic labour, faculty professional development, institutional procurement, and technological dependence.....218

6.12 Governance of AI-supported programme evaluation and accreditation....220
6.13 Institutional AI policy development, accountability, risk classification, and policy revision....223
6.14 Towards an evidence-based model of responsible AI-enabled higher education....226
6.15 Conclusion: Protecting educational judgement in an AI-rich university....230

7. Inclusive Curriculum, Learner Support, and Student Success in Digitally Mediated Higher Education....231

7.1 Introduction: Educational quality, equity, and the right to meaningful participation....232
7.2 Philosophical and theoretical foundations of inclusion, accessibility, and learner-centred education....234
7.3 Universal Design for Learning and inclusive curriculum planning....236
7.4 Digital divides: Connectivity, devices, geographic disparities, language, disability, and affordability....239
7.5 Student admissions, orientation, academic induction, and digital literacy....242
7.6 Learner engagement, persistence, motivation, self-regulation, and academic success....244
7.7 Student advising, mentoring, psychosocial support, academic counselling, and referral systems....246
7.8 Supporting students with disabilities and other access requirements in online and blended environments....248
7.9 Postgraduate supervision, research mentoring, and academic writing support....251
7.10 Learning analytics, early-warning systems, ethical monitoring, and responsible intervention....253
7.11 Student voice, complaints, feedback, institutional responsiveness, and learner protection....255
7.12 Graduate competencies, career development, employer engagement, and lifelong learning pathways....257
7.13 Monitoring equity, educational outcomes, and the quality of student experience....258
7.14 Practical instruments for inclusive curriculum and student-support assurance....260
7.15 Critical synthesis and conclusion: Inclusion as an academic quality obligation....269

Part III. Quality Assurance, Accreditation and Institutional Resilience....271

8. Internal Quality Assurance, Programme Monitoring, and Continuous Educational Enhancement....273

8.1 Introduction: Quality assurance as institutional responsibility....274
8.2 Quality assurance, quality control, quality enhancement, and institutional effectiveness....276
8.3 Institutional quality-assurance governance: Academic boards, senates, departmental committees, and quality units....278
8.4 Establishing institutional quality policies, review schedules, responsibilities, and evidence systems....280
8.5 Programme validation, implementation monitoring, and annual academic review....282
8.6 Module evaluation, curriculum coherence, assessment moderation, and external examining....285
8.7 Student feedback, course evaluation, graduate outcomes, and stakeholder evidence....287
8.8 Academic staff evaluation, continuing professional development, and teaching enhancement....289

8.9 Digital learning analytics, institutional dashboards, and risks of misleading performance indicators....291
8.10 Internal quality audits, thematic reviews, benchmarking, and external peer evaluation....293
8.11 Programme review, curriculum renewal, suspension, and closure....295
8.12 Governing corrective actions, performance improvement, follow-up, and verification....297
8.13 Building an organisational culture of responsibility, learning, and academic integrity....300
8.14 An integrated internal quality-assurance lifecycle for African universities....302
Internal Quality Assurance Manual Framework....304
A QA evidence register and traceable finding record....305
Worked hypothetical programme review: from conflicting signals to verified action....306
Implementation priorities, limitations, and professional implications....308
Conclusion....309

9. External Programme Review, Accreditation, and Evidence-Traceable Regulatory Judgement....311

9.1 Introduction: Accreditation as public accountability and professional judgement....312
9.2 The purposes, philosophical foundations, and limitations of external quality assurance....313
9.3 Institutional accreditation, programme accreditation, audits, and periodic external review....315
9.4 Establishing regulatory authority, criteria, applicability, and the current status of requirements....317
9.5 Understanding accreditation dossiers, programme specifications, and institutional evidence....319
9.6 Evidence quality: Authenticity, relevance, currency, completeness, sufficiency, and corroboration....321
9.7 Distinguishing documentary completeness from programme implementation readiness....323
9.8 Adapting Toulmin's model of argumentation to accreditation reasoning....326
9.9 Claims, evidence, evaluative warrants, counter-evidence, qualifiers, and findings....327
9.10 Reviewer expertise, independence, conflicts of interest, calibration, and consistency....329
9.11 Assessing curriculum content, coherence, academic standards, staffing, infrastructure, and sustainability....331
9.12 Reviewing online, blended, AI-supported, and practically intensive programmes....334
9.13 From findings to proportionate recommendations, accreditation conditions, deferral, and non-approval....336
9.14 Review reporting, procedural fairness, institutional responses, appeals, and accountability....339
9.15 Post-accreditation monitoring, verification, corrective action, and programme enhancement....340
9.16 The Evidence-Traceable Accreditation Judgement model and its operational application....342
External Programme Evaluation and Accreditation Toolkit: Integrated operating protocol....347
Conclusion: Defensible judgement and the responsibilities that follow accreditation....348

10. Higher Education Resilience Under Pandemics, Conflict, Environmental Change, and Systemic Disruption....351

10.1 Introduction: Institutional resilience as a quality-assurance concern....352
10.2 Risk, uncertainty, vulnerability, organisational resilience, and educational continuity....353
10.3 Lessons from COVID-19 and emergency remote teaching....356

10.4 Future pandemics, public-health emergencies, institutional preparedness, and flexible learning.....358
10.5 Armed conflict, regional instability, displacement, cross-border restrictions, and higher-education continuity.....360
10.6 Climate change, extreme weather, flooding, drought, heat stress, and infrastructure vulnerability.....362
10.7 Environmental intervention and geoengineering: Scientific evidence, uncertainty, governance, and potential educational implications.....364
10.8 Weather modification, environmental modification technologies, international law, and evidentiary limitations.....366
10.9 Centralisation of educational technology, concentration of platform ownership, digital sovereignty, surveillance risks, and vendor dependence.....368
10.10 Cyberattacks, institutional data loss, platform failures, and digital infrastructure resilience.....369
10.11 Financial shocks, supply-chain disruption, energy insecurity, and institutional sustainability.....371
10.12 Academic continuity for laboratories, clinical placements, fieldwork, internships, and research programmes.....373
10.13 Business-continuity planning, emergency communication, alternative delivery, and teach-out arrangements.....376
10.14 Scenario planning, institutional risk assessment, recovery indicators, and continuous learning from disruption.....378
10.15 A resilience-integrated institutional and programme quality-assurance framework.....380
10.15.1 Higher Education Resilience and Academic Continuity Toolkit.....382
10.15.1.1 Disruption-risk and critical-dependency register.....384
10.15.1.2 Scenario and decision-testing record.....384
10.15.1.3 Programme educational-criticality assessment.....385
10.15.1.4 Continuity-plan and student-communication record.....385
10.15.1.5 Platform and supplier-dependency appraisal.....386
10.15.1.6 Post-disruption academic assurance and closure review.....386
10.15.2 Worked case: Concurrent disruption at a hypothetical institution.....387
10.15.3 Implementation sequence and implications for HEC and universities.....389
10.16 Conclusion: Resilience as the continuing integrity of educational promises.....390

Part IV. Christian Higher Education and the Future of Quality Governance.....393

11. Christian Higher Education: Biblical Foundations, Curriculum Integrity, Digital Learning, and Quality Assurance.....395

11.1 Introduction: The distinct purpose and identity of Christian higher education.....396
11.2 Biblical foundations of knowledge, wisdom, truth, learning, teaching, and intellectual responsibility.....397
11.3 Sola Scriptura and the relationship between biblical authority, theology, philosophy, and academic inquiry.....399
11.4 Historical development and contemporary challenges of Christian universities and theological institutions.....401

11.5 Christian educational philosophy, curriculum purpose, worldview coherence, and graduate formation....403
11.6 Curriculum development for biblical studies, theology, Christian education, Christian leadership, and ministry....406
11.7 Integrating biblical principles into professional disciplines, including business, education, technology, research, and public service....409
11.8 Doctrinal integrity, institutional statements of faith, faculty qualifications, and academic responsibility....411
11.9 Online theological education, blended discipleship, digital learning communities, and spiritual formation....413
11.10 Artificial intelligence, digital theology, responsible technology, authorship, and Christian ethical discernment....415
11.11 Academic assessment, biblical interpretation, scholarly reasoning, research integrity, and educational accountability....417
11.12 The distinction between theological or ecclesial endorsement and nationally recognised academic accreditation....419
11.13 Christian institutional governance, transparent leadership, financial stewardship, and learner protection....422
11.14 Cross-border Christian education, recognition of qualifications, academic partnerships, and legal compliance....424
11.15 A mission-aligned quality-assurance framework for Christian higher education....426
11.15.1 Biblical mission-alignment and evidence....427
11.15.2 Programme verification and evidentiary maturity....428
11.15.3 Digital theological learning and formation....428
11.15.4 Institutional review and corrective accountability....429
11.15.5 Worked evaluation: a hypothetical blended degree....430
11.15.6 Limits, testing and research priorities....431
11.16 Conclusion: Faithfulness, scholarly excellence, and responsible institutional witness....433

12. Towards an Integrated Framework for Quality, Innovation, and Sustainable Higher Education in Rwanda and Africa....435

12.1 Introduction: From conceptual analysis to operational quality governance....436
12.2 Synthesis of the volume's principal theoretical, regulatory, institutional, and educational arguments....437
12.3 Revisiting the Integrated Evidence-Traceable Quality Governance framework....440
12.4 Integrating institutional capability, curriculum design, programme assurance, and accreditation judgement....443
12.5 Extending the framework to AI governance, digital inclusion, risk, sustainability, and institutional resilience....445
12.6 Evidence maturity, implementation alignment, quality thresholds, and continuous monitoring....448
12.7 Rwanda-specific operationalisation: Regulatory requirements, institutional priorities, and implementation constraints....450

12.8 Institutional implementation pathways for public, private, specialised, emerging, and digitally enabled universities....453
12.9 Adaptation to other African higher-education systems and cross-border provision....455
12.10 Implications for HEC, ministries, qualification authorities, and external quality-assurance agencies....457
12.11 Implications for university leadership, academic senates, curriculum developers, and internal QA units....459
12.12 Implications for lecturers, instructional designers, student-support professionals, and learners....461
12.13 Developing institutional indicators, dashboards, assessment tools, and evidence-management systems....462
12.14 Implementation roadmap: Initial diagnosis, capacity development, programme improvements, evaluation, and institutionalisation....468
12.15 Research priorities: Expert appraisal, empirical validation, institutional pilots, programme outcomes, and longitudinal evaluation....470
12.16 Framework limitations, institutional responsibilities, and the need for periodic revision....473
12.17 Conclusion: Towards credible, inclusive, resilient, and educationally transformative universities....474

References....477

Additional source access points....488

Glossary of key concepts....491

Professional instruments directory....499

About the author and editors....503

About Open Christian Press....504

Subject index....505

List of figures

Figure 1.1. Purpose-Referenced, Evidence-Traceable Quality Governance: An Extended Conceptual Architecture....30
Figure 2.1. Regulatory provenance and evidence-traceable evaluation pathway....67
Figure 3.1. Institutional capability as an interdependent quality-governance architecture....104
Figure 4.1. Evidence-traceable curriculum development from need to educational enhancement....115
Figure 4.2. Evidence-gated programme validation and readiness sequence....142
Figure 5.1. Evidence-traceable design and delivery pathway....168
Figure 6.1. From student performance to a defensible qualification claim....210
Figure 6.2. Six mutually dependent controls in responsible AI-enabled quality governance....227
Figure 7.1. Proposed participation-to-success and evidence feedback architecture....261
Figure 8.1. An evidence-to-enhancement lifecycle for institutional and programme quality assurance....302
Figure 8.2. Progressive evidentiary strength in internal quality assurance....303
Figure 9.1. Programme evidence maturity across the accreditation lifecycle....325
Figure 9.2. Evidence-Traceable Accreditation Judgement: Eight-stage decision architecture....343
Figure 10.1. Proposed resilience-integrated evidence-traceable quality governance cycle....381
Figure 11.1. Mission-aligned, evidence-traceable quality governance in Christian higher education....427
Figure 12.1. Expanded IETQG framework: capability, programme assurance, evidence-traceable judgement, and enhancement....442
Figure 12.2. The Higher Education Quality Governance Implementation Handbook as an interoperable information and decision system....465

List of tables

Table 1.1. Conceptions of Higher Education Quality and Their Distinct Evidence Demands....11
Table 1.2. A Participation-to-Achievement Lens for Inclusive Expansion....16
Table 1.3. The Complementary Theoretical Roles in Quality Governance....25
Table 1.4. Fragmentation Risks and Their Necessary Governance Connections....28
Table 1.5. The Six-Domain Quality Concepts and Evaluation Matrix....31
Table 1.6. Illustrative Evidence-Traceability Record for a Proposed Blended Programme....33
Table 1.7. Differentiated Responsibilities for Purpose-Referenced Quality....36
Table 2.1. Rwanda qualification and credit controls for academic programme review....50
Table 2.2. Evidence-gated sequence for development and approval of an academic programme....54
Table 2.3. Comparative architecture of selected African higher-education quality-assurance systems....61
Table 2.4. Rwanda Higher Education Regulatory and Accreditation Reference Matrix: proposed core register....68
Table 3.1. Proposed five-level institutional capability maturity descriptors....100
Table 3.2. Institutional Capability Self-Assessment Instrument: core domains and evidence tests....101
Table 3.3. Evidence-anchored institutional improvement register: proposed fields and decision rules....103
Table 3.4. Indicative alignment of the proposed capability domains with Rwanda's 2021 IQA standards....105
Table 4.1. Curriculum traditions and their evaluative implications....118
Table 4.2. Programme-needs evidence register....120
Table 4.3. Illustrative graduate outcome architecture....123
Table 4.4. Module-sequencing diagnostic....127
Table 4.5. Programme-level constructive-alignment matrix for the hypothetical example developed in Section 4.14....129
Table 4.6. Curriculum-coherence diagnostic for internal validation....138
Table 4.7. Model programme specification register....140
Table 4.8. Complete illustrative 480-credit programme register....144
Table 4.9. Evidence-traceable review of the hypothetical programme....150
Table 4.10. Provisional semester-by-semester allocation of the hypothetical Level 8 programme....150
Table 4.11. Illustrative programme launch-readiness and condition-closure register....151
Table 5.1. Four theoretical lenses and the questions they contribute to digital programme evaluation....162
Table 5.2. Illustrative modality decision matrix for prospective programme design....164
Table 5.3. Reusable course-design blueprint: A six-unit online research-methods sequence (illustrative)....168
Table 5.4. Proposed LMS readiness audit: Controls, demonstrations and common false assurances....172
Table 5.5. Digital teaching evaluation instrument for professional development and quality enhancement....183
Table 5.6. Evidence-to-improvement register for continuing digital programme quality assurance....185

Table 5.7. Proposed digital programme implementation-readiness rubric (non-official)....189
Table 5.8. Evidence-traceable findings in a hypothetical blended-programme review....190
Table 6.1. Illustrative AI applications and the appropriate locus of educational control....201
Table 6.2. Task-level AI-use disclosure model....213
Table 6.3. Assessment-redesign matrix for AI-rich learning environments....215
Table 6.4. Evidence-traceable AI-assisted evaluation record....222
Table 6.5. Risk-based AI-tool evaluation form for universities....224
Table 6.6. Decision rights and evidence of functioning institutional AI governance....225
Table 6.7. Illustrative implementation and assurance roadmap for institutional AI adoption....229
Table 7.1. Inclusive Curriculum and Student Support Review Matrix....262
Table 7.2. Student Lifecycle Responsibility and Learner-Protection Map....263
Table 7.3. Learner Accessibility, Assessment and Accommodation Verification Checklist....264
Table 7.4. Student Support Evidence and Responsible Intervention Register....265
Table 7.5. Equity-sensitive educational indicators: operational definitions, interpretive limits and complementary evidence....266
Table 8.1. The purposes, evidence and characteristic errors of internal educational quality functions....277
Table 8.2. Illustrative institutional allocation of internal quality-assurance decision rights....279
Table 8.3. Functional crosswalk for HEC Rwanda's 2021 internal quality-assurance standards....281
Table 8.4. Annual programme-review template: minimum evaluative fields and decision outputs....283
Table 8.5. Proposed module-evaluation rubric for documented professional judgement....286
Table 8.6. Quality dashboard indicators and essential safeguards against misinterpretation....291
Table 8.7. Corrective-action tracking and verification matrix: illustrative entries....298
Table 8.8. Proposed quality-assurance evidence register and verification record....305
Table 9.1. External review purposes and the limits of inference....316
Table 9.2. Proposed normative-provenance and applicability register....318
Table 9.3. Evidence appraisal: What a record can and cannot establish....322
Table 9.4. Model programme evidence register with claim-level traceability....322
Table 9.5. Model claim-evidence-warrant-rebuttal record....328
Table 9.6. Calibration exercise for an external panel....330
Table 9.7. Programme-level academic evaluation matrix....333
Table 9.8. Connecting HEC distance-learning assessment with ETAJ without replacing the official form....336
Table 9.9. Proposed findings-to-response guide for professional reasoning....337
Table 9.10. Proposed accreditation condition and verified-closure record....341
Table 9.11. Operational ETAJ reviewer worksheet....344
Table 9.12. Model external programme review report and case-management template....347
Table 10.1. Distinguishing resilience concepts by evaluative object....355
Table 10.2. Scientific and legal evidence-grading guide for atmospheric intervention claims....367
Table 10.3. Educational substitutability and evidence requirements during disruption....375

Table 10.4. Proposed recovery and assurance dashboard....378
Table 10.5. Resilience-integrated quality-assurance review matrix....382
Table 10.6. An illustrative, explicitly hypothetical worked risk register for a Rwandan university....387
Table 11.1. Biblical mission-alignment and educational evidence matrix....405
Table 11.2. Proposed curriculum-design and programme-verification criteria....407
Table 11.3. Credential authority and recognition: A mandatory distinction....420
Table 11.4. Proposed digital discipleship and online theological-education rubric....428
Table 11.5. Christian higher-education institutional QA self-assessment....429
Table 11.6. Illustrative evidence-traceable review of a hypothetical blended biblical-studies degree....430
Table 11.7. Non-compensatory quality gates and proportionate institutional decisions....433
Table 12.1. The cumulative arguments of the volume and their implementation implications....439
Table 12.2. Interface-verification matrix for programme governance....445
Table 12.3. Claim-relative evidence-maturity protocol....448
Table 12.4. Rwanda standards-to-implementation control register: recommended fields....452
Table 12.5. Differentiated institutional implementation starting points....455
Table 12.6. Five-stage IETQG jurisdictional-adaptation protocol....456
Table 12.7. Proposed institutional quality indicator dictionary and interpretive safeguards....464
Table 12.8. HEQGIH Version 1.0: interoperable professional instruments....466
Table 12.9. Suggested eighteen-month IETQG implementation roadmap....468
Table 12.10. Proposed validation agenda and methodological safeguards....472

Abbreviations and acronyms

Abbreviations are expanded according to their use in this volume. Local identifiers such as E1 –E5, programme codes and example-record numbers are defined with the relevant instrument.

Abbreviation	Meaning
ACQF	African Continental Qualifications Framework
AI	Artificial intelligence
ASG-QA	African Standards and Guidelines for Quality Assurance in Higher Education
ATS	Association of Theological Schools
CAST	CAST (organisation responsible for the Universal Design for Learning Guidelines)
CHE	Council on Higher Education (South Africa)
CHE-CQAF	Christian Higher Education Curriculum and Quality Assurance Framework
COVID-19	Coronavirus disease 2019
CPD	Continuing professional development
CRPD	Convention on the Rights of Persons with Disabilities
CSB	Christian Standard Bible
CUE	Commission for University Education (Kenya)
ENMOD	Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques
ESG	Standards and Guidelines for Quality Assurance in the European Higher Education Area
ETAJ	Evidence-Traceable Accreditation Judgement
GTEC	Ghana Tertiary Education Commission
HAQAA	Harmonisation of African Higher Education Quality Assurance and Accreditation
HEC	Higher Education Council (Rwanda)
HEQC	Higher Education Quality Committee (South Africa)
HEQGIH	Higher Education Quality Governance Implementation Handbook
IAG-AAIF	Institutional AI Governance and Academic Assessment Integrity Framework
ICETE	International Council for Evangelical Theological Education
ICT	Information and communication technology
IETQG	Integrated Evidence-Traceable Quality Governance
IPCC	Intergovernmental Panel on Climate Change
IQA	Internal quality assurance

Abbreviation	Meaning
ISO	International Organization for Standardization
ITU	International Telecommunication Union
LMS	Learning-management system
MINEDUC	Ministry of Education (Rwanda)
MINEMA	Ministry in Charge of Emergency Management (Rwanda)
MLO	Module learning outcome
NIST	National Institute of Standards and Technology (United States)
OECD	Organisation for Economic Co-operation and Development
OER	Open educational resources
PDF	Portable Document Format
PLO	Programme learning outcome
PPF	Programme proposal form
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PSF	Programme specification form
QA	Quality assurance
RPL	Recognition of prior learning
RPO	Recovery point objective
RQF	Rwanda Qualifications Framework
RTO	Recovery time objective
SRM	Solar radiation modification
UDL	Universal Design for Learning
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	United Nations High Commissioner for Refugees
URL	Uniform Resource Locator
W3C	World Wide Web Consortium
WCAG	Web Content Accessibility Guidelines
WHO	World Health Organization
WMO	World Meteorological Organization

Preface

An academic programme begins with a promise. It offers a particular form of learning, a recognised intellectual level, a relationship between study and future responsibility, and an institutional commitment to support those who enrol. That promise reaches beyond the programme document. It concerns the lecturer who is available to teach, the student who can access the required material, the assessment that genuinely tests understanding, the governing body that acts when provision fails, and the authority that explains why a qualification merits public confidence. The central concern of this book is how these obligations can be brought into a coherent relationship and sustained through changing circumstances.

Curriculum development and quality assurance are sometimes encountered as separate professional tasks. A curriculum committee attends to module content; a digital-learning team configures the platform; a quality office prepares a submission; an external panel examines the evidence; and senior leadership manages finance and risk. Each activity has legitimate expertise and responsibilities. Yet the educational claim connecting them can become difficult to see. A curriculum that promises advanced professional competence may be approved without a viable arrangement for practice. A well-supported learning platform may host assessments that cannot establish individual achievement. An apparently complete review may produce recommendations that no responsible office has the resources or authority to implement. The question pursued throughout the volume is how institutions can recognise and govern these relationships.

The book develops from my 2026 thesis, Governing Quality in Digitally Transforming African Higher Education: An Integrated Framework for Institutional Capability, Programme Quality Assurance, and Accreditation Judgement. That work supplied the initial architecture of Integrated Evidence-Traceable Quality Governance, abbreviated as IETQG, and the nested Evidence-Traceable Accreditation Judgement model, or ETAJ. Its central distinction was between institutional capability, programme assurance and the reasoning through which accreditation findings are justified. This volume extends that foundation into a broader account of curriculum design, educational practice, inclusion, artificial intelligence, resilience and institutional mission. The relationship is cumulative, while the developed chapters retain their own arguments, sources and practical contributions.

The contribution claimed for IETQG is specific. Educational quality, constructive alignment, organisational capability, regulatory review and evidence-based judgement have substantial intellectual histories. The framework draws these concerns together by examining what happens when a claim crosses from one institutional function to another. General capability must become programme-specific provision. A programme design must become a learning experience that can actually be delivered. Evidence must support the particular conclusion drawn from it. A reviewer's finding must be distinguished from the decision reserved to the competent authority. Subsequent monitoring must be capable of changing the arrangements

that generated a weakness. The framework makes these interfaces open to examination; it does not remove the professional judgement required to interpret them.

Rwanda is the principal regulatory and institutional setting because careful analysis requires a defined source of authority and an identifiable context of application. References to Kenya, Ghana and South Africa provide bounded comparisons through which similarities and differences can be examined. The African scope of the title expresses the volume's intellectual concern and intended relevance, rather than a claim that four jurisdictions represent every higher-education system on the continent. A useful principle may travel across borders while its legal expression, professional thresholds and institutional arrangements change. Readers should therefore expect sustained attention to applicability, documentary provenance and the limits of comparison.

The curriculum occupies the centre of the argument. It is where an institution's educational purposes become a structured account of what students should encounter, understand, practise and demonstrate. Programme aims need defensible qualification levels, coherent progression, adequate disciplinary substance and assessments capable of supporting the claimed attainment. They also require realistic staffing, time, resources and learner support. This understanding connects academic design to institutional governance without reducing curriculum to administration. The intellectual character of a degree remains a scholarly responsibility, and the book consistently protects the need for disciplinary judgement, meaningful inquiry and the possibility of educational purposes that resist simple measurement.

Digital transformation makes these responsibilities particularly visible. A programme can be technically accessible yet pedagogically weak, apparently flexible yet inaccessible to learners with limited connectivity, or efficiently administered yet unable to sustain trustworthy assessment. Intentional online and blended education therefore requires decisions about interaction, teaching presence, accessible resources, practical learning and the limits of substitution. The same reasoning applies to artificial intelligence. Its educational significance concerns the knowledge learners need, the assistance institutions permit, the evidence by which achievement is established and the human authority that remains accountable. A tool's capacity to produce fluent material cannot establish the validity of its output or the learning of the person using it.

Inclusion follows from the nature of the educational promise itself. Formal admission and the availability of course materials do not settle whether learners can participate, obtain appropriate support and demonstrate achievement fairly. Affordability, disability, language, digital access, prior preparation and personal circumstances can shape the path from enrolment to educational attainment. These considerations require careful evidence and context-sensitive decisions. They also require protection against a mistaken choice between access and academic standards. A credible institution should identify avoidable barriers while

preserving the competence its qualification represents. The book accordingly treats accessibility, assessment and learner support as connected elements of programme assurance.

Quality assurance then carries these responsibilities through time. Internal review should help institutions discover what their normal routines overlook and verify whether corrective action has improved provision. External review adds independent scrutiny, public accountability and the obligation to explain consequential judgements. It requires attention to source authority, evidence quality, contrary information, uncertainty and the permissible scope of the decision. ETAJ supplies a proposed structure for that reasoning within IETQG. Its value must ultimately be examined in use. The existence of a carefully designed worksheet is not evidence that reviewers will reach better conclusions, and agreement among reviewers would not by itself prove that their conclusions are sound.

Resilience extends the same argument to interrupted conditions. Flooding, conflict, public-health emergencies, cyber incidents, financial shocks and failure of essential suppliers can threaten educational obligations even when the original curriculum is sound. An institution needs to know which activities can be adapted, which competencies require protected practical opportunities and which losses must be disclosed and repaired. Chapter 10 also examines environmental intervention and geoengineering through explicit distinctions among documented techniques, modelled possibilities, legal provisions, scientific uncertainty and unsupported attribution. The purpose is to preserve both serious inquiry and disciplined evidence, while directing institutional preparedness towards identifiable exposure and educational consequences.

The dedicated chapter on Christian higher education examines the relationship between a distinctive mission and common obligations of scholarship, learner protection and lawful academic provision. Its theological foundation is Sola Scriptura. That commitment supplies reasons for truthfulness, careful interpretation, responsible teaching and accountable stewardship, while the chapter distinguishes biblical doctrine from empirical investigation and statutory authority. An institution's confessional fidelity, its students' academic achievement and the legal recognition of its awards each require an appropriate form of judgement. The chapter's place in the volume demonstrates how mission can shape educational purpose without dissolving these distinctions or diminishing professional responsibilities.

This is a scholarly reference book intended for work as well as reading. Its matrices, registers, worksheets, rubrics and worked illustrations translate arguments into questions that university leaders, curriculum committees, lecturers, quality officers and external reviewers can examine together. They are proposed instruments whose fields, thresholds and decision routes must be adapted to the relevant jurisdiction and institution. Their usefulness depends on whether they help reveal a material inconsistency, clarify an educational obligation or support an accountable response. Additional paperwork that does none of these things would weaken the purpose for which the tools were developed. The final chapter therefore joins

implementation to questions of proportionality, resources, professional learning and future evaluation.

The limits of the underlying scholarship are stated openly. The chapters rely on documentary and conceptual analysis, and their hypothetical cases are demonstrations of reasoning rather than reports of observed institutional performance. The doctoral foundation does not provide a complete contemporaneous record of every search, screening or coding operation. Neither IETQG nor ETAJ has been established through the empirical validation envisaged in the research agenda. These qualifications determine the strength of the book's claims. They also invite further scholarship that tests the frameworks, examines their costs and unintended effects, and revises them when experience or better evidence requires it.

My hope is that readers will use the volume to bring educational purposes, institutional commitments and public claims into closer agreement. This requires intellectual seriousness, practical cooperation and the humility to investigate uncomfortable evidence. It also requires respect for the people whose learning is affected by the decisions described in these pages. The most consequential question is whether an institution can show what it promises, how that promise is supported, what remains uncertain and how it will act when the evidence demands change. The chapters that follow offer an integrated, revisable contribution to that work.

Sixbert SANGWA

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Prof. Dr. Placide MUTABAZI and Dr. Jean Bosco MUVUNYI are acknowledged as the editors of this authored volume. Their editorial designation is distinct from chapter authorship and from the authorship of the earlier collaborative studies cited throughout the text. The contributions of co-authors to those studies remain recognised through the relevant citations and bibliographic records.

The work is indebted to the scholars whose theories and research inform its arguments, and to the public institutions whose regulatory instruments and documentary resources make careful scrutiny possible. Citation recognises that intellectual debt while preserving the distinction between a source's stated position and the interpretations advanced here. The volume's synthesis, proposals and remaining limitations remain the responsibility of the author; acknowledgement should not be read as endorsement by any individual or institution named in its sources.

About this book and how to use it

This book can be read as a continuous argument or consulted in relation to a specific professional responsibility. Its four parts follow the movement from educational purpose, regulation and institutional capability to curriculum and delivery, internal and external assurance, resilience, institutional mission and implementation. Each chapter retains its own abstract, keywords, numbered sections, analytical tools and conclusion. The unified references, glossary, professional instruments directory and subject index provide routes across topics without requiring readers to treat each chapter as an isolated publication.

Readers beginning with the conceptual problem should follow Chapters 1–3. These chapters explain why educational quality has several dimensions, how regulatory authority differs from professional guidance, and why the possession of resources is insufficient evidence of the capacity to use them dependably. The distinctions introduced here govern the practical chapters. In particular, institutional capability concerns enduring organisational functions, while implementation readiness concerns a specified programme, cohort, site and delivery arrangement at a particular stage. A judgement about one should not be transferred to the other without appropriate evidence.

Curriculum committees, programme developers and academic senates may begin with Chapter 4, using Chapters 2 and 3 to establish the regulatory and resource conditions within which design takes place. Chapters 5–7 then help examine the relationship among delivery mode, assessment, artificial intelligence, accessibility and learner support. These chapters are most useful when consulted together. For example, a decision to replace an examination with a digital portfolio changes the assessment design, the demands on teaching and feedback, the conditions for verifying individual achievement and the barriers some learners may encounter.

Quality officers and external reviewers should read Chapters 8 and 9 alongside the programme-specific questions in Part II. Internal assurance establishes the institutional record of monitoring, interpretation and corrective action; external review examines claims through an authorised process of independent judgement. The tools should be used to connect an applicable requirement, a precise claim, credible evidence, verification, reasoning and a proportionate response. The distinction between a deficiency that has been demonstrated and a claim that has not yet been demonstrated is essential to both educational protection and procedural fairness.

University councils, executive teams and risk officers will find particular value in Chapters 3, 10 and 12. Read together, they connect resource allocation and decision authority to continuity, data stewardship, institutional dependencies and implementation. Chapter 11 provides a dedicated route for Christian universities, seminaries and ministry-training providers, while retaining the common requirements developed elsewhere. Researchers and

postgraduate students can use the theoretical discussions and the final validation agenda to examine the frameworks' assumptions, identify alternative explanations and design subsequent empirical inquiry.

Before adapting a professional instrument, identify its purpose, the unit of review, the responsible user and the authority governing the decision. Preserve the source and version of each applicable requirement. Define what each field will mean in the local context, identify who will verify the evidence and establish how findings will lead to action. A small institution may need fewer administrative fields than a large university, but essential academic, legal, safety and learner-protection obligations still require a defensible treatment. The instruments are author-developed proposals and acquire no statutory force merely through use of this volume.

Worked examples and illustrative figures should be read according to their stated evidentiary status. Hypothetical cases demonstrate an analytical method; they do not report actual institutions, validated outcomes or regulatory precedents. The most productive use of the book is iterative: clarify the claim, examine the relevant chapter and source, apply a suitably adapted record, investigate disagreement and return to the framework when experience exposes a limitation. Chapter 12 provides the integrative route for making those records and responsibilities work together.

Methodological and scholarly provenance

This authored scholarly volume develops a sustained programme of critical analysis across twelve chapters. Its principal foundational source is the author's 2026 thesis, Governing Quality in Digitally Transforming African Higher Education: An Integrated Framework for Institutional Capability, Programme Quality Assurance, and Accreditation Judgement. The thesis supplies the conceptual foundation; the book substantially extends its scope through focused analysis of curriculum development, digital education, artificial intelligence, inclusion, resilience and Christian higher education.

The underlying approach is qualitative and based on secondary sources, combining critical literature synthesis, documentary interpretation, standards mapping, bounded comparison and conceptual integration. Official legislation and regulatory texts are primary normative sources even though the overall research design uses existing documents rather than participant data. Their authority concerns the duties, powers or standards they actually establish. Peer-reviewed scholarship supplies theoretical explanations, empirical findings from the studies cited and critical perspectives on those explanations. Professional frameworks supply potentially relevant benchmarks. The author's own tools and propositions constitute a further category whose status must remain distinguishable from each of these sources.

The doctoral design brings together a critical realist orientation with institutional theory, socio-technical reasoning, constructive alignment and argument-based evaluation. These perspectives serve different purposes. Critical realism permits a distinction between available records, enacted practice and the organisational conditions that may explain it. Institutional theory draws attention to the possibility that formal arrangements become separated from ordinary practice. Socio-technical analysis examines relations among people, systems and routines. Constructive alignment addresses the relationship among intended learning, activities and assessment. Evaluative reasoning examines whether the available evidence supports a particular conclusion. Their integration supplies a conceptual architecture rather than a demonstrated causal sequence.

The limitations of the doctoral execution record require explicit acknowledgement. Its abstract, methodology chapter and Appendix O state that complete contemporaneous records of searching, screening, coding, calibration and corpus-version control are unavailable. Parts of the methodological account specify procedures and safeguards whose consistent execution cannot be independently established from the surviving record. Retrospectively organised appendices clarify analytical categories and provenance, but they do not replace missing execution logs. Accordingly, this volume does not convert the thesis's proposed procedures into a claim that every operation was completed or that the full inquiry can be reproduced from a comprehensive original archive.

The completed chapters employ purposive critical synthesis within their respective scopes. Sources are considered for their normative authority, conceptual relevance, currency, evidentiary quality and ability to challenge an attractive inference. The book-wide consolidation preserves those distinctions and brings the developed arguments into one reference structure. It does not constitute a new preregistered systematic review or create a new screened corpus. No PRISMA flow counts, search yields, deduplication totals, interviews, field observations, confidential accreditation files or experimental outcomes are supplied as if newly generated through consolidation. The methodological claims of each cited empirical study remain those of that study and should be assessed through its original report.

Rwanda is the anchor jurisdiction for regulatory interpretation and practical operationalisation. Kenya, Ghana and South Africa provide selected documentary comparators; they are not a representative sample from which continental prevalence can be estimated. Comparison concerns functions such as programme approval, qualifications, institutional assurance and review authority. Similar terminology does not establish legal equivalence. A national statute, a regulator's guideline, an institutional undertaking and an international professional benchmark can address a related concern while carrying different authority. Transfer of a proposed tool therefore requires verification of the receiving jurisdiction, award, discipline, site, mode, date and competent decision body.

The relationship between published documents and actual practice remains a central inferential limit. A policy establishes that a policy exists in the identified version. It cannot independently establish that staff follow it, that students benefit from it or that implementation is sustained. The volume therefore differentiates declared intentions, allocated resources, configured arrangements, bounded testing, enacted provision and subsequent review. The instruments group these states according to their purpose: Figure 8.2 distinguishes five internal-assurance stages, Figure 9.1 presents six lifecycle stages, and Table 12.3 consolidates a five-stage E1–E5 protocol. Their numbering is local to each instrument, not interchangeable grades. The common principle is claim-relative evidentiary scrutiny, with independent judgement about authenticity, relevance, sufficiency and contrary evidence.

IETQG is the overarching proposal linking institutional capability, programme assurance, accreditation judgement and subsequent monitoring and enhancement. ETAJ is nested within it as a model for tracing reasoning from an applicable norm and institutional claim through evidence, verification, warrant, qualification or rebuttal, finding and lawful response. The chapters extend their professional application to curriculum design, digital learning, AI, inclusion, resilience and Christian higher education. Neither framework is presented as regulator-approved, independently validated, causally effective or proven to improve inter-rater agreement. The final chapter identifies the expert appraisal, usability work, comparative pilots and longitudinal studies through which such claims could later be investigated.

Hypothetical programme examples, numerical illustrations, model records and proposed implementation sequences show how the reasoning might be applied. They are not disguised

institutional case studies, reported audit outcomes or evidence that the tools succeed in practice. The same principle governs conceptual diagrams: their arrows identify proposed relations, dependencies or review pathways rather than statistically estimated effects. Where the discussion concerns contested environmental interventions, observations, bounded experiments, models, legal restrictions and allegations of specific events retain separate evidentiary status. In the Christian higher-education chapter, scriptural authority, theological interpretation, observable educational achievement and legal recognition are likewise distinguished.

The book also retains the intellectual debts of the prior publication programme. Earlier sole-authored and collaborative studies are cited where their arguments inform the present synthesis, and co-authors retain credit for those contributions. Editorial designation in this volume does not retrospectively change authorship of earlier works. Nor does citation establish permission to reproduce material beyond its applicable terms. Publication identifiers support traceability and discovery; they do not certify external peer review, academic recognition, institutional endorsement or empirical validity.

The resulting contribution is interpretive, conceptual and professional. Its arguments can be examined for source fidelity, coherence, relevance, explanatory value and defensible boundaries. Its tools can support future inquiry and carefully governed application. Claims about actual institutional performance, student outcomes, causal effectiveness or universal transferability require further evidence. Rapid legal and technological change also means that operational users must revisit sources and assumptions when applying the book. Transparent limitation is therefore part of the quality standard advanced throughout the volume: the strength of a conclusion should remain proportionate to the authority and evidence available for it.

PART I

Foundations, Governance and Regulatory Context

Educational quality becomes difficult to judge when its purposes, sources of authority and conditions of delivery are treated separately. The opening part establishes the distinctions needed for the rest of the volume. Chapter 1 examines the intellectual, professional, ethical and public purposes of higher education and develops a multidimensional account of quality. Chapter 2 then asks which bodies and instruments govern academic provision, with Rwanda as the principal jurisdiction and selected African systems as comparators. Chapter 3 turns to the institutional capabilities through which educational obligations can be sustained.

Together, the chapters establish a demanding but practical premise: a legitimate educational purpose requires lawful authority and a credible institutional means of fulfilment. Regulatory compliance, scholarly worth, learner protection and organisational capability are connected claims that need appropriate evidence. The evaluative matrices and registers introduced here help readers preserve those distinctions before undertaking curriculum design, digital innovation or programme review. Part II develops their implications within the academic programme itself.

1. Rethinking Higher Education Quality in a Rapidly Changing World
2. Higher Education Regulation, Qualifications, and Accreditation in Rwanda and Africa
3. Institutional Governance, Organisational Capability, and Sustainable Educational Quality

CHAPTER 1

Rethinking Higher Education Quality in a Rapidly Changing World

Educational Purpose, Institutional Transformation, and the New Quality Imperative

Abstract

Higher education is expanding while its purposes, delivery arrangements, and grounds of public legitimacy are being renegotiated. Neither formal accreditation, technological sophistication, graduate employment nor institutional prestige can independently establish that a university provides a high-quality education. This chapter develops a multidimensional account of quality grounded in educational purpose and attentive to the interconnected conditions under which academic promises become credible practice. It critically examines the historical purposes of universities; competing conceptions of quality; Africa's expanding and unequal higher-education landscape, with Rwanda as the principal policy context; digital and artificial-intelligence transformation; and pressures arising from geopolitical, environmental, economic, and institutional disruption. A critical interpretive synthesis of selected scholarly and official documentary sources brings critical realism, institutional theory, socio-technical thinking, constructive alignment, and evaluative argumentation into a complementary analytical architecture. The resulting six-domain Quality Concepts and Evaluation Matrix differentiates regulatory compliance, academic quality, educational effectiveness, learner protection, institutional sustainability, and public value. A related evidence-traceability logic explains why a document, performance measure, or accreditation outcome must be interpreted relative to a specific claim, normative source, implementation context, and justified evaluative warrant. The chapter identifies key safeguards against compliance ceremonialism, technological determinism, misleading employability measures, and inequitable expansion. It offers practical diagnostic questions and an explicitly proposed framework for institutions and reviewers without presenting that framework as regulator-approved or empirically validated. The argument establishes educational purpose as the organising criterion for the volume's subsequent regulatory, institutional, curricular, and accreditation analyses.

Keywords: higher education quality; educational purpose; African higher education; Rwanda; digital transformation; quality governance; evidence traceability

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1.1 Introduction: The changing environment of higher education

A university can hold an accreditation certificate, employ distinguished academics, advertise an advanced learning-management system and produce impressive employment statistics while still failing to deliver an intellectually demanding, inclusive and sustainable education to a substantial proportion of its students. The opposite possibility also deserves attention: a modestly resourced institution may support serious scholarship, meaningful learning and responsible community engagement without enjoying the prestige associated with international rankings. These are not anomalies at the margins of university evaluation. They expose a foundational difficulty: quality in higher education is a judgement about purposes achieved under defensible conditions, rather than a property established by one credential, asset, metric or reputation.

The difficulty becomes more pressing as higher education moves simultaneously towards greater participation, digital provision, accelerated technological change and more complex public accountability. UNESCO's 2026 global trends report records 269 million tertiary students in 2024 and a global gross enrolment ratio of approximately 44%, while identifying sharply uneven participation across regions (Gutović et al., 2026). Growth creates opportunities for intellectual participation and social mobility, but also exposes tensions between available resources and educational commitments. The expansion of programmes, institutions and credentials does not automatically increase the quality of graduates' knowledge or the trustworthiness of academic awards. Institutions must show what students are expected to learn, how they are enabled to learn it, whether they actually demonstrate it, and whether the arrangements can be maintained over time.

This chapter argues that higher-education quality should be understood as a multidimensional, purpose-referenced and evidence-dependent public judgement. The phrase *purpose-referenced* means that evaluation must begin with an explicit account of what a university or programme is supposed to achieve. *Multidimensional* means that no single legitimate interest, including statutory conformity or labour-market relevance, exhausts the educational undertaking. *Evidence-dependent* means that claimed quality must be supported by material capable of demonstrating more than institutional aspiration. *Public judgement* recognises that academic institutions exercise responsibilities affecting learners, employers, professional communities, governments and society, even when their missions and ownership arrangements differ.

The position avoids two unsatisfactory extremes. A purely managerial approach can mistake conformity with auditable procedures for genuine learning. An entirely relativist approach, by contrast, can allow each institution to determine quality solely by reference to its preferred mission, leaving learners without meaningful minimum protections and public authorities unable to defend academic standards. Harvey and Green's (1993) enduring account of competing quality conceptions, and Harvey's (2024) reconsideration three decades later,

demonstrate why definitions of quality cannot be separated from power, values and the criteria through which evaluation occurs. The task is not to abolish disagreement, but to make evaluative purposes, evidence and reasoning sufficiently explicit to support responsible decisions.

The chapter proceeds from first principles to operational implications. It examines the educational purposes that justify universities; analyses different quality concepts; situates these concepts in African and Rwandan developments; evaluates massification, digital transformation and emerging systemic pressures; and develops a theoretical account of the relationships among institutional capability, programme assurance and regulatory judgement. It concludes with a proposed six-domain evaluation matrix intended to inform institutional self-review and professional discussion. Subsequent chapters take its philosophical account of quality into the separate questions of legal authority, institutional capability, curriculum, delivery, assurance, accreditation and resilience.

Methodologically, this chapter is a critical conceptual and documentary synthesis, not a new empirical survey or a completed systematic review. Its evidence base comprises the author's 2026 doctoral thesis, together with selected established scholarship and identifiable official publications of UNESCO, the African Union, Rwanda's Ministry of Education and Higher Education Council, and international quality-assurance bodies. The selection is purposive rather than exhaustive: sources were retained for foundational conceptual relevance, direct regulatory or policy authority, or their capacity to challenge the chapter’s principal propositions. No reproducible database search log was generated specifically for this chapter; consequently no screening totals, exhaustive coverage claims, field observations or causal effects are asserted. Official sources establish their own stated requirements or policy priorities, not evidence that those requirements have been fully implemented at every institution. Sources and links are recorded in the references; the conceptual synthesis is the author's interpretation, not an official regulatory determination.

The question of educational purpose is not adequately settled by listing the outputs that institutions can count. Biesta (2009) distinguishes qualification, socialisation and subjectification as educational functions that may coexist without being reducible to one another. For higher education, qualification includes the acquisition of disciplinary knowledge and professional competence, socialisation includes entry into scholarly and professional traditions, and subjectification concerns the development of independent agency and judgement. The distinction complicates any quality framework centred exclusively on graduate wages, completion or research income. Those indicators may be important, but they do not capture every legitimate intellectual and civic responsibility. It also demonstrates why a university must justify not only whether its declared outcomes have been reached, but whether they collectively represent an education worthy of a higher qualification.

1.2 Historical and philosophical purposes of higher education: Knowledge, truth, intellectual formation, professional competence, and public service

The university has never had only one purpose. Its historical forms have combined the preservation and questioning of knowledge, intellectual formation, preparation for learned professions, research, cultural transmission, social recognition and service to political or religious authorities. Different eras have weighted these purposes differently. Medieval European institutions were shaped by traditions of theology, law, medicine and the liberal arts; later research universities intensified the connection between systematic inquiry and advanced teaching; modern mass higher-education systems added expectations of economic development, social inclusion and internationally mobile qualifications. This familiar European genealogy does not exhaust the history of advanced learning. African scholarly and religious institutions, indigenous systems of knowledge transmission and later colonial and postcolonial universities had distinctive relationships to language, authority, knowledge, state formation and collective life. Treating one historical model as the universal origin of higher learning would obscure that plurality.

It is important, however, not to romanticise a unified historical university ideal. The development of universities reflects unequal access to learning, changing conceptions of authority and continuing disputes over who may produce legitimate knowledge. Teferra and Altbach (2004) show that African higher education has had to negotiate simultaneous responsibilities for nation building, research, professional education and expanding access under difficult resource conditions. Its institutions have therefore developed in interaction with international scholarly norms and locally specific social, political and economic demands. The appropriate philosophical question is not whether an African institution reproduces a supposedly universal European model, but whether its mission, teaching, inquiry and institutional conduct meet defensible academic standards while addressing the population and context it actually serves.

These historical trajectories matter because present-day discussions of quality often privilege the purposes most easily converted into performance indicators. Research output, student numbers, income generation, completion, graduate employment and international partnerships are comparatively countable. Truth-seeking, intellectual humility, moral discernment, disciplinary judgement, civic responsibility and the ability to reconsider one's assumptions are harder to measure. Their relative invisibility does not make them dispensable. A university that systematically discourages criticism or rewards the production of plausible but unreliable knowledge may perform well on administrative dashboards while betraying an essential scholarly function. The freedom and responsibility to interrogate claims remain constitutive of advanced learning even in institutions with primarily professional or applied missions.

The university's responsibility to knowledge and truth begins with a commitment to enabling learners to distinguish defensible knowledge from assertion, rhetoric, misinformation and authority unaccompanied by reasons. This obligation does not imply that all disciplines employ identical methods or that every important proposition admits experimental verification. Mathematics, historical inquiry, clinical sciences, theology, engineering, law and the arts have different standards of argument and evidence. The common educational obligation is that claims be open to reasoned examination under standards appropriate to the field. Academic quality consequently includes epistemic integrity: transparent methods, intellectual honesty, openness to criticism and responsible interpretation of uncertainty. When generative AI makes fluent language inexpensive, this requirement becomes more rather than less important.

Intellectual formation is equally fundamental because a degree is not merely the aggregation of course credits. It represents a developmental journey through which learners acquire conceptual depth, methodological discipline, progressively greater independence and the capacity to make reasoned judgements. Such formation requires well-sequenced curricula, sustained scholarly engagement, feedback and assessment that invite explanation rather than simple reproduction. Biggs's (1996) constructive-alignment principle is relevant because desired learning cannot be inferred from module titles: outcomes, learning activities and assessment tasks must generate consistent expectations. Yet alignment is not sufficient if learning outcomes themselves are narrow, trivial or detached from disciplinary standards. Quality therefore requires scrutiny both of alignment and of the intellectual worth of what is aligned.

Professional competence provides another legitimate reason for advanced study, since many learners reasonably expect higher education to prepare them for economically meaningful work. Governments require qualified teachers, engineers, health professionals, accountants and researchers; employers need graduates capable of applying knowledge under uncertainty. Professional preparation must nonetheless resist reduction to immediate employer preference. Work changes, technologies become obsolete and specific tasks are automated. Robust graduate capability therefore includes conceptual understanding, transferable reasoning, communication, ethical responsibility and the ability to learn beyond initial qualification. Employability should be interpreted as a contribution to durable professional agency, not merely as the attainment of any paid work shortly after graduation.

Beyond these individual and professional purposes, universities shape public health, legal institutions, teaching quality, democratic deliberation, scientific capacity and cultural memory. The International Commission on the Futures of Education (2021) presents education as a public and common good, reinforcing the proposition that educational institutions have responsibilities that exceed private credential transactions. This does not require denying the legitimate private benefits of higher education. Graduates may obtain greater income, professional status and personal fulfilment, while communities gain research, skilled service

and informed citizenship. Public and private benefits coexist, but they need not coincide. A university can maximise high-fee enrolments or commercially valuable programmes while neglecting under-served communities or socially essential disciplines.

The ethical dimension of higher education is expressed in the decisions that graduates make and in the conduct of the institution itself. Advanced study involves decisions with consequences for patients, clients, students, workers, ecosystems and public resources. Curriculum ethics cannot therefore be contained in an optional lecture while the institution tolerates academic dishonesty, exploitative working arrangements or opaque admissions. The ethical dimension concerns both what is taught and how an institution conducts itself. Learners are educated partly through their encounter with the lived institution: whether feedback is fair, decisions are explained, diverse students are supported and scholarly disagreement is treated responsibly. Institutional conduct is therefore an educational influence, not simply an administrative backdrop.

The relationship among these purposes is neither automatically harmonious nor permanently antagonistic. Employability and intellectual formation may reinforce each other when professional programmes require rigorous inquiry and ethical judgement. Research and teaching may reinforce each other when discoveries inform curricula and students participate meaningfully in inquiry. Yet tensions arise when research incentives displace undergraduate teaching, revenue imperatives drive admission beyond feasible capacity, or externally prescribed competencies narrow the space for critical scholarship. Such tensions require governance capable of negotiating priorities rather than assuming that a single performance indicator speaks for all educational purposes.

The first evaluative principle follows: before deciding whether a programme is good, an institution or reviewer should articulate its educational, scholarly, professional, ethical and public commitments and distinguish legitimate institutional differentiation from deficiencies below minimum academic or learner-protection thresholds. Purpose is a necessary reference point, but an institution's chosen purpose cannot legitimise poor assessment, unsafe practical training, inaccessible student support or misleading claims about the recognition of qualifications. Educational mission guides judgement within, not outside, applicable academic and legal obligations.

1.3 Competing conceptions of higher-education quality: Excellence, fitness for purpose, transformation, accountability, relevance, and public value

The term *quality* is often used as though universities, regulators, students and employers already agree on its meaning. Harvey and Green (1993) famously distinguished quality as exceptional, perfection or consistency, fitness for purpose, value for money and transformation. The classification remains useful because each understanding changes the evidence required for assessment. A high admissions threshold might support a claim of

exclusivity; reliable administrative processes might support procedural consistency; employment data might support an aspect of vocational relevance; sophisticated learning evidence might support transformation. None can be exchanged for another without an explicit argument. Harvey (2024) further emphasises the conceptual and epistemological complexities in attempts to define standards and assurance.

Excellence typically concerns distinction against a demanding benchmark. It can protect academic ambition against downward convergence, but its use becomes problematic when selectivity, wealth or international prestige are substituted for educational contribution. A university enrolling highly prepared students may produce impressive completion results with little demonstrable added learning; another serving students facing substantial disadvantage may make an exceptional educational contribution while obtaining less impressive raw scores. Excellence should therefore be assessed through the quality of educational processes, scholarly standards and demonstrable achievement, not merely through the inherited advantages of the institution or its entering cohort.

Consistency and conformance treat quality as meeting defined specifications reliably. They are indispensable where a student must be able to trust published course requirements, assessment rules, the accuracy of grades or the safety of laboratories and clinical placements. However, repeated execution of a weak process remains weak education. A module can be administered flawlessly while its assessment fails to measure the advertised outcomes. Conformance is therefore a necessary component of accountable provision in many domains, but it does not determine whether the specifications themselves represent a worthwhile education.

Fitness for purpose asks whether an institution achieves what it sets out to do. It respects legitimate mission differentiation, particularly among research-intensive, teaching-intensive, regional, professional and faith-based institutions. Its weakness is potential circularity: if the mission is vague, conveniently redefined or intellectually undemanding, success on its own terms establishes little. The complementary notion of fitness of purpose asks whether declared aims are themselves educationally appropriate, socially defensible and consistent with external standards. In credible evaluation, both questions must be asked. Institutional distinctiveness should be respected without converting self-description into self-accreditation.

Transformation addresses the changes that learning produces in students' understanding, capabilities, dispositions and agency. It is compelling because education is a developmental undertaking rather than a storage service for content. Yet attribution is difficult. The student who excels at graduation may have entered with substantial advantages, developed through work or independent study, or benefited from influences beyond the university.

Valid claims of educational transformation require baseline-sensitive interpretation, appropriate assessment, longitudinal evidence where feasible and cautious attribution. Testimonials and satisfaction scores may illuminate experience but do not, by themselves, establish transformation.

Accountability and value for resources focus on the responsible use of time, money, infrastructure and public trust. High-quality education must be feasible and adequately supported. Nevertheless, low unit cost is not synonymous with efficiency when lower expenditure produces weaker learning, staff overload or disproportionate dropout among disadvantaged groups. The pertinent question is whether resources are converted into defensible outcomes without unjustifiable waste or transfer of hidden costs to learners. Digital programmes illustrate the issue: low classroom costs may be offset by connectivity, device, platform, content-maintenance, technical-support and accessibility expenses, some borne by students rather than institutions (OECD, 2023; UNESCO, 2023a).

Relevance and public value refer to higher education's responsiveness to legitimate needs beyond the campus. Labour-market relevance matters, but public value also includes discovery, cultural preservation, independent critique, access to knowledge, public health, environmental stewardship and the development of professionals who exercise judgement with integrity. The pursuit of immediate market responsiveness may be counterproductive when long-term societal needs are uncertain or when employers demand short-term tool familiarity without conceptual foundations. Conversely, invoking academic autonomy to avoid any examination of social needs is not defensible. Universities should be capable of explaining how their curricula and research serve identifiable publics while protecting inquiry from purely instrumental demands.

A further difficulty concerns the *unit of quality*. An institution may be well governed but operate a weak programme; a programme may have a coherent curriculum but inadequately equipped teaching laboratories; a single lecturer may teach brilliantly in a system with unfair or unreliable assessment. Quality judgements must identify whether the object is an institution, academic programme, module, student outcome, professional practice, digital platform, regulatory process or national system. Aggregation can obscure critical differences. Institutional reputation cannot validate an unreviewed qualification, and a compliant programme dossier cannot demonstrate the quality of every subsequent teaching encounter.

The assessment of quality also involves competing interests. Students may reasonably prioritise fair cost, usable support and employment prospects; academics may emphasise scholarly freedom and depth; professional regulators may prioritise public safety; employers may require reliable competences; governments may value development outcomes; institutions may emphasise mission and survival. These claims cannot simply be averaged. Some are threshold obligations, especially legality, academic integrity and safety. Others permit legitimate trade-offs and contextual judgement. A defensible quality system therefore needs an explicit hierarchy: identify mandatory obligations; establish academic and learner-protection minima; examine multidimensional excellence and enhancement; then assess proportional trade-offs without allowing strength in one domain to conceal failure in another.

Table 1.1. Conceptions of Higher Education Quality and Their Distinct Evidence Demands

Conception	Governing question	Possible evidence	Interpretive limitation
Excellence	How demanding and distinguished is performance?	Disciplinary review, external examining, strong student work, research quality.	Reputation and selective admission may reflect pre-entry advantage.
Conformance	Are defined requirements reliably met?	Validated curricula, audit trails, moderation, regulatory records.	A perfectly followed specification may still be educationally weak.
Fitness for purpose	Are credible institutional aims achieved?	Programme outcomes, mission mapping, evidence of enactment.	Institutional self-definition cannot override minimum standards.
Transformation	What worthwhile learning or capability develops?	Direct assessment of achievement, progression and portfolio evidence.	Attribution and baseline differences constrain causal inference.
Resource stewardship	Are time and money used responsibly?	Full-cost models, resource adequacy, service and student outcomes.	Low expenditure may externalise costs or damage quality.
Public value	How does provision serve legitimate social purposes?	Research and professional contributions, equity, engagement, knowledge access.	Public benefits are plural and not fully reducible to one score.

Note. Analytical synthesis of Harvey and Green (1993), Harvey (2024), and the present chapter. Indicators are examples rather than universal requirements.

The table clarifies why different quality concepts demand different evidence. Its most important message is that an indicator acquires significance only in relation to the claim being tested. A published policy is relevant evidence of formally adopted intention; it is weaker evidence of practice. A high graduate-employment proportion is relevant to one dimension of professional outcomes; it is weak evidence of students' mastery of historical research or critical reasoning. Good evaluation makes these inferential boundaries visible rather than relying on the persuasive power of familiar institutional statistics.

The historical challenges of African higher education should not be presented as a timeless list of deficits. Teferra and Altbach (2004) located pressures on financing, academic staffing, research capacity and access within specific institutional and political histories. Subsequent digital initiatives and regional qualification frameworks alter the available responses, but do not remove those underlying tensions. Analytically, regional comparison must therefore ask not merely whether two countries use the same quality-assurance terminology, but whether their legal authority, organisational arrangements, resources and educational risks are functionally comparable. A standard drafted for a highly resourced setting may express a worthwhile quality principle while specifying an implementation pathway unavailable to a

small or emerging African provider. Evaluators should distinguish what is educationally indispensable from the locally variable means by which it can be realised.

1.4 African higher education and Rwanda's evolving educational priorities

African higher education cannot be accurately represented as a homogeneous sector. Systems differ in colonial legacies, languages, institutional missions, public financing, private-sector participation, research capacity, regulatory structures, cross-border arrangements and relationships with employment. Diversity exists within countries as well as between them. Public research universities, specialised institutions, newer private providers, faith-based colleges, professional universities and open or distance-learning institutions operate with substantially different histories and resources. Any general account must therefore avoid treating one country's legal arrangements or one institution's challenges as a continental norm (Shabani et al., 2014).

A common structural issue is the relationship between demographic demand and the resources available to sustain credible participation. UNESCO's 2026 global report identifies a tertiary gross enrolment ratio of approximately 9% in sub-Saharan Africa, against a much higher global ratio (Gutović et al., 2026). A gross enrolment ratio is an age-based participation measure, not a direct measure of completion, teaching quality or institutional capacity. It nevertheless indicates a substantial access challenge. An expansion agenda is justified, but the means of expansion matter. Rapid growth without proportional investment in academic staffing, learning resources, student support and quality-assurance capability can produce nominal access without an equivalently meaningful education.

Postcolonial educational development also requires attention to whose knowledge is legitimised and whose needs are prioritised. African universities participate in international disciplinary communities while serving local societies with distinctive languages, professional demands, historical experience and knowledge traditions. Uncritical importation of curricula or quality models can reproduce epistemic dependence when local priorities are poorly represented. An equally uncritical appeal to localisation can, however, deprive learners of access to demanding international disciplinary standards. The desirable approach is neither wholesale transplantation nor intellectual isolation. It is disciplined contextualisation: internationally credible learning at a level and depth appropriate to the qualification, combined with serious engagement with African evidence, scholarship, languages and problems.

Regional initiatives respond to the need for greater comparability without erasing national responsibility. The African Standards and Guidelines for Quality Assurance in Higher Education (ASG-QA) provide a continental reference for internal and external assurance and agency responsibilities (HAQAA Initiative, 2018). The African Union's Digital Education Strategy and Implementation Plan 2023–2028 links education technology with digital skills,

infrastructure and system capacity (African Union Commission, 2022). The Continental Artificial Intelligence Strategy adds a wider policy context for responsible, equitable and development-oriented AI adoption (African Union Commission, 2024). These documents are important professional and policy benchmarks, but they should not be described as automatically replacing domestic laws, ministerial orders or an authorised national regulator's operative requirements.

Rwanda offers a concrete context for evaluating the intersection of educational ambition and institutional capability. The Ministry of Education's *Education Sector Strategic Plan 2024–2029* places inclusion, educational quality, competencies, skills and socio-economic transformation at the centre of sector planning (Ministry of Education, 2024). The Rwanda Qualifications Framework, established through Ministerial Order No. 003/MINEDUC/2021 of 20 October 2021, supplies a national architecture for qualification levels, learning outcomes and credit-related expectations (Republic of Rwanda, 2021c). Such instruments matter because they provide reference points against which programme claims can be evaluated; their existence does not establish that every programme is appropriately designed or enacted.

Rwanda's Higher Education Council (HEC) has also published guidance relevant to internal quality assurance and digitally mediated provision. The *Guidelines for Internal Quality Assurance (IQA) Mechanisms for Higher Education* address institutional mechanisms for academic accountability (Higher Education Council, 2021a). The *Guidelines and Assessment Tools for the Virtual Learning and the Use of Artificial Intelligence in Rwanda's Higher Learning Institutions* and the March 2026 distance-learning guidance provide more specific references for emerging delivery models (Higher Education Council, 2025b, 2026a). These documents make it increasingly difficult to treat online learning and AI simply as discretionary technical additions. Their precise legal status, applicable version and particular requirements must nevertheless be checked for each actual accreditation or programme-development decision, rather than inferred from a chapter-level policy overview.

There is an important distinction between an official strategy's desirable outcomes and the evidence needed to show that an institution is progressing towards them. A strategic plan may identify research, innovation, employability, internationalisation or digitalisation as national priorities. To translate those priorities responsibly, universities need to demonstrate programme relevance, qualification-level integrity, workload feasibility, competent staffing, fair admissions and assessment, accessible resources, and arrangements for monitoring outcomes. Public policies supply objectives and constraints, not an automatic conclusion of quality. The movement from policy ambition to institutional practice therefore requires an intermediate architecture of capability, evidence and professional judgement.

Comparative African experience warns against equating the visibility of QA documents with the strength of quality cultures. Shabani et al. (2014) document advances in African quality-assurance systems alongside persistent capacity and harmonisation challenges. Institutional theorists would predict some degree of formal conformity under regulatory and reputational

pressure (Meyer & Rowan, 1977). Such conformity may be valuable if it establishes common expectations, yet risks becoming ceremonial when documentation is detached from pedagogy and student experience. A sufficiently rigorous analysis should ask what norms require, what institutions declare, what actions can be demonstrated, which outcomes are reasonably attributable, and what happens when the evidence does not support the promise.

The Rwanda-centred approach adopted in this volume is therefore neither a claim of national exceptionalism nor an attempt to create a universal African checklist. It begins with verifiable national authority, uses regional and international sources as comparative lenses, and asks which quality-governance functions are sufficiently general to inform other systems after adaptation. Subsequent regulatory analysis will examine legal mandates and documentary provenance in detail. Here the decisive point is philosophical: public legitimacy requires a recognisable relationship between educational purposes, national expectations, institutional capacity and evidence of student learning.

International evidence also warns that mass participation may expand opportunity while reproducing stratification. Marginson (2016) argues that high-participation systems alter the distribution of educational opportunities without automatically eliminating the influence of social origin or institutional hierarchy. McCowan (2016), examining equity in higher-education access, highlights the limitations of concentrating on formal entry while overlooking the wider conditions under which participation becomes meaningful. For an African programme review, these arguments imply that fair admissions should be assessed alongside the distribution of resources, the academic quality of available pathways and the actual likelihood that entrants can progress. Numerical expansion is a necessary part of equity for previously excluded groups, but it is not its sufficient condition.

1.5 Massification, access, affordability, graduate employability, and educational inequality

The expansion of higher education is frequently treated as an unqualified social good. Broadening access can indeed advance fairness, social participation, professional opportunity and the development of knowledge economies. Yet access is not meaningful when the conditions of participation make progression improbable. A learner admitted to a low-cost programme may face hidden expenses for transport, broadband, devices, required software, electricity, fieldwork or examinations. A geographically accessible institution may provide inaccessible learning materials to a student with a disability. A scholarship can relieve tuition burden while leaving living costs unaffordable. Quality evaluation must therefore distinguish entry into an institution from the practical capability to participate, learn, progress and graduate.

Massification also alters the relationship between students and institutional systems. Small, selective provision can depend heavily on informal contact between lecturers and learners. Large and diverse cohorts require dependable mechanisms for orientation, academic advising,

workload allocation, assessment moderation, grievance resolution and timely support. Growth can increase the demand for laboratories, library licences, supervision capacity and digital infrastructure faster than budgets adjust. The question is not whether large institutions are necessarily inferior. It is whether their design and resource allocations keep pace with the educational responsibilities created by expansion. Increased scale without increased coordination is a risk, not evidence of enhanced impact.

Affordability has at least three dimensions. First is the direct price paid to the institution. Second is the full cost of participation, including opportunity cost and the economic burden imposed on households. Third is institutional financial sustainability: an apparently affordable programme may be subsidised in ways that are unstable or depend on underpaid staff and deferred investment. A responsible quality policy cannot maximise one dimension while ignoring the other two. Fee restraint must be considered with student protection and realistic costing, especially when promises of self-paced or fully online study depend on continuing access to learning resources, qualified academic support and functioning assessment systems.

The relationship between social inequality and institutional performance is likewise complex. Raw progression and employment rates can reward institutions that enrol students with greater prior educational, digital, financial and social advantages. Institutions serving first-generation, working, rural or low-income students may face different barriers. Fair comparison therefore requires attention to entering circumstances, programme mix and data definitions. Adjustment cannot be used to excuse low standards; its function is to avoid attributing all outcome differences to teaching quality. A nuanced evaluation combines minimum academic expectations with investigation of who succeeds, who withdraws, under what conditions and with what evidence of institutional response.

Graduate employability is an important but frequently overextended indicator. It can be defined as employment at a particular point, the ability to secure suitable work, the possession of transferable capabilities or longer-term career resilience. Results differ depending on which definition is used, whether informal employment and self-employment are recognised, and whether employment quality, earnings, underemployment or job relevance are included. Labour-market outcomes are further shaped by macroeconomic conditions and networks outside institutional control. A university should explain how its graduate profile is linked to professional expectations and gather credible outcome evidence, but it cannot validly treat every employed graduate as proof that all programme outcomes were achieved.

A constructive alternative is to evaluate *capability for work and further learning*. This shifts attention from immediate placement alone to disciplinary understanding, applied problem solving, professional communication, ethical judgement, technological literacy, adaptability and opportunities to continue learning. Such capabilities cannot be inferred merely from the availability of internships or employers on advisory committees. They require curriculum-level embedding, appropriate practice environments, valid assessments and, where applicable, verified performance in authentic contexts. Work-integrated learning should also

be scrutinised for supervision, accessibility, safety and equitable availability. Employment may be a downstream outcome; educational quality must also be demonstrated within the learning process itself.

The demand for relevance can create a false opposition between traditional scholarship and economic necessity. Philosophy, history, languages, mathematics, foundational sciences and theoretical inquiry may not all translate into immediately marketable job titles, yet they can strengthen reasoning, disciplinary innovation and public understanding. Conversely, highly vocational fields require theoretical foundations precisely because practical environments change. Curricula should therefore balance near-term professional competence, disciplinary depth and adaptable intellectual formation. Narrow skills inventories are insufficient if they displace the knowledge enabling graduates to critique tools, detect errors or exercise responsibility when standard procedures fail.

Digital provision is often proposed as the principal solution to unequal access. It can remove travel barriers, accommodate flexible schedules and extend resources across geography. But it can also shift essential costs onto students and amplify inequalities in connectivity, home learning space, language, accessibility and digital confidence. The UNESCO Global Education Monitoring Report cautions that technology should be evaluated for appropriateness, equity, scalability and sustainability rather than introduced on the presumption of benefit (UNESCO, 2023a). Institution-wide expansion through a learning-management system is therefore credible only when it includes low-bandwidth options, accessible design, responsive academic support, realistic learner workloads and appropriate practical arrangements.

Table 1.2. A Participation-to-Achievement Lens for Inclusive Expansion

Stage	Quality question	Illustrative evidence	Principal caution
Admission	Can eligible learners enter through fair, clear routes?	Admission criteria, selection audits, published fees.	Enrolment alone does not establish equitable access.
Affordability	Can learners meet full participation costs?	Total student cost estimates, scholarships, device and data access.	Low tuition can coexist with high hidden costs.
Engagement	Can students meaningfully participate?	Accessible resources, tutorial support, attendance and support reviews.	Clicks and attendance do not directly measure learning.
Progression	Do learners advance under credible standards?	Cohort pathways, reassessment records, disaggregated progression.	Differences may reflect intake and external circumstances.
Achievement	What can graduates demonstrably do?	Moderated student work, practical performance, capstones.	Completion rates alone cannot prove mastery.
Transition	Can graduates use and extend learning?	Graduate follow-up, employer feedback, professional outcomes.	Employment is influenced by wider economic conditions.

Note. Proposed analytical tool developed for this chapter; selection of measures must respect data minimisation, privacy and local circumstances.

A rigorous equity evaluation should also avoid treating disadvantage as a single, stable category. A working student in a regional town, a student with a mobility impairment and a refugee seeking recognition of prior qualifications may encounter quite different barriers, even when each is formally eligible for the same degree. The institution should therefore identify its actual learner profile, the cost and accessibility assumptions embedded in curriculum and assessment design, and the difference between providing a support service and ensuring that eligible students can use it. Evidence must be proportionate and privacy-preserving: aggregate participation indicators can suggest where inquiry is needed, but they cannot by themselves explain individual learning experiences or justify intrusive surveillance. The objective is to improve students' substantive opportunity to achieve demanding standards rather than to reduce those standards in response to unequal circumstances.

The practical implication is that a quality evaluation of expanding provision should use a *participation-to-achievement* perspective. It should inspect admission and affordability, actual learning access, participation conditions, academic progression, demonstrable achievement and transition beyond graduation. A single annual enrolment figure cannot show the integrity of that chain. Nor should an institution delay attention to disadvantage until graduates begin to disappear from cohort statistics. Responsible assurance includes anticipatory design, ethically gathered monitoring evidence, and corrective action that can be demonstrated to have reached affected students.

1.6 Digital transformation beyond technology adoption: Organisational, pedagogical, institutional, and cultural change

The digitalisation of an administrative procedure, the digitisation of a printed textbook and the transformation of an educational institution are different activities. Digitisation converts information into digital form. Digitalisation uses digital technologies to support or reorganise particular processes. Digital transformation entails more extensive changes in strategy, responsibilities, competencies, processes, learning relationships and the production and use of evidence. The distinctions matter because universities sometimes describe the installation of a learning-management system or the availability of recorded lectures as institutional transformation. These may be useful enabling resources without amounting to a substantive change in how education is designed, governed and evaluated (Castro Benavides et al., 2020; OECD, 2023).

The organisational dimension begins with governance. A digital learning strategy needs decisions about academic ownership, investment priorities, accountability for course quality, data stewardship, learner support, staff development and the limits of outsourcing. If an ICT office controls platform configuration while departments independently determine pedagogy and finance separately determines affordability, critical dependencies may be overlooked. Strategic alignment requires cross-functional responsibilities and escalation routes for problems that exceed individual units. Leadership also needs reliable information about the

actual costs, service limitations and educational consequences of technology. Procurement approval is not equivalent to educational validation.

Pedagogically, effective digital provision should be designed around what learners must do to meet programme outcomes. Students may need to interpret disciplinary evidence, practise clinical judgement, write research proposals, collaborate on design tasks, perform laboratory procedures or defend professional decisions. These cannot be assured by uploading presentation slides alone. Course quality depends on the purposeful relationship between materials, explanation, interaction, guided practice, assessment and feedback. Digital media can extend the range of learning experiences, but their educational value is conditional on task design and support. Constructive alignment remains relevant across modalities precisely because online and blended environments are not exempt from disciplinary expectations (Biggs, 1996).

A related distinction concerns emergency continuity and deliberately designed online education. Hodges et al. (2020) showed why teaching moved online rapidly under pandemic restrictions should not be confused with education designed from the outset for online delivery. The former prioritised immediate continuity under abnormal constraints; the latter requires planned interaction, accessibility, assessment, academic support, staff preparation and iterative improvement. The distinction is neither a dismissal of the efforts made during a crisis nor a blanket judgement against remote methods. It prevents an institution from claiming durable capability merely because instruction continued for a period using available communication tools.

Digital transformation is also cultural. Staff and students need reasons to trust new systems, opportunities to contest poor design and time to develop capability. Institutions whose performance systems reward research publications but allocate no workload for course development may announce ambitious digital teaching policies while discouraging their practical implementation. The same decoupling can arise when lecturers are expected to maintain extensive online interaction without staffing or technical support. Sustainable transformation requires revising incentives, workload models, professional development, service structures and feedback mechanisms, not simply issuing more guidance. Institutional capability must be enacted through ordinary academic work.

The data dimension requires particular caution. Learning platforms generate access logs, submissions, grades and patterns of interaction, but such traces do not directly reveal understanding, motivation or educational value. A learner may download materials without reading them or learn effectively through offline study that produces little platform activity. An analytics dashboard may therefore create a false sense of precision if engagement proxies are mistaken for learning. Responsible use requires conceptual validity, data minimisation, protection of privacy, attention to algorithmic error and transparent mechanisms for human review (Slade & Prinsloo, 2013). Data should inform conversation and support, not replace educational judgement.

Accessibility and infrastructure convert digital transformation into an equity issue. A course designed for continuous high-speed video assumes reliable connectivity, electricity, devices, data affordability and an adequate environment for study. Those assumptions cannot safely be universalised. Alternative formats, accessible documents, captioning, mobile usability, downloadable resources and planned offline access may be essential. Yet accessible design does not mean that all practical education can be delivered fully remotely. Clinical, laboratory, field and studio programmes may need supervised physical components, credible simulations and discipline-specific safeguards. Quality lies in matching modality to educational demand rather than defending an ideologically preferred delivery model.

The resilience dimension is inseparable from digital dependence. Platform outages, vendor changes, expired licences, cyber incidents, data losses and shifts in pricing can interrupt teaching or compromise confidential student information. Universities should know which functions are mission-critical, which rely on external providers, how backups are tested and how assessment can continue when primary systems fail. This is not an argument that digital provision is inherently less resilient than campus provision. Physical institutions also face infrastructure and environmental risks. It is an argument that every delivery model requires explicit continuity planning appropriate to its dependencies and educational consequences.

An institution can be digitally advanced in one domain and immature in another. Excellent research computing can coexist with inaccessible undergraduate learning materials; sophisticated dashboards can coexist with poor feedback; a polished website can coexist with weak admissions verification. It is therefore misleading to infer a common maturity level across every function from selected examples of innovation. Institutional digital quality should be evaluated as a configuration of interdependent capabilities, with attention to the weakest components whose failure would make an educational promise implausible. Such a configuration needs periodic reassessment because software, staffing, courses and student circumstances change over time.

The central conclusion is that technology should be assessed through the educational functions it supports. This requires reversing a common evaluative sequence. Instead of beginning with the question, 'Which technologies has the university purchased?', reviewers should ask which educational outcomes and institutional responsibilities are at stake, what forms of provision are appropriate, which people and processes must sustain them, what evidence establishes effective operation, and which risks remain. Technology becomes an element of assured educational practice rather than a proxy for modernity.

These pressures also expose a governance asymmetry. Universities commonly make commitments with a multi-year horizon, yet many underlying technical, regulatory and environmental conditions may change before a cohort completes its programme. The practical challenge is neither to rewrite every curriculum whenever a new tool appears nor to assume that an original accreditation decision guarantees continuing adequacy. Institutions require a controlled process for identifying material change, evaluating its consequences for learning

outcomes and learner protection, recording the reason for any modification, and seeking fresh approval when an applicable rule requires it. This temporal discipline is an essential complement to academic freedom because it protects the substance of an educational promise when the means of fulfilling that promise must change.

1.7 Emerging pressures: Artificial intelligence, global crises, changing labour markets, environmental risks, and geopolitical fragmentation

Universities now operate in environments where curricular knowledge, institutional infrastructure and regulatory expectations can change on different timescales. A qualification may be approved for several years while AI applications evolve within months, employment conditions alter rapidly and a disruptive event interrupts teaching almost immediately. The resulting governance problem is temporal: a programme that was plausibly ready at approval may become inadequate later without any change in its formal accreditation status. Quality assurance must therefore combine stable educational principles with mechanisms for detecting material change, reassessing risk and correcting course.

Artificial intelligence changes not only the tools of academic production but also the evidence by which competence is established. Generative AI can assist with explanation, translation, drafting, programming, accessibility and formative feedback, but can also produce convincing inaccuracies, obscure authorship and complicate the interpretation of assessment submissions. Institutions face questions about the knowledge graduates should retain unaided, the tools they should be able to use critically, and the performances by which individual competence can be trusted. UNESCO's guidance calls for human-centred regulation and pedagogical appraisal of generative AI, including attention to privacy, inclusion and institutional preparedness (Miao & Holmes, 2023). UNESCO's AI competency framework for teachers underscores that staff capability involves human agency, ethics, AI foundations, pedagogy and professional learning, not merely fluency with a particular application (Miao & Cukurova, 2024).

The assessment challenge should not be reduced to detecting prohibited software use. Research testing AI-text detection tools has identified important reliability limitations, with implications for false accusations and the evidential weight of automated classifications (Weber-Wulff et al., 2023). A detection result therefore cannot displace the institution’s responsibility to establish fair evidence, make context-sensitive judgements and provide due process. More fundamentally, an assignment that measures only the production of polished generic prose may no longer provide sufficient evidence of independent reasoning when such prose can be generated externally. Possible educational responses include staged drafting, explicit AI-use conditions, situated professional tasks, oral defence, practical performance, portfolios and verification of reasoning. Different responses are appropriate in different subjects. The aim is to restore the relationship between a learning claim and trustworthy evidence of achievement rather than to impose one universal assessment technique.

Labour-market change creates a parallel challenge for curriculum renewal. Automation, digital platforms, demographic change and shifting trade arrangements can alter tasks and occupational opportunities. Universities face pressure to update curricula, but an endlessly reactive curriculum risks becoming a catalogue of transient software features. Curricular renewal should distinguish durable disciplinary foundations from new tools, professional practices and emerging knowledge. Advisory input from employers can illuminate demand while remaining one source among academic evidence, professional standards, student experience and public interest. Continuous review should identify when new competencies are educationally justified and when fashionable terminology has been introduced without demonstrable learning value.

The COVID-19 pandemic made academic continuity a visible governance concern. Interruptions can affect laboratories, clinical placements, student mobility, assessment conditions, supervision and access to learning resources. Resilience planning must therefore identify which outcomes can be achieved through alternative modalities, which require postponed or reorganised practical experience, and how academic standards will be protected during accommodation. Flexibility should not be mistaken for the elimination of standards, particularly in professions where deficient competence can harm others. Emergency measures need bounded approval, documentation and subsequent review rather than indefinite normalisation.

Physical and environmental conditions also matter to educational continuity. Heat, severe rainfall, flooding, drought, electricity instability and damage to infrastructure can threaten campus operations and the practical ability of learners to participate. Climate-related physical hazards and associated adaptation challenges are documented in the IPCC synthesis assessment, although risks for any individual campus require local evidence rather than generic climate attribution (Intergovernmental Panel on Climate Change [IPCC], 2023). Their consequences vary with geography, facilities, transport and local conditions. Claims about specific causes of particular weather events or intentional environmental intervention require evidence proportionate to the attribution being made. In the present chapter, the relevant and defensible proposition is narrower: institutions should use credible hazard information to evaluate the vulnerability of buildings, laboratories, student housing, communications and access routes, and should maintain proportionate educational continuity arrangements. The specialised assessment of contested environmental technologies belongs to the volume's later resilience analysis.

Geopolitical instability introduces additional risks to educational participation and institutional operations. Armed conflict, displaced populations, trade restrictions, sanctions regimes, cyber threats and interruptions to international mobility can affect students, academic partnerships, subscriptions, equipment supply and research collaborations.

Universities may also encounter ethical questions about research security, academic freedom and discrimination. Risks are not uniform across countries or institutions, and blanket

geopolitical narratives can obscure the immediate needs of affected students. The appropriate educational response is evidence-informed scenario planning: identify plausible dependencies, develop alternative pathways, ensure learner protection and distinguish actual restrictions from speculation. Academic continuity arrangements must protect standards without neglecting the exceptional circumstances of students and staff.

A different form of vulnerability arises when universities depend heavily on external digital infrastructure. Outsourcing learning systems, cloud storage, identification services or AI-enabled assessment can improve reliability and allow smaller institutions to obtain tools beyond their internal technical capacity. It can also generate dependence on a small number of providers, restrictive licences, foreign data-processing arrangements, opaque technical changes and limited portability. These are governance questions requiring due diligence and contract management, not proof that all centralised services are inherently harmful. Universities should evaluate data location, security obligations, exit arrangements, interoperability, access continuity and control over academic records before transferring mission-critical functions to external parties.

The cumulative pressure of these changes is to expose the inadequacy of a one-time declaration that an institution is 'future ready'. Readiness is always relative to a particular task, cohort, programme, date and set of risks. Enduring institutional capability consists instead in the organisational ability to detect changing conditions, interpret relevant evidence, mobilise resources and revise practice while preserving standards. This distinction, developed in the author's doctoral synthesis (Sangwa, 2026a), will be operationalised later in the volume. It prevents the language of resilience and innovation from degenerating into an unverifiable institutional slogan.

Effective risk governance must also avoid treating every conceivable hazard as equally probable or requiring the same investment. Reviewers should consider severity, likelihood, exposure, timing, reversibility and existing safeguards, while recognising that very high-consequence obligations may demand protection even when likelihood is uncertain. A university should not be judged deficient merely for lacking an elaborate response to a remote hypothetical event. It may, however, be judged unprepared when a foreseeable and material failure would make delivery, assessment or learner protection impossible and no credible contingency is available. Proportionality is an essential condition of sound educational governance.

1.8 Theoretical foundations: Critical realism, institutional theory, socio-technical systems, constructive alignment, and evaluative reasoning

The conceptual problem identified in this chapter crosses several levels of reality and cannot be adequately explained by a single theoretical lens. A regulator may issue requirements; university leaders may adopt formally compliant policies; lecturers may implement different

practices; students may experience different conditions; and evaluators may draw different conclusions from the same records. These phenomena involve normative authority, organisational structures, technical systems, educational activity, evidence and professional judgement. The chapter therefore uses five complementary perspectives, each with a distinct analytical function. Their value lies in disciplined integration, not in pretending that they constitute one theory.

The principal epistemological caution comes from critical realism: the representation of a condition must not be mistaken for the condition itself. This perspective assumes that social structures, practices and mechanisms can exist and exert effects independently of whether an observer has measured them accurately, while knowledge of those structures remains fallible and historically situated (Bhaskar, 1979; Sayer, 2000). Applied to universities, the distinction is decisive. A published student-support policy is an observable representation. Whether support is delivered promptly is an event or practice. The combination of staffing, financial arrangements, competence and institutional routines that enables dependable support is an underlying capability. Evidence about the first cannot simply be substituted for evidence about the second or third. Conversely, an absence of easily accessible records does not, by itself, prove the absence of actual practice, although it may limit confidence in a claim requiring verification.

Critical realism also discourages simplistic causal inference. If a university purchases a new platform and its graduation rate subsequently rises, many mechanisms may be involved, including admissions changes, student composition, assessment policy, economic conditions or changes in record keeping. Temporal association does not establish technological causation. Evaluators should investigate plausible mechanisms, consider rival explanations and recognise the limits of documentary access. In a secondary-data chapter, critical realism supports cautious interpretation rather than supplying a licence to infer hidden institutional facts. Its contribution is an explicit understanding of why evidence and reality are related but not identical.

Institutional theory explains why formal conformity may become separated from educational practice. Meyer and Rowan (1977) explain how organisations may adopt formal structures reflecting widely accepted expectations and how those structures can become disconnected from everyday activity. DiMaggio and Powell (1983) describe coercive, mimetic and normative processes that contribute to similarity within organisational fields. These ideas help explain why universities may establish offices, policies, quality manuals or digital strategies in response to regulatory obligations, competitors and professional expectations. Formalisation is not necessarily empty: it can create accountability, consistency and shared procedures. The risk arises when the institutional reward attaches principally to possessing documentation rather than to achieving the activities documentation promises.

This theory makes a strong contribution to analysing accreditation, but it must not be overstretched. Similar organisational structures can arise through legitimate professional

learning and practical effectiveness, not only pressure for legitimacy. Nor does the existence of an accreditation dossier prove ceremonial compliance. Institutional theory suggests questions for inquiry: who demanded the policy, what incentives shape implementation, how is compliance tested, which actors can challenge unsupported claims, and what evidence closes the gap between formal design and actual practice? It supplies plausible explanatory mechanisms, not a predetermined finding about a particular university.

Socio-technical systems thinking shifts attention from individual resources to the relationships among them. Digital higher education is produced through the interaction of people, processes, technology, academic norms, resources and external conditions. A technically functional learning platform can fail educationally when staff workloads prohibit interaction, course navigation is incoherent, support is inaccessible or assessment workflows are unreliable. Conversely, a motivated lecturer may be constrained by unstable connectivity or institution-wide data rules. Socio-technical thinking rejects technological determinism by asking how changes to one part of the system affect the others (Castro Benavides et al., 2020; OECD, 2023). It helps move analysis from equipment inventories to actual configurations of institutional capability.

A crucial implication is that some requirements are non-compensatory. A programme cannot reasonably claim safe clinical competence solely because its online materials are excellent if it lacks required supervised practical experience. Strong institutional marketing cannot compensate for inaccessible assessment, and an exemplary curriculum map cannot compensate for absent essential staff. In many other areas, institutions can choose functionally equivalent arrangements suited to their scale and resources. Socio-technical analysis therefore requires both attention to essential thresholds and flexibility about means. It should not prescribe the same expensive technology architecture to every institution in order to achieve comparable educational functionality.

Constructive alignment offers a complementary account of coherence within teaching and learning. Biggs (1996) argues that intended learning outcomes, learning activities and assessment tasks should reinforce one another. This is more than a curriculum-formatting rule. If a programme promises critical appraisal, assessment limited to factual recall provides weak evidence of that outcome. If it promises autonomous professional judgement, tasks must progressively require justified decisions. The theory creates a language for reviewing the credibility of curriculum architecture. However, programme quality extends beyond internal pedagogical alignment. Outcomes must be at the appropriate qualification level; content must meet disciplinary expectations; workload must be feasible; and institutional staffing, resources and learner support must make the design implementable.

The book therefore distinguishes *constructive alignment* from the broader proposed concept of *implementation alignment*. Constructive alignment concerns the coherence of learning outcomes, teaching activities and assessment. Implementation alignment asks whether these educational commitments are matched by actual institutional capacity, programme

organisation, delivery conditions, staff deployment, digital arrangements, assessment procedures, support and monitoring. It is possible for the former to be strong and the latter weak. The extension is offered as a conceptual proposal derived from the doctoral integration (Sangwa, 2026a), not as an independently tested construct or an amendment to Biggs's original theory.

Evaluative reasoning connects the institutional and educational evidence to a defensible conclusion. Toulmin's (2003) account of argument identifies the relationship among claims, evidence or grounds, warrants, backing, qualifiers and rebuttals. In university evaluation, a regulator may establish a requirement concerning qualified staffing, the institution may claim readiness and present CVs, but the reviewer must still explain why the evidence is sufficient or insufficient. Qualifications alone may not demonstrate contractual availability, teachable workload or continuity. A warrant makes the inferential step explicit. A qualifier records the limits of confidence. A rebuttal identifies circumstances or contradictory evidence that could change the conclusion. These elements are especially important when reviewers must exercise professional discretion under broadly expressed standards.

Evaluative reasoning is not a substitute for legitimate regulatory authority. Before a reviewer decides whether evidence is sufficient, the relevant standard must be identified, dated, interpreted in context and distinguished from optional international guidance or personal preference. Neither Toulmin's argumentation structure nor a locally designed rubric can authorise a sanction not supported by applicable procedure. The model's contribution is to improve the transparency and contestability of professional reasoning inside an authorised decision process. This principle later underpins the Evidence-Traceable Accreditation Judgement (ETAJ) model and its operational instruments (Sangwa, 2026a).

Table 1.3. The Complementary Theoretical Roles in Quality Governance

Perspective	Central explanatory contribution	Appropriate professional use	Boundary
Critical realism	Separates formal representations, enacted activity and underlying capabilities.	Treat policies, operational tests and outcomes as distinct evidence types.	Mechanisms are inferred fallibly, not directly demonstrated by policy.
Institutional theory	Explains legitimacy, formal conformity, incentives and possible decoupling.	Investigate whether documented QA structures are actually used.	Conformity can also reflect genuine learning and improvement.
Socio-technical systems	Locates quality in interacting people, processes, resources and technology.	Test dependencies, bottlenecks, failure modes and service ownership.	No uniform technology model is suitable for every institution.
Constructive alignment	Tests coherence of learning outcomes, activities and assessments.	Map outcomes to progression, methods and valid demonstrations.	Alignment cannot establish worthiness of outcomes or delivery capability.

Perspective	Central explanatory contribution	Appropriate professional use	Boundary
Argumentation theory	Makes the warrant between evidence and evaluative finding explicit.	Record claim, evidence, backing, uncertainty and reasoned conclusion.	Does not confer regulatory authority or validate criteria.

Note. Author's synthesis informed by Bhaskar (1979), Meyer and Rowan (1977), Biggs (1996), Sayer (2000), and Toulmin (2003).

These theories jointly support a bounded proposition: quality is generated through educational and organisational processes, represented by imperfect evidence, and judged through normative criteria and fallible reasoning. Critical realism clarifies the gap between records and reality; institutional theory explains incentives shaping formal conformity; socio-technical thinking illuminates interacting conditions; constructive alignment addresses educational coherence; and argumentation analysis disciplines decisions. None can replace the others without losing part of the problem. The framework remains a theoretically reasoned architecture requiring further empirical scrutiny rather than a validated causal explanation.

Fragmentation must also be distinguished from legitimate division of labour. Separate decision rights protect academic expertise, institutional oversight and regulatory independence; these functions should not be merged into a single administrator or automated score. The avoidable weakness arises at their interfaces, where a handover leaves no responsible owner, evidence becomes detached from its underlying claim, or an adverse finding is recorded without a mechanism for verification and closure. Integration should therefore be evaluated by the quality of cross-functional coordination and reviewable reasoning, not by the number of offices consolidated or reports submitted. This distinction matters particularly in smaller institutions where one individual may hold several formal roles and additional safeguards for independence, moderation and conflicts of interest become necessary.

1.9 Why fragmented quality-assurance approaches are increasingly inadequate

Higher-education quality work is commonly distributed among academic boards, departments, registrars, quality-assurance offices, ICT services, libraries, student-affairs units, finance teams and external regulatory bodies. Specialisation is necessary because no individual unit can master every technical and disciplinary requirement. Fragmentation arises when the outputs of these units are treated as independent accomplishments rather than dependent parts of a common educational commitment. A teaching department may approve a curriculum before the library determines whether essential resources are licensed; ICT may install a platform without testing assessment workflows; finance may approve enrolment targets that exceed staffing assumptions. Each unit can claim procedural completion while the proposed programme remains operationally incoherent.

One source of fragmentation is the separation of institutional accreditation or governance from programme-level evaluation. A university's general capacity to operate is relevant but does not establish that a specific engineering, nursing or history programme is adequately designed and resourced. Conversely, a programme's academic dossier may be internally coherent while depending on unstable institutional services. These are related but distinct claims requiring different evidence. An integrated approach therefore asks whether general capability has actually been mobilised for the programme under review, rather than allowing either institutional reputation or programme paperwork to stand in for that relationship.

Another source is the separation of curriculum approval from the conditions of teaching and assessment. Programme specifications may describe outcomes, module credits, prerequisites and assessment strategies in considerable detail. Yet implementation may expose missing learning resources, incompatible timetables, unrealistic student workload or untested digital systems. A sophisticated document can conceal these risks because a textual plan is easier to present than a functioning educational environment. Programme assurance should therefore use staged evidence: conceptual rationale at design, approved specifications at validation, operational demonstrations before delivery, and learning and support evidence during implementation. The expected evidence necessarily changes with the programme lifecycle.

A third source is the fragmentation between internal quality assurance and external review. Internal QA may collect annual reports, student feedback and corrective-action plans, while external reviewers receive a separate dossier prepared shortly before a visit. If the two evidence systems are disconnected, institutions may invest in episodic compliance rather than continuous learning. A more credible arrangement allows routine monitoring to produce records useful for both institutional improvement and proportionate external accountability. It also protects the internal function of quality assurance: staff must be able to recognise weaknesses and learn from them, not merely generate favourable narratives for inspection (HAQAA Initiative, 2018; Harvey & Stensaker, 2008).

A fourth source is the substitution of metrics for educational explanation. Student satisfaction, graduation rate, publication count, learning-platform login frequency and graduate employment can each be relevant, yet each carries definitional and interpretive limitations. High satisfaction can coexist with undemanding assessment. High completion can reflect robust support or weaker standards. High login frequency may reflect confusing course architecture rather than productive learning. Metrics are evidence only when their meaning, source, quality, timeframe and relationship to the evaluated construct have been established. Evidence triangulation is therefore more valuable than the accumulation of indicators without an explicit evaluative question.

A fifth source is the disconnect between policy and practical authority. Institutions may borrow a respected international framework and present it as if it were binding domestic law, or they may treat informal advice as an accreditation requirement. Such errors are particularly consequential where national laws, ministerial orders, HEC instruments, continental

guidelines and professional benchmarks coexist. The responsible sequence begins with normative provenance: identify the issuing body, legal or professional status, date, applicability and scope. Only then should reviewers map an institutional claim and consider evidence of compliance. This chapter intentionally does not assign legal force to individual Rwanda guidance clauses; that belongs to a dated, instrument-specific legal and regulatory analysis.

Finally, fragmentation is temporal. Approval decisions can become detached from monitoring, documented weaknesses can remain unresolved, and changes to staffing, software, academic regulations or institutional ownership can invalidate assumptions supporting the original judgement. This is not necessarily a failure of initial review; evidence can be sufficient at one point and subsequently become outdated. It becomes a governance failure when the system has no means of detecting consequential change or revisiting earlier assumptions. Continuous enhancement therefore needs explicit responsibility, review cycles, verification of corrective actions and appropriate escalation when learner or academic integrity is at risk.

Table 1.4. Fragmentation Risks and Their Necessary Governance Connections

Fragmented interface	Typical disconnection	Risk to educational quality	Corrective connection
Mission ⇔ measures	Prestige or revenue metrics displace education aims.	Institutional success without sufficient learning value.	Define the purpose and valid evidence of success.
Institution ⇔ programme	Generic resources are assumed sufficient for all awards.	Individual programmes remain operationally unready.	Verify programme-specific deployment and feasibility.
Curriculum ⇔ practice	Approved documentation is not enacted in courses.	Unachieved learning outcomes or inaccessible provision.	Test course, staffing, assessment and support operation.
Internal ⇔ external QA	Review dossiers are detached from routine monitoring.	Episodic compliance instead of improvement.	Use continual records and verifiable action closure.
Metric ⇔ inference	Proxy statistics are presented as definitive outcomes.	Misleading comparisons and decisions.	Specify construct, definition and alternative explanations.
Approval ⇔ follow-up	Change after accreditation is not reassessed.	New risks invalidate earlier assurances.	Monitor material change, conditions and corrective action.

Note. Original diagnostic framework; risks are possibilities to investigate, not claims about all institutions.

These failures should not be interpreted as a claim that every African institution suffers from the same defects or that all existing QA frameworks lack integration. Many universities and agencies already employ robust review, audit and improvement procedures. The chapter's argument is analytical: the adequacy of a system depends on the integrity of its connections, not merely on the existence of its parts. Fragmentation is a risk to be tested through evidence,

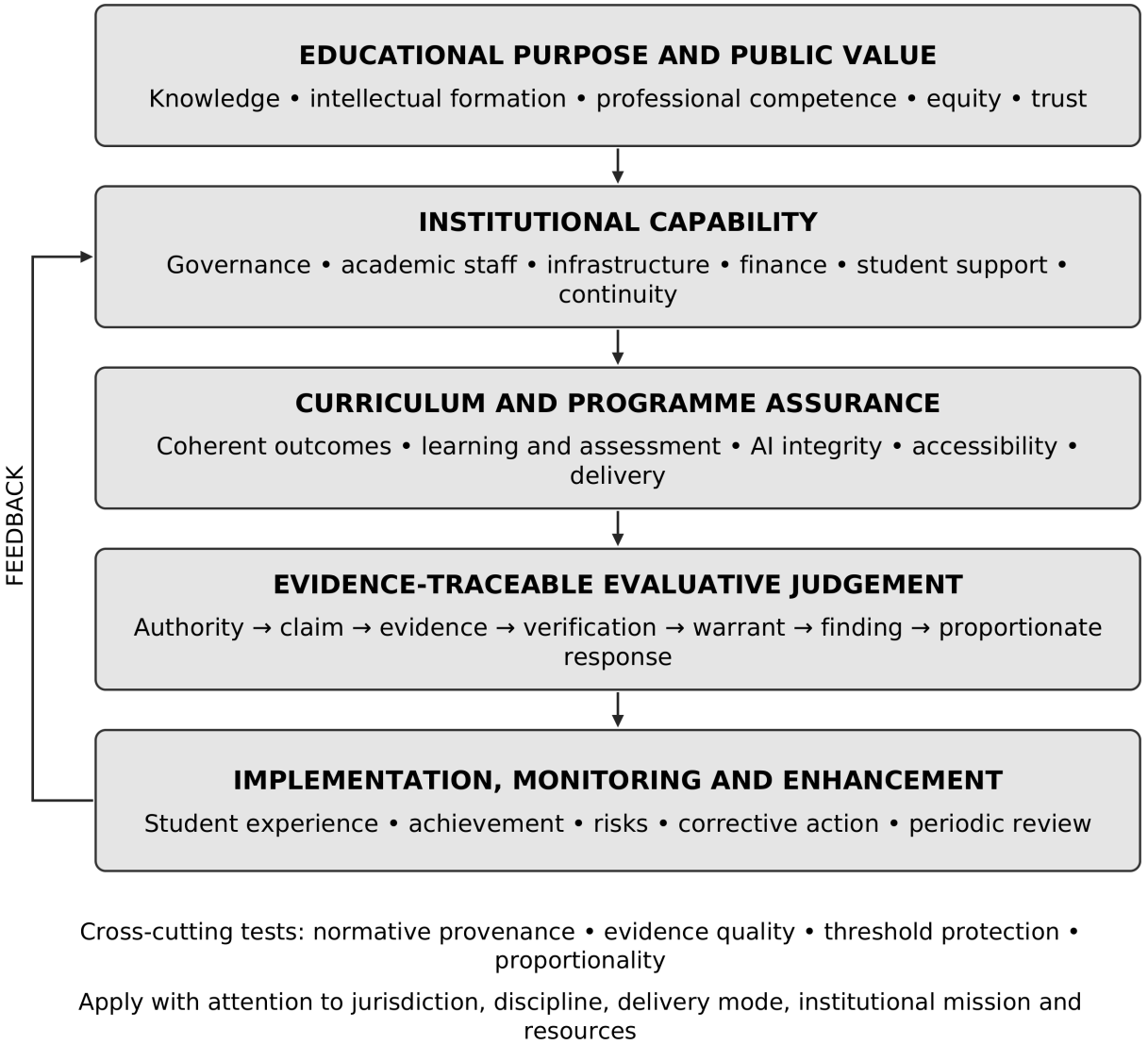
not an accusation presumed against institutions. The appropriate response is to make consequential relationships and decision rules visible while controlling administrative burden.

The chapter's evaluation instruments are deliberately diagnostic rather than determinative. Their dimensions indicate what practitioners should investigate and how different forms of evidence may relate to distinct quality claims. They do not supply statutory decision categories, validated weights, empirically established cut-off values or universal minimum staffing ratios. In a real regulatory exercise, an evaluator must first determine the current applicable instrument, the authorised decision-maker, the programme's discipline and delivery mode, and the evidence that the governing standard actually requires. The matrix can then expose omitted questions and improve the transparency of review, but cannot override the legal rules or professional standards that define the decision.

1.10 Towards integrated, evidence-traceable, enhancement-oriented quality governance

The proposed alternative is to treat quality governance as an interconnected arrangement linking educational purpose, institutional capability, curriculum and programme assurance, evidence-based judgement, implementation, monitoring and improvement. This architecture does not abolish the distinction among university management, academic autonomy and external regulation. Rather, it clarifies how each performs part of a shared accountability function. Institutional leaders provide resources and governance; academic communities determine academically justified content and assessment within applicable standards; quality-assurance units organise monitoring and evidence; and authorised reviewers make bounded judgements under established requirements. Integration means traceable coordination, not unchecked centralisation, as illustrated in Figure 1.1.

Figure 1.1. Purpose-Referenced, Evidence-Traceable Quality Governance: An Extended Conceptual Architecture



Note. Original conceptual extension of the Integrated Evidence-Traceable Quality Governance (IETQG) architecture informed by Sangwa (2026a). Proposed analytical model, not independently field-validated or regulator-approved.

The architecture begins with mission and public value because institutional processes must be assessed against educational reasons. The second layer concerns enduring institutional capability: governance, people, infrastructure, finance, data, support and capacity to adapt. The third concerns the particular curriculum and programme: rationale, qualification level, outcomes, course sequence, teaching practice, assessment, inclusion and practical implementation. The fourth concerns the evidentiary and evaluative processes through which an authorised reviewer determines whether the relevant claims are warranted. The fifth

concerns the activities through which implementation generates new evidence for corrective action, periodic review and institutional learning. These layers are distinguishable but functionally connected.

The critical feature of the figure is its feedback, not merely its downward order. A linear model could imply that quality is established once a programme passes approval. In practice, the student experience, changing risks, assessment outcomes, faculty deployment and programme modifications continue to test the quality claim. Monitoring therefore has to inform resource allocation, curriculum revision, reviewer expectations and subsequent decisions. The feedback loop also prevents permanent dependence on an initial assessment of digital readiness when technologies and delivery practices change.

The six-domain Quality Concepts and Evaluation Matrix operationalises this orientation at the level of professional questioning. It distinguishes **regulatory compliance**, concerning the applicable authorising requirements; **academic quality**, concerning the integrity and level of knowledge and disciplinary standards; **educational effectiveness**, concerning what students are enabled to learn and demonstrate; **learner protection**, concerning fairness, inclusion, safety and credible information; **institutional sustainability**, concerning the capacity to sustain the educational offer; and **public value**, concerning the contribution to society and legitimate stakeholder needs. These domains are complementary rather than independent. They should be examined together while preserving the specific standards, evidence types and materiality relevant to each.

Table 1.5. The Six-Domain Quality Concepts and Evaluation Matrix

Dimension and test	Core question	Indicative evidence to request	Limit or essential threshold
1. Regulatory compliance	Is the programme authorised and consistent with current applicable requirements?	Verified source/version register, qualifications mapping, approvals, required submissions.	Guidance is not automatically law; material legal failures are not compensable.
2. Academic quality	Are level, content, scholarly standards, research and assessment intellectually credible?	Academic benchmarks, coherent curricula, external examination, assessed student work.	Reputation and module lists do not establish learning depth.
3. Educational effectiveness	Are intended learning outcomes genuinely enabled and demonstrated?	Alignment maps, moderation, achievement evidence, feedback and progression.	Student satisfaction and completion are insufficient proxies.
4. Learner protection	Is participation accessible, fair, safe and transparently represented?	Accessible materials, support records, fair process, fee disclosure, safeguarding.	Serious safety, integrity or accessibility failures require direct remedy.

Dimension and test	Core question	Indicative evidence to request	Limit or essential threshold
5. Institutional sustainability	Can the approved educational service continue under reasonably foreseeable conditions?	Staffing allocation, recurrent budgets, systems testing, continuity and risk plans.	One-time readiness is not enduring capability.
6. Public value	Does the offering serve defensible educational, professional and social needs?	Programme rationale, graduate profile, stakeholder input, engagement and outcomes.	Short-term employer demand does not exhaust education's purpose.

Note. Original proposed academic instrument. Its dimensions and examples are not official HEC accreditation criteria and have not undergone independent empirical validation. Reviewers must first apply binding national and profession-specific thresholds.

This matrix is designed for disciplined interpretation, not numerical camouflage. It would be misleading to assign a score of 90% for regulatory compliance and then average it with a 50% score for learner safety to declare the overall programme satisfactory. Certain deficiencies cannot be compensated by strengths elsewhere. A more defensible procedure identifies material threshold failures first, then distinguishes evidence insufficiency from confirmed non-conformity, and only afterwards considers relative strengths, enhancement opportunities and context. Scores, if used, need operational descriptors, reviewer training, calibration and validation before they can be relied on for consequential decisions. The matrix in this chapter is a proposed academic tool, not an official HEC instrument.

The method of using the matrix begins with a concrete evaluative claim. Suppose a university claims that its new blended postgraduate programme is ready for admission. The review should identify the applicable qualifications and programme requirements, then ask whether the graduate profile and assessments are academically appropriate, whether scheduled staff are actually available, whether the platform and resources work, whether students can access the required learning experiences and whether the recurrent costs are funded. Evidence may include approved specifications, curriculum mapping, contracts or verified allocations, functioning course spaces, assessment demonstrations, support protocols and tested continuity arrangements. The review must not confuse possession of an artefact with verification of the practice it is meant to demonstrate.

The next step is to record the evaluative warrant. A reviewer who finds insufficient evidence of staffing should distinguish at least three possibilities: qualifications are appropriate but contracts or deployment are unverified; staffing is demonstrably insufficient for the proposed cohort; or adequate staff are available but the dossier was poorly assembled. These conditions warrant different conclusions and remedial requests. The reviewer should explain what standard applies, what evidence has been verified, why the material supports a particular finding, which uncertainty remains and how it could be resolved. Such clarity improves procedural fairness because the institution can understand and respond to the real issue.

Table 1.6. Illustrative Evidence-Traceability Record for a Proposed Blended Programme

Record field	Hypothetical completed entry
Review reference	C1-QA-STAFF-01; programme-specific, version 1.0.
Applicable authority	Current, relevant national staffing requirements to be verified from official source and version.
Institutional claim	Programme can sustain scheduled teaching and postgraduate supervision.
Submitted evidence	Curriculum teaching allocation, lecturer CVs, workload projections and contracts.
Verification and limitation	Qualifications appear relevant; two proposed supervisors have no verified time allocation.
Evaluative warrant	Qualifications indicate competence, but available capacity for the proposed cohort remains insufficiently demonstrated.
Finding and proposed action	Evidence insufficiency; request signed workload allocation and revised supervision-capacity model before readiness can be established.
Follow-up and closure	Assigned academic dean; documentary verification before enrolment; record and date the outcome.

Note. Fully hypothetical pedagogical illustration, not a real accreditation finding or statutory decision category. Adapt to the legally authorised workflow and evidence requirements.

The example record in Table 1.6 is deliberately concise. It illustrates how traceability can be implemented without demanding a disproportionately large dossier. The record's identifier enables a later reviewer or quality officer to locate the applicable rule, institutional claim, evidence, warrant, follow-up requirement and outcome. It does not guarantee truth or remove professional discretion. A false source can be perfectly traceable; a correct judgement can still be poorly explained. Effective governance therefore combines provenance, verification, substantive expertise, transparent reasoning and accountability for action.

The proposed approach extends two conceptual contributions from the author’s doctoral research. The Integrated Evidence-Traceable Quality Governance (IETQG) framework, developed in the author's 2026 doctoral manuscript, links institutional capability, programme assurance, accreditation judgement and enhancement into an analytical architecture. The Evidence-Traceable Accreditation Judgement (ETAJ) model specifies the reasoning chain from applicable authority through institutional claim, evidence, verification, warrant, finding, response and follow-up (Sangwa, 2026a). The present chapter develops the prior framework in one important direction: it places educational purpose and a differentiated conception of quality explicitly above the institutional and regulatory layers. This is an interpretive extension for the reference volume, not a claim that the model has been field-tested, adopted by HEC, or shown to improve reviewer reliability.

A second extension concerns resilience and the limits of interchangeability. The original governance logic emphasises sustaining digital provision and tracking evidence; the expanded

view treats learner protection and continuity as central questions of quality in volatile environments. It recognises that cross-level relationships may fail through bottlenecks, and that an otherwise strong institution may need disciplinary or programme-specific controls. For example, evidence needed for a history programme cannot be assumed sufficient for supervised clinical training. Likewise, the arrangements appropriate to a small specialised college may differ from those of a multi-campus public university. Comparability should concern defensible educational functions and thresholds, not the mechanical replication of organisational forms.

The third extension is an explicit test of public value. Accreditation protects minimum standards and institutional legitimacy, but the larger educational undertaking also requires examining whether programmes create worthwhile opportunities for learning, research, social participation and responsible professional action. Public value cannot be converted into a single uncontroversial score, and governments should not use it to abolish academic independence. It can nevertheless be investigated through programme rationale, evidence of community and disciplinary need, responsible engagement with stakeholders, graduate capabilities and demonstrable contribution, interpreted with awareness of mission and context. This prevents compliance from becoming the endpoint of quality governance.

A final safeguard concerns proportionality of documentation. Evidence traceability does not justify unlimited paperwork. Institutions should maintain a manageable register of material claims, applicable sources, owners, verification methods, risks, decisions and corrective actions, reusing records generated through normal academic operation wherever feasible. Evidence should be collected because it clarifies consequential questions, not because every possible artefact can be uploaded. A mature system is capable of explaining why evidence is needed, how it will be assessed, when it should be updated and what action follows. Documentary economy and intellectual rigour are compatible when the architecture is purposeful.

The practical implications below follow from a central asymmetry of responsibility. Universities bear primary responsibility for delivering what they promise; academics determine the integrity of disciplinary learning within lawful institutional governance; regulators provide external assurance that defined standards and public safeguards are met; and students and society experience the consequences of failures that may not be visible in a dossier. A useful quality system therefore allocates responsibilities without assuming that any one actor possesses complete knowledge of educational performance. It creates routes through which concerns can be reported, verified, corrected and incorporated into future decisions.

1.11 Implications for universities, regulators, students, employers, and society

For university governing bodies and executive leaders, the foremost responsibility is to translate mission statements into viable educational commitments. Councils and executive

teams should be able to explain how institutional strategy, enrolment assumptions, academic staffing, learning resources, finance, risk management and internal QA support the actual portfolio of programmes. They should not treat a favourable external decision as evidence that every internal process is functioning. Periodic review ought to examine whether programme commitments can still be sustained after changes in funding, staffing or technology. Where weaknesses are identified, leadership is responsible for allocating resources, defining accountability and verifying correction rather than merely approving action-plan documents.

Academic senates, curriculum committees and faculties carry particular responsibility for the intellectual integrity of qualifications. Programme approval should scrutinise the level, scope and coherence of learning outcomes; progression across modules; disciplinary sufficiency; credible assessment; assessment moderation; and the availability of appropriate teaching and research expertise. Curricular responsiveness should not degenerate into fashionable module naming without substantial content, and compliance should not override academic reasoning. Academic bodies should insist that the proposed learning experience is educationally justified and feasible under the resources and modalities claimed. They should also require periodic reconsideration when new knowledge or changes to professions make the curriculum materially outdated.

Within these governance arrangements, internal quality-assurance professionals must maintain a connection between institutional policies and evidence of enactment. The most useful QA information is not necessarily the largest dataset. It is information that allows an institution to identify an educational claim, test the claim against relevant standards and practice, locate a material weakness, assign an improvement action and determine whether the action worked. Review cycles should be sensitive to programme stage and risk rather than uniformly burdensome. Internal QA should also report limitations and contrary evidence honestly: protecting the institution's reputation by hiding weaknesses undermines the legitimacy of the quality system.

External regulators and programme reviewers protect public trust through competent, impartial, legally grounded and evidence-sensitive judgement. Reviewers should establish source authority and applicability before asking for evidence, distinguish compulsory requirements from professional advice, and document the warrants supporting material findings. A deficiency in the dossier should not automatically be represented as proof of an absent institutional capability; equally, a credible-looking dossier should not be accepted as proof of full operational implementation. Independent expertise, conflict-of-interest management, reviewer calibration, procedural fairness and proportionate follow-up strengthen both the consistency and legitimacy of accreditation decisions (HAQAA Initiative, 2018).

At the point of educational delivery, lecturers and instructional designers should design evidence-rich learning experiences rather than merely transmit content. Lecturers should understand the difference between what a module covers and what students can

demonstrably do at its conclusion. Assessment should be sufficiently authentic and controlled to sustain confidence in the qualification, particularly where AI can mediate the production of student work. Staff also need a realistic workload, relevant professional development and specialist support. Holding individuals responsible for institutional quality while withholding the conditions needed to deliver it is an accountability contradiction that senior management must address.

From the learner's perspective, a credible quality system must provide accurate, intelligible information about programme recognition, workload, delivery arrangements, fees and associated costs, assessment, learner support, progression and complaint procedures. Students should have reasonable channels to report inaccessible materials, unreasonable workloads or failures to provide advertised services without fear of retaliation. Their views constitute indispensable evidence about lived provision, although satisfaction alone does not determine academic standards. Learner protection requires the ability to use feedback alongside assessment, performance, accessibility and other evidence while preserving confidentiality and fair treatment.

Employers and professional bodies contribute an important, though not exclusive, source of evidence about changing roles, competencies, professional conduct and the constraints graduates encounter in practice. Their participation is valuable when it informs academic design and appropriately supervised experiential learning. It should not become control over curricula in the interest of one firm or short-term occupational fashion. Professional regulatory requirements must be correctly distinguished from general stakeholder preferences. A thoughtful university seeks dialogue with employers while retaining responsibility for disciplinary knowledge, independent thinking, research capability and the wider public interest.

At the system level, governments and communities depend on universities to sustain credible knowledge and responsible graduates. Education policy should therefore balance expansion and workforce development with academic freedom, equitable access, research infrastructure and the integrity of qualifications. National data systems can support policy learning, but their indicators should be interpreted transparently and with regard to measurement limitations. Civil society, employers, families and communities also have an interest in universities that communicate accurately about their services, preserve disciplinary integrity and contribute to national development without overstating outcomes.

Table 1.7. Differentiated Responsibilities for Purpose-Referenced Quality

Actor	Primary responsibility	Evidence and accountability emphasis
Council / executive	Resource viability, strategic accountability and continuity.	Funded capability, risk review, verified institutional action.
Senate / faculties	Disciplinary standards, curriculum coherence, assessment validity.	External peer scrutiny, moderated achievement, programme decisions.

Actor	Primary responsibility	Evidence and accountability emphasis
Internal QA	Evidence systems, monitoring, improvement and closure.	Transparent registers, audits, implementation follow-up.
HEC / authorised reviewers	Applicable standards, proportional evidence-based evaluation.	Provenance, verified warrants, fair procedures and recorded findings.
Lecturers / design teams	Educational implementation and valid learning experiences.	Operational courses, student work, assessment and timely feedback.
Students / support units	Meaningful participation, learner voice, fairness and protection.	Accessible resources, complaints, support records and outcomes.
Employers / professions	Professional relevance and supervised practice expectations.	Structured consultation, appropriate practical competency evidence.
Government / society	Public trust, equity, knowledge, accountability and development.	Reliable statistics, transparent policy, responsible public outcomes.

Note. Original differentiated responsibility map for higher-education professionals; actual mandates depend on jurisdiction and institutional statutes.

A hypothetical illustration shows how differentiated responsibilities work. Consider a regional university proposing a blended Master of Education programme for employed teachers. A strong rationale may identify demand for flexible postgraduate learning and a defensible graduate profile. Senate must still test the academic level, research methods, supervision, curriculum progression and assessment plan. The digital learning team must demonstrate that courses and support systems function under the intended connectivity conditions. Finance and academic management must evidence sustained staffing and the cost of research supervision. The QA unit must verify alignment and establish monitoring indicators. An external reviewer evaluates the evidence against the applicable requirements, explaining any uncertainty or conditions. No actor can legitimately substitute another actor's documentary approval for its own function.

The illustration also shows why responsible quality governance is not simply stricter regulation. A requirement for an expensive proprietary platform would be difficult to defend as a universal quality condition if an accessible, secure and educationally equivalent alternative meets the applicable standard. Conversely, low institutional cost would not excuse the absence of adequate postgraduate supervision. Context-sensitive judgement means evaluating the educational function and applicable threshold before deciding whether the proposed means are sufficient. The objective is demanding but fair accountability capable of recognising institutional diversity without diluting learner protection.

For researchers, the chapter yields a programme of testable questions. Do evidence-traceability instruments improve the consistency or explainability of reviewer conclusions under controlled conditions? Which dimensions of institutional capability most strongly predict implementation problems across different modes of delivery? How can educational

transformation be evaluated without penalising institutions serving disadvantaged student populations? Which digital indicators are genuinely informative about learning, and which introduce measurement error or surveillance harms? What costs and outcomes follow from alternative governance configurations? Such questions require empirical methods beyond this conceptual chapter, including comparative case study, observational research, calibration experiments and longitudinal programme evaluation.

1.12 Conclusion: Establishing the intellectual agenda for educational quality transformation

Higher education quality is too consequential to be equated with prestige, compliance, connectivity, graduate employment or a single outcome indicator. Each may supply relevant information, but each leaves important questions unanswered. Quality emerges from the relationship between worthwhile educational purposes, intellectually credible curricula, supportive and sustainable institutional conditions, students' genuine opportunities to learn, reliable evidence and defensible evaluation. The chapter has therefore argued for a purpose-referenced, multidimensional and evidence-dependent account that protects both academic ambition and public accountability.

The African context makes this account especially important. Expanded participation, increasingly digital provision, national development expectations and continental harmonisation initiatives create valuable opportunities while exposing institutional differences in resources, access, regulation and capacity. Rwanda's strategic and higher-education guidance provides a concrete policy setting, but it does not eliminate the need for interpretive care: a legally applicable requirement, a national strategy, a continental benchmark and an academic recommendation do different kinds of work. Quality judgements remain credible only when these forms of authority and evidence are not confused.

The proposed six-domain framework contributes a practical grammar for asking more precise questions. Regulatory compliance concerns legitimate thresholds; academic quality concerns disciplinary substance and standards; educational effectiveness concerns credible learning; learner protection concerns equitable and safe participation; institutional sustainability concerns continuity of the educational offer; and public value concerns contribution beyond the campus. The domains cannot be reduced to a compensatory average or converted into a final accreditation judgement without authorised criteria and validated procedures. Their value lies in revealing what a single metric or document conceals and in guiding proportionate requests for evidence.

The conceptual synthesis also identifies why quality governance must be integrated across levels and across time. A well-resourced institution may fail to implement a particular programme; a convincing curriculum can be undermined by staffing, assessment or support; and a sound decision today may require reconsideration after material change. The book therefore approaches quality as a continuing relationship among educational purpose,

institutional capability, programme assurance, evidence-traceable judgement and enhancement. The IETQG and ETAJ constructs provide an organised vocabulary for exploring that relationship, while their empirical and regulatory limits remain explicit.

A final implication follows for scholarly and professional practice. Rigorous quality assurance should be neither a ritual of documents nor an unbounded demand for more information. It should be a disciplined capacity to explain what educational commitments matter, what requirements legitimately apply, which evidence supports the claims, why the evidence warrants a conclusion and what action protects learning when reality falls short of the promise. Having established that intellectual foundation, the analysis can turn to the national legal and institutional arrangements through which Rwanda and other African systems recognise qualifications, authorise provision and make consequential accreditation decisions.

CHAPTER 2

Higher Education Regulation, Qualifications, and Accreditation in Rwanda and Africa

Regulatory Authority, Institutional Accountability, and International Comparability

Abstract

The credibility of higher education depends upon more than the presence of formal accreditation or adherence to internationally recognisable quality-assurance terminology. Institutions must establish which authorities are legally competent to regulate their activities, which qualifications they may award, which standards apply to specific programmes and delivery modalities, and how compliance can be demonstrated without confusing documentary preparation with educational effectiveness. This chapter offers a Rwanda-anchored, source-sensitive examination of higher-education regulation, qualification frameworks and accreditation within selected African systems. Using a critical documentary and comparative synthesis of enacted Rwandan instruments, Higher Education Council (HEC) publications, official Kenyan, Ghanaian and South African sources, and continental standards, it distinguishes binding rules, regulatory instruments, operational guidance, institutional policies and non-binding professional benchmarks. Particular attention is given to Rwanda's Presidential Order No. 044/01 of July 2026, the Rwanda Qualifications Framework, evolving distance-learning and artificial-intelligence guidance, programme validation, postgraduate qualification requirements, recognition and transnational provision. The analysis identifies recurrent governance functions without presuming identical legal architectures across jurisdictions. Its practical contribution is a proposed Rwanda Higher Education Regulatory and Accreditation Reference Matrix, supported by a provenance test, a qualification-and-credit diagnostic, and a controlled change-management procedure. These tools provide an auditable foundation for curriculum development, institutional decision-making and professional evaluation, but neither replace official regulatory determinations nor constitute an empirically validated accreditation model. The chapter establishes normative authority as the indispensable starting point for subsequent discussions of institutional capability and evidence-traceable quality governance.

Keywords: higher education regulation; Rwanda Qualifications Framework; accreditation; Higher Education Council; programme approval; regulatory provenance; African quality assurance

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2.1 Introduction to higher-education regulation and public accountability

A university may be academically ambitious, adequately financed and committed to student success, yet it cannot legitimately operate outside the regulatory arrangements that govern its establishment, qualifications and delivery. Equally, an institution may satisfy a documentary requirement without demonstrating that a particular curriculum is coherent, its lecturers are available, its assessments are valid or its graduates have achieved the advertised outcomes. This distinction, established in the preceding discussion of educational purpose and multidimensional quality in Chapter 1 (originally published as Sangwa, 2026b), provides the starting point for regulatory analysis. Compliance is neither the whole of educational quality nor an optional substitute for it. It is one indispensable dimension of a broader public undertaking.

Higher-education regulation concerns the creation, allocation and exercise of public authority over institutions, programmes, qualifications, professional preparation and the conditions under which awards are recognised. Accreditation is a related but narrower judgement, typically based on an authorised assessment of whether an institution or programme meets applicable requirements. Quality assurance comprises internal and external arrangements through which academic standards and educational processes are established, monitored, evaluated and improved. These concepts overlap but do not coincide. An agency's mandate, an institution's operating authorisation, a programme's approval, a graduate's qualification and a foreign award's equivalence may involve distinct legal questions and decision-makers. The existence of one should never be treated as conclusive proof of the others.

The public interest justifying regulation includes protection from fraudulent or misleading credentials, assurance of minimum academic and professional standards, equitable treatment of students, responsible use of public resources, and confidence that qualifications communicate defensible levels of learning. Higher education also yields benefits not reducible to immediate labour-market outputs, including scholarship, cultural preservation, civic reasoning and independent criticism. Accordingly, legal oversight must be capable of protecting the public without converting universities into merely administrative extensions of government. The legitimacy of a regulatory system depends partly on how it reconciles minimum standards, academic freedom, institutional differentiation, procedural fairness and continuous enhancement (Harvey & Green, 1993; International Commission on the Futures of Education, 2021).

The central problem of this chapter is not whether Rwanda or African universities possess regulatory documents. It is whether institutional actors and reviewers can establish the correct authority, applicable provision, current version, evidentiary requirement and lawful decision route for a specific educational claim. That task becomes difficult where older procedures remain publicly available, new orders amend earlier mandates, guidance is published on

webpages without express repeal histories, programme standards intersect with professional requirements, and learning occurs across national borders. A reliable approach must therefore be *source-sensitive*, *time-sensitive* and *object-sensitive*. The authorising source must be identifiable; its operative date must be established; and the rule must genuinely apply to the institution, programme, activity or qualification being examined.

The analytical method is a purposive, critical synthesis of secondary documentary sources. Its central corpus consists of Rwanda's published legal instruments and official HEC material available as of 17 October 2026, complemented by official sources from Kenya, Ghana, South Africa, the African Standards and Guidelines for Quality Assurance in Higher Education (ASG-QA), and UNESCO recognition instruments. Sources were examined for issuing authority, provenance, stated scope, formal status, substantive requirement, and practical implication. Chapter 1 and the author's doctoral thesis provide conceptual antecedents, not independent verification of current law (Sangwa, 2026a, 2026b). This is not a systematic literature review, and no exhaustive database search, screening count, regulatory enforcement dataset, field interview or observed institutional implementation is claimed. Official publication establishes the content of a document; it does not necessarily establish whether all institutions comply, whether every referenced operational instrument remains applicable, or how a particular regulator would decide an individual case.

A six-level distinction guides the analysis. Legislation and lawfully made orders must be differentiated from regulatory standards issued under delegated authority; such standards must in turn be separated from administrative procedure, official advice, institutional rules, and voluntary comparative benchmarks. Legal force cannot be reliably assigned by document title alone. Some instructions in an official guideline may operate as conditions of an authorised evaluation, but a guideline cannot be assumed to amend an inconsistent higher-ranking legal instrument. Similarly, a university's senate may approve an academic proposal internally without thereby granting itself the external permission required to offer it. The chapter therefore foregrounds documentary provenance before offering professional recommendations.

2.2 Historical development of quality-assurance and accreditation systems in Africa

The regulation of advanced learning in Africa predates modern accreditation agencies, but contemporary quality-assurance systems developed within historically different institutional and political settings. Islamic, Christian and indigenous traditions of scholarship coexisted with later colonial university colleges, specialist schools, professional training institutions and post-independence universities. Colonial structures often tied legitimacy to external awarding institutions or metropolitan professional expectations, while emerging states subsequently linked higher education to national reconstruction, teacher preparation, professionalisation, public administration and research capacity. The historical trajectory is thus neither a simple

importation of European universities nor the emergence of a single homogeneous African model (Teferra & Altbach, 2004).

Post-independence expansion sharpened a dilemma that remains fundamental. Universities were expected to widen access and develop national expertise, yet fiscal limitations, uneven research infrastructure, staff shortages and political interventions complicated the maintenance of academic standards. As tertiary systems diversified, state authorities increasingly needed mechanisms for licensing institutions, recognising awards, controlling misleading claims, evaluating provision and ensuring that new private providers did not enter the market without credible capacity. The resulting institutional reforms were shaped both by domestic needs and by international developments in public-sector management, accountability and quality assurance (Shabani et al., 2014).

Formal external quality assurance subsequently expanded across African higher-education systems, though at different speeds and through different organisational forms. Kenya consolidated university oversight under the Commission for University Education (CUE), established through the Universities Act, 2012, with responsibilities concerning standards, university accreditation and academic programmes (Commission for University Education, n.d.). Ghana's Education Regulatory Bodies Act, 2020 (Act 1023) established the Ghana Tertiary Education Commission (GTEC), integrating central functions of tertiary regulation and accreditation (Republic of Ghana, 2020). South Africa's Council on Higher Education (CHE), established under the Higher Education Act, 1997, carries quality-assurance responsibilities through the Higher Education Quality Committee (HEQC) and has developed a more differentiated relationship among institutional audits, programme accreditation and qualification standards (Council on Higher Education, n.d.). These structures reflect distinct political settlements and statutory competences, not stages on a universal evolutionary ladder.

The historical emergence of quality agencies should not be mistaken for proof that documentary control necessarily produces educational improvement. Institutional theory illuminates the possibility that organisations adopt recognised structures to satisfy powerful external expectations, including accreditation authorities and funding bodies, without integrating those structures into everyday educational work (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Yet the converse claim would be equally mistaken: formalisation can create stable procedures, appeal rights, published requirements and conditions for more reliable evaluation. The analytical question is when external oversight improves the quality of teaching and qualifications, when it merely records conformity, and when procedural burden diverts limited academic capacity from educational work.

Regional harmonisation emerged partly in response to this diversity. Professional migration, international recruitment, cross-border programmes, student mobility and the desire for mutual trust all create demand for intelligible qualifications and credible quality-assurance arrangements. The ASG-QA, published through the Harmonisation of African Higher Education Quality Assurance and Accreditation (HAQAA) initiative, articulate a common

reference for internal assurance, external assurance and quality-assurance agencies (HAQAA Initiative, 2018). The African Continental Qualifications Framework (ACQF), whose policy document was validated by participating African Union member-state representatives in 2023, similarly aims to make different qualification systems more intelligible across borders (ACQF, 2023b). Neither undertaking creates a uniform supranational licensing authority. Their value lies in a shared language through which differences can be interpreted without abolishing them.

The next phase of African quality assurance must confront four recurrent tensions. Regulators need comparable standards without suppressing institutional mission; universities need accountability without excessive procedural delay; educational systems need flexible pathways without lowering qualification integrity; and digital expansion needs cross-border openness without sacrificing national jurisdiction and learner protection. The most persuasive lesson of African regulatory history is consequently not the superiority of a particular organisational design. It is the need to preserve clear public authority, credible institutions, defensible academic thresholds and opportunities for improvement while adapting procedures to context.

2.3 Rwanda's higher-education governance architecture: Institutions, responsibilities and decision authority

Rwanda's higher-education regulatory architecture combines constitutional and statutory governance, ministerial responsibility, a specialised national higher-education body, institutional governing organs and, where applicable, sector-specific professional authorities. The Ministry of Education provides national educational policy leadership and governmental supervision of the Higher Education Council. Higher learning institutions remain responsible for their academic and organisational affairs within their legally recognised status and applicable conditions. Additional public bodies may hold responsibilities relating to financial accountability, occupational recognition, personal data, public-sector employment or professional practice. These competences should be mapped rather than collapsed into an undifferentiated concept of governmental approval.

A decisive development occurred in July 2026. Presidential Order No. 044/01 of 24 July 2026, published in the *Official Gazette* special issue of 30 July 2026, now governs HEC's mission, responsibilities, powers, organisation and operation. Article 26 expressly repeals the provisions of Presidential Order No. 081/01 of 28 August 2020, except its Article 2. The 2020 order therefore remains part of the legal history but cannot be cited indiscriminately as the currently governing statement of HEC's responsibilities. Article 28 provides for commencement upon gazette publication (Republic of Rwanda, 2026, arts. 26-28). This is not a minor bibliographic update: an evaluator who relies solely on the older order risks misunderstanding the current scope of regulatory functions, especially with respect to international programmes, online provision and technology governance.

Article 4 places HEC under the supervision of the ministry responsible for education. Article 5 sets out a mission concerning quality, relevance, globally competitive programmes, research and employable graduates. Article 6 covers the accreditation of new higher learning institutions; monitoring of accredited institutions; accreditation relating to international and online programmes; compliance with admission standards; development of academic and institutional standards; approval and upgrading of curricula and academic programmes;

oversight of research and innovation; recognition-related responsibilities; technology governance; institutional performance and data accuracy; and several related administrative functions. Article 7 expressly empowers HEC to impose sanctions on institutions failing to comply with educational quality standards (Republic of Rwanda, 2026, arts. 4-7). These provisions establish public authority, but an individual sanction still requires the applicable legal and procedural basis, reliable findings and due process. A reviewer does not acquire an independent power to sanction because the regulator possesses one.

The 2025 admission policy, the 2025 appeals procedure and the 2021 attachment guidance also illustrate an important source-history distinction: a document's cover date, its online modification date, its present administrative use and its legal authority are four different attributes. The researcher or evaluator should record each separately. A newly uploaded older document is not automatically new law; conversely, an older administrative procedure is not automatically inapplicable merely because a newer presidential order has replaced its former institutional reference. Currency is a justified finding about a particular provision, not a presumption derived from the age of a file.

Rwanda's educational organisation and qualification architecture also rests on Law No. 010/2021 of 16 February 2021 determining the organisation of education, together with the Rwanda Qualifications Framework (RQF) established through Ministerial Order No. 003/MINEDUC/2021 of 20 October 2021 (Republic of Rwanda, 2021a, 2021c). The RQF provides a common language for levels, credits, outcomes, qualifications and pathways. It informs academic design but should not be confused with an institution's approval to confer a specified award. Its educational role is to ensure that a degree communicates appropriate learning complexity, demand and achievement, rather than merely a familiar title.

The policy-to-practice distinction is particularly visible in admission and professional qualification requirements. A programme may be lawful to offer while an individual applicant has not established the required prerequisites; an individual may earn a valid academic qualification while a profession lawfully requires additional registration or supervised practice; and a foreign degree may be authentic without automatically satisfying equivalence requirements. An accurate review report should use separate headings or claim identifiers for these distinct judgements rather than folding them into the single phrase 'accredited and recognised'. Students, institutions and credential evaluators need to know precisely which question each document answers.

Within an individual institution, governance typically operates through a governing board or council, executive leadership, senate or equivalent academic authority, faculties, departments, programme teams and internal quality-assurance arrangements. The legal powers and precise names of these organs depend on the institution's establishing instruments and approved statutes. The senate's academic approval, a finance committee's resource endorsement, an ethics committee's research approval and HEC's external regulatory act answer different questions. They form a necessary chain in many programmes, but they should not be conflated. A sound institutional register records the specific decision-maker, scope, date, evidence and legal effect of each approval.

The 2026 reform makes change-management discipline particularly important. An institution preparing a new programme should not rely exclusively on inherited precedent or an old validation checklist. Its responsible academic office should identify current HEC directives, verify applicable professional standards, establish whether programme or delivery-mode approval is required, and document any advice obtained from the competent body. Existing approved programmes should likewise be reviewed for changes that materially affect qualification structure, delivery, academic staffing or learning outcomes. Continuity of enrolment does not necessarily mean immunity from updated conditions; conversely, the publication of a new instrument does not automatically establish retroactive application to every already-approved cohort. Transitional interpretation must be grounded in the instrument and, where necessary, in a written authoritative determination.

2.4 The Higher Education Council: Accreditation, programme approval, evaluation and monitoring

A prospective applicant should be able to distinguish an institution's legal establishment, its permission to operate, its approval to award a particular qualification, and any conditions attached to the specific programme or site. Those are separate verification questions. For the university, credible public information should therefore identify the authorised name of the awarding body and any restrictions on programme title, award level, location, intake, professional pathway or delivery modality. For the reviewer, the evidentiary starting point is the operative approval or equivalent official record rather than a promotional claim. HEC's public-facing services and accreditation materials facilitate verification, but the absence or presence of a website listing should be interpreted with regard to the authoritative administrative record.

HEC occupies a central position because it links national educational policy to institution- and programme-level accountability. Its role is both prospective and continuing: new providers and programmes must establish sufficient grounds for authorisation, while existing provision remains subject to standards, monitoring and improvement expectations. The published HEC accreditation-process portal distinguishes institutional accreditation and programme-related materials, including an application for a definitive operating agreement for private providers, programme proposals, module descriptions and review processes (Higher Education Council,

n.d.-a). The portal is an important route to official forms but should not be read as a complete, self-contained statement of current law. Some webpages and associated templates preserve terminology and procedural material originating in earlier regulatory periods.

Institutional accreditation and programme approval test different propositions. Institutional review concerns whether an organisation has the governance, integrity, resources, infrastructure and academic processes needed to operate credibly. Programme review concerns the academic and practical merits of a particular award: its rationale, qualification level, curriculum architecture, staffing, assessment, student support, facilities and sustainability. A provider with institutional authorisation cannot assume that every proposed programme is automatically approved. Similarly, approval of one degree does not confer unrestricted authority over a new delivery mode, campus or externally franchised programme. The evaluator must verify the exact object and conditions of the authorisation.

The distinction between evaluation and decision is equally important. An external peer-review panel may inspect documents, interview appropriate participants, examine facilities and test claims about programme readiness. Its report can record findings and make a recommendation, but the legal act of approval, refusal, amendment or enforcement belongs to the body authorised under the governing arrangements. This separation protects both reviewer independence and administrative accountability. The panel's expertise informs, but does not replace, the legally competent decision-maker. It also means that adverse conclusions must distinguish an established failure against an applicable requirement from a matter on which evidence is inadequate or contradictory.

HEC's current responsibilities encompass continuing monitoring, not merely entry control. Under Article 6 of the 2026 Order, institutional oversight includes standards and monitoring arrangements; academic programmes may be approved and upgraded; and data accuracy and institutional performance are explicit concerns (Republic of Rwanda, 2026). These powers make quality assurance an extended lifecycle responsibility. Institutions should maintain evidence of delivery, moderation, student outcomes, grievances, staffing changes, research capability, programme review and corrective action. Accreditation papers assembled only in the months immediately preceding a visit are therefore a weak substitute for routine institutional evidence systems.

The Council's self-assessment and review approach offers a foundation for professional judgement, but evaluators must avoid converting every published example of good practice into an independent legal requirement. HEC's *Guidelines for Internal Quality Assurance (IQA) Mechanisms for Higher Education* offer operational expectations for institution-wide QA, while programme-specific and modality-specific documents may establish further criteria (Higher Education Council, 2021a, 2025b, 2026a). The normative force of an individual item depends on the current instrument, its legal basis, adoption and application to the case. Expert reports should identify whether the observed condition is a clear non-compliance, a deficiency in evidence, an improvement opportunity or a question requiring interpretation by HEC.

A robust HEC evaluation process is thus necessarily evidence-sensitive. A lecturer's curriculum vitae supports a claim of qualification but not necessarily of contractual availability or sustainable workload. A laboratory inventory documents assets but not operational safety, access or scheduled capacity. An LMS screenshot shows configuration at a time but not reliable teaching, authenticated assessment or student engagement. An annual QA policy demonstrates stated institutional intention, not closure of identified problems. Reviewers should seek corroboration proportionate to the risk while protecting confidentiality and avoiding needless duplication. These principles anticipate the book's later Evidence-Traceable Accreditation Judgement (ETAJ) model, whose rationale is argumentative transparency, not mechanical scoring or an assertion of HEC endorsement (Sangwa, 2026a).

2.5 The Rwanda Qualifications Framework: Levels, credits, progression and recognition

Qualifications frameworks solve a basic communication problem: the words *certificate*, *diploma*, *bachelor's degree*, *master's degree* and *doctorate* do not establish equivalence unless the level, workload, outcomes, purpose and quality of their award can be interpreted. The RQF addresses that problem through nationally articulated qualification types, level descriptors and credit-related expectations (Republic of Rwanda, 2021c). It is both a design reference for programme teams and an evaluative reference for institutional committees and HEC experts. Its usefulness depends on faithful interpretation rather than transcription of its terminology into programme brochures.

The RQF identifies levels by expected sophistication of knowledge, skills and autonomous performance. At the advanced end, master's and doctorate qualifications are associated with Levels 9 and 10, respectively, as reflected also in HEC's *Postgraduate Degree Framework*, dated July 2026 and placed on the HEC website in October 2026 (Higher Education Council, 2026b). Distinguishing levels is not only a matter of numerical classification. A higher qualification should require more demanding conceptual engagement, methodological independence, critical analysis and original or advanced professional contribution as appropriate to its nature. A programme built predominantly around undergraduate-level recall does not become doctoral merely because the cover page bears a doctoral award title.

Admission governance requires attention to fairness as well as selectivity. The 2025 national admissions policy discusses academic entry routes, English-language competence, medical information, character considerations and programme-specific conditions (Higher Education Council, 2025c). The application of those provisions should distinguish genuine qualification or public-safety necessities from inappropriate generalisation about disability, health, prior conviction or personal circumstances. In particular, information requirements should have a defined purpose, lawful basis, appropriate confidentiality and a process for challenging adverse interpretations; an admission rule for a regulated profession should not be extended automatically to an unrelated discipline. Institutions should record how alternative

qualifications or recognition of prior learning are assessed for equivalence while preserving the capabilities needed for successful study.

Credit is a measure of *notional learner effort* required to achieve learning outcomes, not a simple count of classroom contact hours. Section 5.2 of the 2021 RQF specifies that one credit equals ten notional learning hours and describes 120 credits, corresponding to 1,200 hours, as the minimum academic-year reference. Notional time includes direct contact, independent study, assignments, practical tasks and assessment; credits are not earned unless learning outcomes are achieved (Republic of Rwanda, 2021c, §5.2). This distinction is vital for curriculum approval. A 15-credit module nominally represents approximately 150 hours of student learning, not necessarily 150 hours of lectures. A timetable that lists only taught sessions is therefore insufficient to verify workload coherence.

Table 2.1. Rwanda qualification and credit controls for academic programme review

Review dimension	Authoritative reference or verified principle	Evidence expected from an institution	Main evaluative caution
Qualification level	RQF level descriptors; postgraduate Levels 9 and 10	Graduate profile, programme outcomes, module complexity, assessment samples	Award name does not establish intellectual level.
Credit calculation	RQF: 1 credit = 10 notional learning hours	Credits-by-module register and realistic workload breakdown	Contact hours are not total notional learning.
Annual demand	RQF uses 120 credits/1,200 hours as annual reference	Academic calendar, programme duration, workload and sequencing	Do not infer that any programme may compress its duration.
Progression	Approved admissions, prerequisite and progression rules	Admissions regulations, learning pathway, RPL and credit-transfer decisions	Access flexibility cannot erase missing competencies.
Assessment and award	Outcomes must be achieved, not merely attended	Moderated work, grading rules, progression and award records	Participation does not equal competence.
Postgraduate specification	HEC Postgraduate Degree Framework (2026)	Award type, research/supervision plan, milestones, examination conditions	Check precedence and specific approved route.

Note. Author's source-grounded synthesis from Republic of Rwanda (2021c) and Higher Education Council (2026b). This is an analytical review aid, not an official HEC classification instrument.

Duration, annual credits and qualification totals require particular caution because different documents may state requirements at different levels of generality. HEC's July 2026 *Postgraduate Degree Framework* (uploaded in October 2026), for example, explicitly describes doctorates at RQF Level 10 with a minimum four-year duration and 360 credits, while the 2021 RQF sets out the general 120-credit annual reference (Higher Education Council, 2026b, p. 9;

Republic of Rwanda, 2021c, §5.2). The figures should not be silently adjusted, averaged or converted into a universal rule. The postgraduate framework expressly preserves the precedence of applicable law, the RQF and HEC-approved accreditation conditions in any conflict (Higher Education Council, 2026b, p. 6). They present a genuine interpretive issue requiring attention to the newer framework's purpose, any programme-specific rules, full-time-equivalent conventions, applicable exceptions, approval letters and written clarification when necessary. An expert should record the relationship between the instruments rather than declare an unauthorised resolution. A provisional scholarly inference is that a stated programme minimum and a general annual workload norm address related but not identical questions; it remains the authorised regulator's role to determine their application in a concrete case.

Progression and recognition introduce another layer of complexity. Admission criteria protect the intellectual demands of a qualification, but unnecessarily rigid entry routes can exclude capable applicants with substantial occupational or non-formal learning. Recognition of prior learning (RPL), credit accumulation and transfer permit such learning to be assessed and used appropriately where the governing qualification and institutional policies allow. Recognition should be based on demonstrated equivalence to relevant outcomes and level descriptors, with fair assessment, moderation, transparent credit ceilings where applicable and a documented decision. Awarding credit merely for years of employment, attendance at a short course or professional status would risk undermining level integrity. Conversely, forcing a competent learner to repeat fully demonstrated learning can be educationally wasteful and inequitable (ACQF, 2022).

Postgraduate qualifications require particular care because conventional degree titles conceal different academic purposes. HEC's 2026 framework distinguishes research, coursework and professional doctoral pathways while requiring doctoral-level originality, independence and a research contribution; it also differentiates master's-level forms and sets expectations concerning supervision, examinations, scholarly outputs and programme governance (Higher Education Council, 2026b). An institution should state not merely that it offers a doctorate, but which accredited award and pathway it offers, what doctoral work is compulsory, how candidates will be supervised and assessed, what counts as an acceptable research output, and how external examination and appeals are protected. An unconventional pathway, including a portfolio of publications or professional research output, is not automatically equivalent to an authorised RQF Level 10 award absent programme-level approval and defensible examination arrangements.

A practical workload test should assess the learner's actual week, not only the sum of module credits. Consider an illustrative 480-credit bachelor's programme scheduled over three years. Its arithmetic implies 4,800 notional learning hours, or an average of 1,600 hours per year. That already exceeds the RQF's general 1,200-hour annual reference before examining the programme's precise regulated duration or academic calendar. This calculation is a *screening*

signal, not an invented legal conclusion: the evaluator should locate the applicable award-duration requirements, count available teaching and assessment weeks, test concurrent module loads and determine whether any recognised intensive or alternative pathway is authorised. An identical 480-credit programme spread over four years would average 1,200 notional hours annually, but would still need satisfactory academic sequencing, learning resources, actual staffing and external approval. Credit arithmetic is necessary; educational feasibility and regulatory provenance remain separate tests.

The qualifications framework should be treated as a discipline of educational design rather than a mechanical timetable rule. A carefully justified curriculum maps competencies to an award level, assigns realistic time to learning, sequences increasing complexity, creates legitimate entry and exit routes, and assesses attainment. Institutions should record both *formal credit arithmetic* and *educational feasibility*. A degree may add up correctly and still require an unrealistic weekly workload; another may offer academically rich modules but fail to reach the stipulated award threshold. Sound regulation has to test both, and distinguish shortfalls in the curriculum's design from uncertainty about current legal interpretation.

2.6 National requirements for programme development, validation, approval and modification

A programme is simultaneously an educational proposition, an organisational commitment and a regulated qualification. Its proposal must show why the award is needed, what graduates should be able to know and do, which educational activities will develop those capabilities, how attainment will be assessed, and whether the institution can sustain delivery. National regulation gives this educational proposition formal boundaries, but those boundaries must be translated into academic design before an approval dossier can be considered credible. The fact that individual documents have been completed does not prove that they describe one coherent programme.

Rwanda's HEC portal makes available materials concerning programme proposals, programme specifications and module descriptions, while a publicly posted document entitled *Procedures for the Validation of Modules and Programmes* describes internal stages involving programme teams, faculty-level consideration, university-level validation and senate approval (Higher Education Council, 2007). The document's own heading states that it was revised in April 2007, although the HEC website displays a later upload or modification date. That distinction illustrates precisely why document metadata cannot be equated with normative currency. The procedures remain useful for understanding an established model of internal validation, but institutions must confirm their present applicability alongside the 2026 governing order, newer HEC standards and their own lawfully approved academic regulations. A reviewer should not describe a 2007 procedural sequence as newly enacted in 2024 merely because it was uploaded then.

Programme development normally begins with a defensible statement of educational and social need. Appropriate evidence might include national development priorities, employer and professional requirements, disciplinary developments, graduate-pathway analysis, institutional mission and comparative programme benchmarks. The purpose of needs analysis is not to manufacture demand figures for an already chosen title. It is to identify a genuine educational problem and show how a proposed qualification responds to it at the proper level. Evidence should be proportionate: national labour-market data may be useful but cannot automatically justify the specific content, staffing or viability of an individual programme. Where statistics are unavailable, reasoned qualitative evidence and transparent uncertainty are preferable to fabricated forecasts.

A coherent programme dossier should then establish the proposed award's name and RQF alignment, total credits, duration, admission and progression rules, delivery mode, graduate attributes, programme learning outcomes, module structure, prerequisites, assessment methods, staff assignments and resources. The module descriptions should be mutually consistent with the programme specification and the proposal form. A credit distribution that does not reconcile across the three documents, duplicated module codes, contradictory semester or trimester allocations, inaccessible practical training arrangements, or a research requirement unsupported by supervision capacity are not merely editorial matters. They may reveal weaknesses in curriculum control, academic feasibility or the traceability of the approved academic offer.

Curriculum control also requires explicit treatment of work-integrated and professional learning. HEC's *Higher Education Guidelines for Students' Industrial Attachment*, a document dated 2021 although displayed in a September 2026 website listing, addresses institution-industry collaboration and the organisation of practical experience (Higher Education Council, 2021b). Its age and posting date should be separately recorded; neither implies that it overrides current profession-specific standards. A placement-bearing programme needs written agreements or equivalent reliable arrangements showing capacity, supervision, learning outcomes, student insurance and safety where relevant, assessment responsibility, and mechanisms for responding to site withdrawal. In medicine, nursing, teaching and comparable fields, a simulated placement or short observational visit cannot simply replace required supervised practice because the documentary programme adds up in credits. Academic approval should test the reality of the learning environment.

Internal validation is best understood as a sequence of substantive decisions rather than a series of signatures. The responsible faculty should test disciplinary depth, redundancy, prerequisite logic and the match between modules and graduate outcomes. Finance should establish affordability and recurrent cost rather than confirm only the initial budget. Human-resources and academic leaders should verify staffing availability and workload rather than append a list of names. Libraries, laboratories, digital learning services and student-support units should confirm that required resources can actually be deployed. A senate or delegated

academic authority should consider whether the educational case is intellectually and institutionally justified. Only after this work should the institution seek the relevant external approval through the authorised route.

This distinction is especially important when programme modification is proposed. Not every correction to a reading list has the same legal significance as changing the award title, credit structure, duration, professional outcomes, delivery modality or campus. Yet an institution cannot safely create its own unverified exemption from external approval. A controlled modification protocol should classify the proposed change, identify any conditions in the original approval, check the latest applicable HEC instructions, review implications for existing students and determine whether prior approval or notification is required. Article 6 of the 2026 Order includes approval and upgrading of curricula and programmes among HEC's responsibilities (Republic of Rwanda, 2026). This power should not be converted into an assumption about the amount or applicability of any fee without checking the current approved tariff and procedural basis. That legal competence makes it particularly important to avoid treating every senate decision as sufficient external authority.

Table 2.2. Evidence-gated sequence for development and approval of an academic programme

Stage	Required academic or governance judgement	Representative evidence	Responsible decision level
1. Concept and need	Is the proposed award educationally justified?	Rationale, benchmark, stakeholder evidence, feasibility assumptions	Programme team; faculty and strategic leadership
2. Qualification design	Do title, outcomes, level, credits and duration cohere?	RQF mapping, curriculum map, programme specification	Academic design and QA committees
3. Delivery assurance	Can staffing, facilities, support and assessment operate?	Workload, contracts, LMS/lab tests, budget, learner-support plans	Service owners; finance; academic leadership
4. Internal validation	Are disciplinary integrity and institutional accountability demonstrated?	Reviewer comments, revisions, validation report, approval minutes	Faculty board; senate or authorised academic organ
5. External submission	Has the institution met the current HEC application requirements?	Current forms, supporting evidence, version register and submission record	Authorised institutional officer; HEC
6. Decision and conditions	What is the exact scope of lawful approval?	Written decision, conditions, location, modality, approved programme version	Legally competent approving authority
7. Post-approval control	Is the programme delivered as authorised and improved responsibly?	Monitoring, moderation, corrective actions, change log, renewal evidence	Programme owners, internal QA and HEC as applicable

Note. Original professional synthesis informed by Higher Education Council (2007, n.d.-a) and Republic of Rwanda (2026). Stages are proposed audit gates, not a representation of one prescribed contemporary HEC workflow.

An institution ought to preserve an approved *baseline version* of each programme, comprising the curriculum structure, definitive module specifications, assessment architecture, student-facing regulations and external authorisation. Without such a baseline, later corrections can create uncertainty about what was actually approved. Version identifiers, effective dates, senate resolutions and correspondence with HEC should be linked in a secure register. The baseline should distinguish amendments that apply to future cohorts from transitional arrangements for students already enrolled. Such version control protects learner expectations as well as regulatory accountability.

Evidence of implementation readiness should be examined before programme launch, but its intensity must reflect educational risk. A proposed general studies programme may require verified classrooms, staff, accessible resources and appropriate assessment arrangements. A nursing, engineering or laboratory-intensive programme requires additional attention to supervision, safety, professional recognition, equipment functionality and practice placements. A predominantly online programme requires evidence that its learning environment and support systems work for the intended cohort. Equal standards of academic legitimacy do not imply identical evidence bundles. What matters is whether the selected evidence can establish the risks and functions material to the programme's promises.

2.7 Quality assurance for distance, online, blended, virtual and AI-mediated education

Digitally mediated education exposes the limits of regulating only by qualification title and broad institutional status. Delivery modality changes the mechanisms through which students access teaching, undertake laboratory or clinical work, authenticate assessment, receive feedback and seek assistance. A degree with the same outcomes may therefore require different supporting facilities and evidence when delivered online, blended or on campus. Modality is not an independent guarantee of quality or inferiority; it is a material part of the programme's educational and regulatory configuration (Hodges et al., 2020; UNESCO, 2023a).

HEC's *Guidelines and Assessment Tools for the Virtual Learning and the Use of Artificial Intelligence in Rwanda's Higher Learning Institutions*, posted in November 2025, explicitly distinguish face-to-face provision with ICT integration, blended learning, fully online provision and distance learning, and address institutional AI use (Higher Education Council, 2025b). The March 2026 *Guidelines and Assessment Tools for Distance Learning in Rwanda's Higher Learning Institutions* develop further modality-specific expectations concerning infrastructure, learning materials, staff preparation, assessment, organisational responsibility and student support (Higher Education Council, 2026a). These documents are substantial official assessment resources rather than merely aspirational commentary. Nevertheless, a reviewer should verify whether HEC has issued a later directive clarifying their concurrent application, whether particular expectations are incorporated into accreditation conditions, and what modality the institution has actually been authorised to offer.

The current public documents identify demanding quality considerations. They discuss LMS administration, instructional design, multimedia development, trained staff, student orientation, access to appropriate devices and connectivity, suitable learning content, accessibility, assessment controls, institutional e-learning and AI policies, and management responsibility. The 2026 distance-learning guidance indicates that examinations, other than assignments and projects in its specified context, ordinarily require in-person invigilation, while permitting virtual invigilation where an appropriate online proctoring tool is available; it also recommends a balance of online and face-to-face assessment according to readiness (Higher Education Council, 2026a, pp. 16-17). This is not a licence to assume that every online programme may omit physical components or that an off-the-shelf proctoring subscription automatically establishes assessment validity. The programme's approved conditions, professional requirements, technical dependability, privacy law and assessment purpose must be read together.

A degree advertised as *self-paced*, *fully online* or *distance learning* should accordingly make its limitations transparent. Students need to know whether examinations require travel, whether practical classes or intensive sessions are compulsory, what equipment and connectivity are essential, whether learning centres are available, how identity verification works, and whether the award is approved for that mode of provision. A programme can be geographically flexible in its teaching but not fully remote in its assessment or practical work. Ambiguous marketing risks shifting unanticipated costs onto students and may create disputes about what was promised. Responsible regulation should therefore examine accuracy of student-facing representations alongside the technical conditions of provision.

A useful modality audit should follow a student through an actual sequence of academic tasks. Using an ordinary, appropriately authorised learner account, reviewers can test admission and orientation, access to materials on a modest mobile connection, submission of assessed work, receipt of feedback, access to library resources, a request for disability-related adjustment, communication with a lecturer, and the procedure for recovering after a platform outage. Each test should record the date, course version, role permissions and outcome without disclosing sensitive student records. This approach distinguishes a technically impressive demonstration from the conditions that a real cohort is likely to encounter. It is an illustrative professional audit method, not a claim that HEC prescribes this particular sequence.

The distinction between emergency remote teaching and deliberately designed online learning remains central. A lecturer's use of videoconferencing during a disruption may preserve continuity, but it does not establish a sustainable online curriculum. Planned digital education requires coherent asynchronous resources, appropriate interaction, timely feedback, assessment validity, staff workload, accessible content and support arrangements. Reviewers should inspect actual course shells, test navigation and alternative formats, follow sample assessment workflows and confirm that the proposed student experience is plausible under

varying bandwidth conditions. A software procurement invoice or a demonstration account configured for inspectors does not substitute for evidence that the institutional service can support a real cohort.

Generative AI deepens the evidence problem. AI may support translation, explanation, formative feedback, drafting and accessibility, yet its outputs can be inaccurate, biased or insufficiently attributable. It can also obscure whether submitted work demonstrates a student's own competence. UNESCO's guidance on generative AI in education and research treats human agency, institutional readiness, data protection and educational purpose as central safeguards (Miao & Holmes, 2023). HEC's 2025 virtual-learning guidance includes an institutional AI-policy expectation (Higher Education Council, 2025b). An institution therefore needs assessment-specific statements of permitted assistance, procedures for disclosure, meaningful human oversight, evidence of original reasoning where necessary, and fair processes for investigating potential misconduct. AI-detection scores should not be treated as independent proof of dishonesty; empirical assessments of detection tools identify important reliability limitations (Weber-Wulff et al., 2023).

Digital provision also intersects with binding law beyond higher-education regulation. Rwanda's Law No. 058/2021 of 13 October 2021 concerning personal data and privacy governs relevant processing of personal information and may apply to students, staff, overseas data processors and digital assessment providers according to its scope (Republic of Rwanda, 2021b). The transfer of identifiable learning analytics, identity documents, examination recordings or research records to a third-party platform requires data-governance consideration rather than only academic consent. Institutions must determine lawful processing grounds, appropriate safeguards, retention limits, access rights and applicable cross-border processing arrangements. Contractual outsourcing does not eliminate the controller's relevant obligations; equally, privacy concerns should be addressed through lawful design rather than used to prohibit every educational technology without proportional analysis.

There is an unavoidable balance between assessment integrity and learner rights. Online proctoring may address some impersonation risks but can create surveillance, disability-access and data-protection concerns.

Oral examination, supervised practical demonstration, project checkpoints, contextualised tasks, portfolios and moderation may contribute additional evidence of individual achievement. Not all such methods are interchangeable with a required invigilated examination, and a professional qualification may require specified supervised practice. The correct approach begins by identifying the authoritative requirement and the educational risk, then selecting lawful and valid forms of assurance. It neither assumes that software surveillance is indispensable nor treats invigilation requirements as dispensable personal preferences.

Regulatory assessment of AI-mediated provision should remain dynamic. Institutional policies need named academic ownership, clear classification of high-consequence uses, procurement review, staff training, version monitoring, incident reporting and periodic reassessment. A system supporting optional formative practice presents different risks from one automatically scoring final examinations or screening admissions. Human responsibility for grades, progression and disciplinary decisions should remain explicit unless competent law provides otherwise. These considerations belong ultimately to programme and institutional governance, but the regulator must be able to ask for credible evidence that responsibility is assigned and exercised.

2.8 Institutional autonomy, academic freedom, regulatory accountability and enhancement

University autonomy is often invoked as though the term described unrestricted freedom from public oversight. In practice it comprises differentiated freedoms and responsibilities, including academic decisions on curricula and research, organisational management, appointments, financial arrangements and the exercise of scholarly judgement. Their scope depends on the applicable legal structure, public or private status, constitutional protections and institutional charter. Academic freedom specifically protects inquiry, teaching, criticism and reasoned scholarly expression within professional responsibilities; it is neither identical to managerial autonomy nor an exemption from valid academic standards.

Regulatory accountability rests on a different justification. Institutions confer credentials on which students, employers, professions and governments rely. Admission policies, qualifications, public-facing descriptions and assessment outcomes create reasonable expectations. National authorities must therefore establish enforceable minimum conditions and mechanisms for investigating their breach. The strongest autonomy argument does not justify a provider offering an unapproved qualification, evading safety standards or misleading students about recognised awards. Conversely, the fact that a regulator has lawful oversight does not entail that it should prescribe every reading, method of inquiry or legitimate disciplinary interpretation. Academic quality requires both independent judgement and a defensible regulatory floor.

The balance is threatened by *compliance reductionism*, in which the accumulation of forms becomes the dominant meaning of quality. An institution may devote extensive resources to preparing self-evaluation reports while failing to address delayed feedback or unreliable student support. Review panels can compound the problem by requiring excessive documentation, introducing unstated criteria or treating stylistic preferences as enforceable rules. Those practices are not made academically sound by their administrative appearance. Appropriate evidence standards should be risk-based, limited to the claims under evaluation, explained beforehand where possible, and open to institutional response. A quality agency has a responsibility not only to demand evidence but to avoid creating needless evidentiary burden.

The converse risk is *regulatory minimalism*, where institutional autonomy is interpreted as complete self-certification. A senate-approved programme can still lack required external authorisation; a university may call an award innovative while concealing inadequate level or workload; a private provider may claim international affiliation without ensuring lawful local operation. Independent academic judgement should be recognised within a publicly accountable framework that protects students from opaque institutional discretion. This is particularly important for students who have limited capacity to verify accreditation claims before paying fees or relocating for study.

Quality enhancement supplies a constructive middle position. Institutions should not need a regulator to identify every weakness in course design, supervision, assessment or accessibility. Effective internal QA continually examines evidence, corrects defects and evaluates whether interventions work. External review can support this culture by identifying material risks, giving intelligible reasons for findings, distinguishing minimum obligations from suggestions and allowing institutions flexibility in achieving demonstrably equivalent educational functions. The ASG-QA's emphasis on internal assurance, external evaluation and agency responsibilities is useful here because it links accountability to organised improvement without requiring all universities to share the same mission (HAQAA Initiative, 2018).

Procedural rights now warrant more concrete treatment because HEC publishes an *Appeals and Complaints Procedures for the Higher Education Council Services* document dated December 2025, subsequently listed on its website in March 2026 (Higher Education Council, 2025a). It differentiates an appeal against an adverse administrative decision from a complaint about service delivery, addresses accreditation and foreign-qualification recognition, and sets out internal and external review stages. The document describes an initial 30-working-day appeal period for accreditation decisions, but its detailed steps, fees and addressees should be verified against the current operative instructions for the particular decision. Its introductory legal reference to the 2020 presidential order is historically understandable but must now be read in the light of the July 2026 repeal. The principle is more important than a copied timetable: institutions should receive reasoned decisions, know their available routes of challenge and preserve the decision record in a form that permits fair reconsideration.

Academic freedom should also protect the intellectual integrity of accreditation itself. Reviewers must be free from undisclosed conflicts, political pressure and institutional inducement. Their professional reasoning should remain open to scrutiny and correction. Institutional representatives must be able to clarify facts, present counter-evidence and challenge an unsupported interpretation through available procedures. Due process is therefore not a procedural courtesy added after technical evaluation. It is part of the epistemic quality and legitimacy of the judgement: a conclusion is stronger when material counter-evidence has been fairly considered.

2.9 Comparative regulatory approaches in Kenya, Ghana and South Africa

A comparison with other African jurisdictions is useful only when it respects differences in mandate, legal hierarchy and educational provision. Kenya, Ghana and South Africa were selected in the author's doctoral work as bounded comparators because they illustrate different quality-agency arrangements and offer identifiable official documentary sources (Sangwa, 2026a). The purpose here is not to rank national systems or infer relative teaching quality from official webpages. It is to identify recurring governance functions and their different institutional expressions. Each country's current statutes, amended regulations and regulator instructions remain authoritative for its own cases.

In Kenya, the Universities Act, 2012 established the Commission for University Education, succeeding an earlier Commission for Higher Education. CUE regulates university education, accredits universities and academic programmes, publishes recognised institutions and provides standards and evaluation tools (Commission for University Education, n.d.). The Universities Regulations, 2014 and published University Standards and Guidelines articulate more specific expectations. Publicly available CUE materials distinguish curriculum design, academic resources, site inspection, programme evaluation and modes of provision. Importantly, the Kenyan regulator published draft Universities (General) Regulations, 2026 for consultation; a draft under public consultation cannot be treated as enacted law solely because it appears on an official website. That situation demonstrates the need to distinguish live consultation, established rules and future legal changes.

Ghana's GTEC derives its mandate from the Education Regulatory Bodies Act, 2020 (Act 1023). The statute provides for institutional and programme accreditation, regulatory review and conditions on the advertising of unaccredited provision (Republic of Ghana, 2020). In Ghana, the interdependence of institution-level status, programme authorisation and public communication is especially visible. It would nevertheless be incorrect to claim that the Ghanaian sequence or evidentiary threshold applies by analogy in Rwanda. Comparative learning can identify the value of public registers and transparent promotional claims while recognising the sovereignty of each jurisdiction's law.

South Africa operates through a more distributed qualifications and quality-assurance environment. The Council on Higher Education, acting through the HEQC, has responsibilities relating to programme accreditation, institutional audits, national reviews and qualification standards. The Higher Education Qualifications Sub-Framework situates awards within the national framework, while the Quality Assurance Framework envisages a stronger role for robust institutional internal QA and differentiated external processes (Council on Higher Education, 2020, n.d.). The South African case shows why national accreditation systems should not be reduced to a universal checklist. Strong institutional internal assurance may justify different review arrangements, but it does not erase public responsibility for academic standards or qualification integrity.

Table 2.3. Comparative architecture of selected African higher-education quality-assurance systems

Jurisdiction and key authority	Principal legal or policy foundation	Distinctive focus of official architecture	Transferable lesson and limitation
Rwanda: HEC	Presidential Order No. 044/01 (2026); RQF (2021)	Accreditation, curriculum/programme approval, institutional monitoring, online provision and quality standards	Clear central mandate; detailed current guidance still requires version checks.
Kenya: CUE	Universities Act (2012); Universities Regulations (2014)	University and programme regulation, curriculum guidelines, inspection, published registers	Importance of articulated standards; 2026 consultation drafts are not enacted rules.
Ghana: GTEC	Education Regulatory Bodies Act, 2020 (Act 1023)	Tertiary institutional and programme accreditation; restrictions on unaccredited advertising	Public protection and verification of claims; legal specifics cannot be imported into Rwanda.
South Africa: CHE/HEQC	Higher Education Act (1997); HEQSF and QAF	Programme accreditation, institutional audits, qualification standards and evolving QA differentiation	Internal QA maturity matters; responsibilities are distributed across national structures.

Note. Author's documentary comparison of official national sources, not a comparative effectiveness ranking. Dates refer to principal instruments, not necessarily their most recent amendments.

The commonalities are substantive but limited. All four arrangements assign public significance to authorised qualifications; differentiate, in some manner, between institutional and programme credibility; recognise external evaluation; and use standards or qualification expectations to guide judgement. Each also faces pressure to govern increasingly flexible educational provision. The differences involve distribution of authority, scope of institutional self-regulation, detailed accreditation procedures, terminology, qualification codes, documentation, sanctions and conditions. Those differences are not peripheral. They determine who may approve an award, what a provider must submit, what a reviewer may conclude and how an institution can contest a decision.

An additional methodological caution is needed where countries make different levels of documentation publicly visible. Kenya's CUE provides an official catalogue of approved institutions and academic programmes, including July 2026 status listings, while South Africa's CHE separates materials on programme accreditation, institutional audit and qualifications standards (Commission for University Education, n.d.; Council on Higher Education, n.d.). Such accessibility improves the inspectability of particular decisions, but it does not establish the relative effectiveness of national systems. Ghana's regulator similarly makes its mandate accessible while individual statutory and procedural claims require reference to the applicable legal instrument. Regulatory form, documentary transparency, degree completion and actual learning outcomes are different evaluative objects, and the

available sources do not justify inferring national outcome rankings from their formal architectures.

Comparison consequently supports *functional transferability* rather than *regulatory transplantation*. Institutions can learn from a country's use of approved programme registers, public accreditation notices, evidence-based inspections, internal quality audits or professional reviewer calibration. They cannot treat another jurisdiction's credit formula, panel composition or decision category as legally applicable without national authorisation. A framework such as ETAJ is potentially useful across systems because it asks reviewers to establish authority, connect claims to evidence, explain inferential warrants and qualify uncertainty. Its specific rulebook and remedies must always be determined locally. This is a plausible analytical proposition, not evidence of measured improvement in reviewer consistency.

2.10 Continental and international reference frameworks

The search for African comparability is often presented as a choice between common continental rules and sovereign national systems. That dichotomy is misleading. A continentally useful quality architecture can identify comparable educational functions without assuming that legislatures, accreditation agencies, professional bodies, qualification frameworks and institutions have identical mandates. Regional instruments are particularly valuable as a language of mutual intelligibility, while national law determines the enforceable responsibilities of institutions operating in a given territory. Confusing these two levels undermines both harmonisation and the rule of law.

The ASG-QA are central to the African quality-assurance discussion. Developed through the HAQAA initiative, they group standards around institutional internal quality assurance, external quality assurance and the conduct of quality-assurance agencies. They address, among other matters, institutional quality policies, programme design, teaching and assessment, learner support, information management, public information, cyclical review, transparency and independence of external processes (HAQAA Initiative, 2018). Their distinctive contribution is not an attempt to issue accreditation decisions for all African universities. Rather, they create expectations against which systems can learn from one another and identify weaknesses in governance arrangements. The standards should consequently be used as a comparative and developmental benchmark unless domestic adoption or another valid legal act gives a particular provision specific legal force.

This distinction has significant implications for external reviewers. A finding framed as 'non-compliance with ASG-QA' may be professionally meaningful in an agreed voluntary evaluation, but it cannot automatically justify a sanction under Rwandan law. A defensible report should identify the applicable Rwandan requirement, cite the relevant HEC or ministerial source, then use the ASG-QA, if helpful, to contextualise a recommendation about practice. This does not diminish the value of regional quality standards. It makes their

contribution precise: they can strengthen institutional learning and expose policy gaps without creating fictional legal obligations.

Qualifications comparability is a distinct endeavour. The African Continental Qualifications Framework promotes transparency among different national frameworks, attention to learning outcomes, and mechanisms for recognition and mobility. Its validated policy development illustrates growing continental consensus around intelligible qualification descriptors, although implementation proceeds through multiple institutions and national processes rather than instant harmonisation (ACQF, 2023b). The ACQF guidance on validation and recognition of learning is useful when designing RPL and credit-transfer systems because it highlights fair assessment of prior learning and transparent pathways (ACQF, 2022). Yet a continental-level descriptor is not a certificate of automatic equivalence. Similar levels can conceal material differences in programme scope, regulated professional practice, learning demand and institutional authorisation.

The UNESCO Addis Convention adds a legal dimension to recognition. Adopted in 2014 and in force internationally from 15 December 2019, the revised African convention provides a framework for fairer and more transparent recognition of higher-education qualifications among its parties (UNESCO, 2014). Importantly, entry into force of a treaty does not mean that every African state has consented to be bound by it. UNESCO's published states-parties information does not identify Rwanda, Kenya or Ghana as parties in the list consulted for this chapter; South Africa appears on that list (UNESCO, 2014). The existence of an African treaty therefore cannot justify saying that all Rwandan institutions or employers are obliged to recognise any degree awarded elsewhere in Africa. Applicable domestic recognition rules and verified treaty status remain decisive.

Other international benchmarks can assist quality evaluation without constituting Rwandan accreditation law. UNESCO's education-technology analysis stresses that effectiveness, equity, affordability and evidence should guide technological decisions (UNESCO, 2023a). International discussion of micro-credentials raises important questions about quality, documentation and portability, but no generic global label makes an online short course automatically credit-bearing. Professional accreditation frameworks may introduce discipline-specific criteria for engineering, medicine, nursing or education, but their application depends on the relevant professional and national arrangements. A responsible comparative approach first states the educational principle, then identifies whether that principle has an enforceable local expression.

One consequence is that *mutual intelligibility* should be distinguished from *mutual recognition*. Two countries may use comparable qualifications terminology without legally recognising each other's awards; two professional communities may agree on similar competencies without granting reciprocal licence to practise; and two universities may accept exchange credits without being authorised to confer each other's degrees. Regional harmonisation is successful when it improves the ability to examine these differences fairly and transparently,

not when it masks them behind a common vocabulary. Accurate documentation of levels, workload, outcomes, accreditation and academic transcripts is a practical contribution each institution can make to this objective.

2.11 Cross-border programmes, prior learning, transnational education and emerging credentials

Contemporary higher education increasingly crosses borders through physical branch campuses, franchise arrangements, joint and dual awards, remote supervision, international curricula, online learning and the recruitment of students residing outside the awarding institution's jurisdiction. The educational possibilities are significant. Such arrangements can extend specialist expertise, provide flexible access and support regional research networks. They also create jurisdictional ambiguity about who is responsible for academic standards, where assessment occurs, whose data law applies and which authority may authorise or investigate provision. Quality assurance must therefore examine the *location and control of educational functions*, not merely the country printed on a diploma.

Article 6 of Rwanda's 2026 HEC governing order is particularly relevant because it expressly addresses institutions offering international curricula, international academic programmes and online programmes in Rwanda, alongside recognition of foreign qualifications and oversight of certain recruitment activities (Republic of Rwanda, 2026). A university established abroad should not assume that a foreign incorporation certificate, a home-country accreditation statement or an international membership automatically authorises it to conduct regulated higher-education operations within Rwanda. The reverse caution also applies: a Rwandan institution proposing to teach abroad needs to examine the host country's legal requirements rather than treating Rwandan approval as universal permission.

Cross-border activity should be analysed through three legally separate locations: the jurisdiction where the awarding institution is established, the jurisdiction where teaching or learner services are materially provided, and the jurisdiction in which the resulting qualification is later submitted for recognition or professional licensing. These locations may differ even where all academic interaction takes place over the internet. An overseas provider enrolling learners in Rwanda does not necessarily have the same legal footprint as a provider operating a local teaching centre or using local agents, and no categorical answer should be invented without applying the current law to the arrangement's facts. A compliance assessment therefore records advertising and recruitment activity, contractual jurisdiction, payment destination, learner-support location, assessment and examination sites, award issuance and the nature of any local partnership. The result should identify issues requiring a formal ruling rather than label every cross-border enrolment automatically permitted or prohibited.

For any collaborative programme, the initial diligence exercise should identify the actual provider, award-granting institution, partner institutions, locations of enrolment and teaching,

the legal jurisdiction of student contracts, responsibility for assessment, ownership of academic records, financial flows and the route for complaints. It should further establish who employs or supervises teaching staff, who manages research ethics, what happens if a partner withdraws, and what evidence the student will receive concerning the recognised status of the award. A partnership agreement that identifies only revenue shares or marketing responsibilities is inadequate for educational accountability. Clear academic responsibility must survive the relationship's possible termination.

Joint awards and dual degrees involve different risks. A joint degree normally represents an integrated award arrangement under the institutions' applicable authorities, whereas a dual degree may confer two awards subject to separate academic and regulatory requirements. The existence of shared teaching does not automatically authorise either result. Programme teams must establish double-counting rules, credit acceptance, quality responsibility, assessment consistency, student appeal routes and whether one learning activity is intended to support two separate award claims. Where a qualification permits collaboration, documentary clarity is necessary to prevent students being promised awards that one partner lacks authority to confer.

Recognition of foreign qualifications should also be distinguished from accreditation of the institution offering them. HEC's mandate includes recognition-related functions, and its published equivalence service is a route through which applicants may seek an authorised evaluation of foreign awards (Higher Education Council, n.d.-d; Republic of Rwanda, 2026). An equivalence decision concerns a particular credential and its recognition under applicable rules; it does not retroactively grant local authorisation for a foreign provider to recruit or teach unlawfully, nor does it automatically confer a professional licence. Applicants, employers and universities should verify the purpose and limitations of the specific recognition outcome.

Recognition of prior learning has similar evidentiary demands within a programme. A professionally experienced applicant might demonstrate some learning outcomes through a portfolio, professional artefacts, supervised challenge assessment or oral examination. The institution must assess authenticity, currency, scope and level, and record precisely which learning outcomes are satisfied. Its rules should also address partial recognition, reassessment, appeals and remaining learning requirements. The goal is not to exchange academic credit for a narrative of experience, but to recognise achievement wherever it was legitimately acquired. In a digitally enabled system, secure electronic portfolios can assist evidence collection, but automated matching of occupational descriptions to credits remains insufficient without defensible academic judgement.

Micro-credentials, professional certificates, badges and short online courses require similarly explicit categorisation. A certificate of attendance verifies participation in a specified event, not necessarily assessed competence. An assessed micro-credential may document a bounded achievement, but whether it carries RQF credits, contributes to an accredited award, or may be

transferred depends on the approved qualification and institutional or regulatory rules. HEC's July 2026 postgraduate framework distinguishes non-credit certificates of participation from credit-bearing postgraduate components and requires clarity about the status of such credentials (Higher Education Council, 2026b). Institutions should avoid language implying that certificates may be stacked indefinitely into a master's or doctorate without an approved pathway, agreed equivalence rules and a valid award decision.

Recognition and transnational provision raise a broader question of *credential trust*. Trust depends not only on the claim that a qualification is accredited, but on the ability to establish who awarded it, under what authority, at which level, through what programme and assessment, and with what verification record. Digital credential platforms may improve authenticity and portability, provided that they preserve authoritative issuance, access control, revocation mechanisms, privacy, long-term verification and an explanation of the credential's academic meaning. A cryptographically verified certificate can authenticate that a record was issued, but cannot by itself prove that the underlying educational programme was rigorous. Technical authentication and educational legitimacy are distinct evaluative questions.

2.12 Regulatory uncertainty, policy change, conflicting provisions and documentary provenance

Regulatory uncertainty does not arise only because rules are vague. It can be generated by multiple versions of official documents, mismatches between webpage labels and instrument dates, legacy guidance that remains downloadable, instruments operating at different levels of authority, overlapping disciplinary requirements and changes whose transitional effect is not explicitly stated. The risk is particularly acute in developing programme submissions, where a seemingly minor error in legal provenance can lead to an incorrect standard being applied to several years of teaching. Professionals should therefore adopt a disciplined documentary method rather than rely on remembered practice or a single website screenshot.

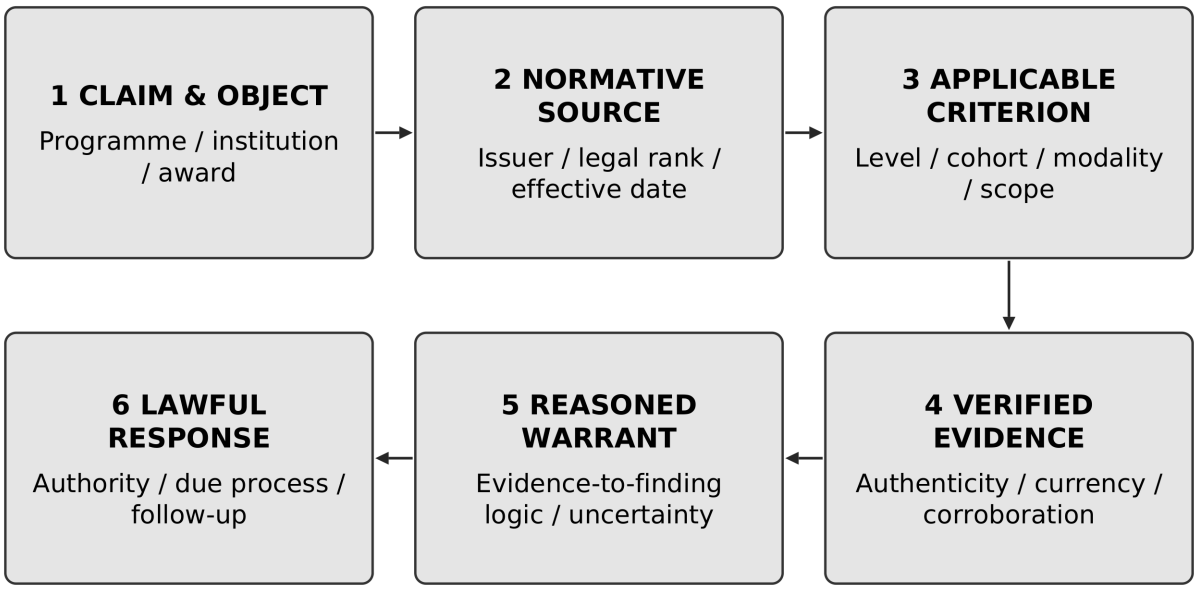
The legal update of July 2026 provides one test case. Presidential Order No. 044/01 is an officially gazetted governing instrument; its Article 26 repeals most provisions of the older 2020 presidential order. A report issued after 30 July 2026 should identify this change, cite the current order for the matters it now governs, and avoid asserting that the earlier order's repealed provisions remain binding. By contrast, it would be equally unsound to infer that every subordinate HEC guideline issued before July 2026 automatically became void. Its continued status depends on enabling law, compatibility, express repeal and authoritative institutional interpretation. Repeal at one hierarchical level does not justify either blanket survival or blanket invalidation of all older subordinate instruments.

A second test case is the programme validation document marked *Revised April 2007* but made available through a website entry with a 2024 modification date. The first date describes the document's own revision history; the second may describe a later upload or website administration. Neither establishes, by itself, whether the described procedure is currently

required for every institution. A rigorous evaluator can use the document to understand a recognised validation model, but should record its historical date and seek a current confirmation before using an individual step as a decisive legal ground. This principle prevents the particularly damaging practice of treating upload metadata as enactment metadata.

A third test case concerns the interface between the RQF's general credit model and the statements about doctoral duration and credits in the July 2026 postgraduate framework, posted online in October. A technically persuasive but legally unsafe response would be to impose one's own algebraic interpretation and reject every programme not conforming to it. The proper response is to preserve both quotations in the review record, identify differences in document type and purpose, examine any express hierarchy or transitional clause, inspect the programme's approval conditions, and request authoritative clarification where the outcome materially depends on the uncertainty. Pending clarification, the reviewer may assess curriculum coherence and evident workload without pretending to have settled the disputed norm.

Figure 2.1. Regulatory provenance and evidence-traceable evaluation pathway



Note. Original conceptual synthesis extending the provenance and evidentiary logic of Sangwa (2026a). The figure is a proposed professional decision process; it does not assign new powers to institutional committees or external evaluators.

The figure separates six questions often collapsed in practice. First, what is the exact claim to be assessed? Second, which presently applicable authority governs it? Third, which criterion follows from that authority? Fourth, which evidence has appropriate authenticity, relevance and currency? Fifth, what reasoned inferential step connects evidence to compliance or deficiency? Sixth, which official actor may make a decision, and what uncertainty, procedural

protections or corrective action must accompany it? A source register should attach an immutable identifier and version record to each relevant item so the reasoning can be reconstructed later. This principle is consistent with ETAJ's normative-authority-to-decision logic, without implying that ETAJ has yet been independently validated (Sangwa, 2026a).

Table 2.4. Rwanda Higher Education Regulatory and Accreditation Reference Matrix: proposed core register

Source and issuing authority	Normative status and principal scope	Evidence relevant to institutional review	Verification and use instruction (17 October 2026)
Presidential Order No. 044/01 (Republic of Rwanda, 2026)	**Binding law:** HEC mission, powers, programme and institutional oversight	Accreditation/approval decisions, standards, institutional monitoring records	**Primary legal text verified.** Check arts. 4-7 and 26-28; do not rely only on repealed 2020 provisions.
Law No. 010/2021 determining organisation of education (Republic of Rwanda, 2021a)	**Binding law:** educational organisation and statutory framework	Institutional legal status, relevant academic governance, qualifications compliance	**Identified official law.** Verify individual article and any amendment before applying.
Ministerial Order No. 003/MINEDUC/2021 and RQF (Republic of Rwanda, 2021c)	**Binding ministerial instrument:** qualification levels, credits and descriptors	Programme outcomes, level matrix, notional-hour analysis, progression rules	**Official annex verified:** §5.2 gives 1 credit/10 hours and 120-credit annual reference.
Law No. 058/2021 on personal data and privacy (Republic of Rwanda, 2021b)	**Binding law:** data processing, controllers, processors and privacy	Student-data inventory, lawful basis, contracts, assessment and analytics controls	**Official law verified.** Examine activities and statutory scope rather than relying on generic privacy policy.
Student Admission Policy (HEC, 2025c)	Official national admissions policy; revised January 2025	Entry criteria, prerequisites, admissions and transition records	Text's 2020 HEC citation is historical; verify its operative application with current rules.
Appeals and Complaints Procedures (HEC, 2025a)	Official administrative procedures; dated December 2025	Accreditation decision, appeal grounds, correspondence, review file	Uploaded March 2026; ascertain current route, time limits and applicability.
Industrial Attachment Guidelines (HEC, 2021b)	Official attachment guidance; dated 2021	Approved placement agreements, supervision, student safeguards and assessment	Listed online September 2026; publication date is not the upload date.
HEC Accreditation Process portal (HEC, n.d.-a)	**Official procedural access point:** applications, review, forms and related links	Institution/qualification status, submitted dossier and authorisation	**Current page verified.** Confirm each linked instrument's substantive date and legal currency.

Source and issuing authority	Normative status and principal scope	Evidence relevant to institutional review	Verification and use instruction (17 October 2026)
Procedures for Validation of Modules and Programmes (HEC, 2007)	**Legacy official procedure:** described internal programme-validation stages	Proposal, module descriptions, specification, committee and senate records	**Original text marked revised April 2007.** Present-day mandatory scope requires confirmation.
IQA Guidelines (HEC, 2021a)	**Official QA guidance:** institutional internal assurance arrangements	QA policy, annual monitoring, review and corrective-action evidence	**Official HEC listing identified.** Confirm applicable revision and binding adoption conditions.
Virtual Learning and AI Guidelines (HEC, 2025b)	**Official modality assessment guidance:** ICT-integrated, blended, online, distance and AI	Course and LMS audit, AI rules, staffing, content, accessibility, assessment safeguards	**Official PDF verified.** Establish its interaction with March 2026 guidance in each case.
Distance Learning Guidelines (HEC, 2026a)	**Official assessment guidance:** digital infrastructure, invigilation, support and governance	Operational tests, proctoring arrangements, instructional design, delivery policy	**March 2026 text verified.** Check whether criterion is applicable to particular modality and approval.
Postgraduate Degree Framework (HEC, 2026b)	**Official postgraduate framework:** master's and doctoral programme requirements	Level and credits, supervision, candidature, research outputs, examination rules	**July 2026 document; listed in October 2026.** Flag doctoral duration/credit interaction with 2021 RQF for clarification.
Rwanda Higher Education Strategic Plan 2025-2030 (HEC, n.d.-c)	**Strategic policy:** national priorities and institutional system development	Mission rationale, institutional plans and performance targets	**HEC policy listing verified.** Strategic objective is not automatically an accreditation condition.
ASG-QA (HAQAA Initiative, 2018)	**Continental professional benchmark:** internal, external and agency QA	Comparative QA gap analysis and voluntary enhancement plan	**Official HAQAA source verified.** Not automatically binding domestic law.

Note. Original reference matrix. **Verified** denotes that the identified text or official portal was available and inspected for the stated purpose; it does not mean that every provision's applicability to a particular institution has been certified by HEC. A working institutional version should add source URL, article/section, release and effective dates, supersession, affected programme, owner, evidence identifier, decision record, reviewer, next check date and written legal clarification as relevant. Bibliographic year labels distinguish different HEC publications, not a ranking of their legal force.

A hypothetical programme-review illustration demonstrates why these fields matter. Suppose an institution proposes to transfer an approved face-to-face Bachelor of Science programme into a predominantly online mode while preserving its degree title and credit total. The institution cites its existing programme approval, uploads a new LMS course shell, and asserts that no new authorisation is needed because the academic outcomes remain unchanged. The original authorisation is relevant evidence that a programme was approved in a specified

form; it does not by itself establish approval for materially different delivery. Under the 2026 HEC governing order and the published 2025 and 2026 digital-learning guidance, the reviewer should first verify the decision scope, inspect whether current modality-specific expectations are applicable, seek proof of laboratory and assessment arrangements, and identify the competent authority for change approval. Without these checks the finding should not state either ‘fully compliant’ or ‘unlawful’ as a matter of inference alone. It should specify the missing authorisation or interpretation, explain the educational risk, request verifiable clarification, and protect students already recruited from misleading communications. This example is entirely hypothetical and records no finding about an actual university.

The matrix serves a different purpose from an ordinary bibliography. Bibliographies identify sources that support an argument; regulatory registers preserve the provenance and operational use of each rule. For professional review, each extracted requirement should link to a specified source passage, its original issuing authority, a version identifier and the claim it is being used to test. An institution may attach its programme documents, approval letters and verification records to these entries, but should not overwrite earlier decisions when a new regulatory version is issued. The resulting trail allows future reviewers to distinguish whether a discrepancy arose from institutional non-compliance, a change in rules, an obsolete form, or an interpretation later clarified by the competent authority.

Regulatory registers also benefit from separating *source identity* from *rule extraction*. One presidential order can contain multiple independently applicable provisions, and a single accreditation finding may depend upon more than one instrument. A controlled register should accordingly assign a persistent source identifier to the original document and a distinct requirement identifier to every provision used for review. Each extracted rule should record its exact clause, legal status, effective date, affected cohort and delivery mode, the interpretation adopted, any competing interpretation and the date of the last verification. A programme-evidence record then links one or more requirements to a precise curriculum version, staff deployment, approved policy or verification result. This relational design prevents an update to one requirement from silently rewriting historical evidence or obscuring the normative basis of an earlier decision.

A reliable provenance protocol proceeds through five linked tests. **Authenticity** asks whether the item originates from an authoritative source rather than an unofficial reproduction. **Authority** asks whether the issuer was legally competent to establish the alleged requirement. **Temporal validity** records publication, commencement, amendment, withdrawal and supersession. **Applicability** asks whether the text governs the institution, award, cohort, campus, modality and decision at issue. **Interpretive sufficiency** asks whether the cited passage unambiguously supports the finding or requires specialist clarification. These tests are analytically separable even when a professional officer completes them in one review. Their purpose is to prevent a familiar document, however persuasive, from displacing the actual normative ground.

Uncertainty should be documented rather than concealed. An evidence register can classify a provision as *verified and applicable*, *verified but interpretation unresolved*, *historical or superseded*, *draft or under consultation*, *non-binding comparator*, or *not yet verified*. These are proposed administrative classifications, not HEC legal categories. For unresolved material questions, the institution should preserve its interpretation, relevant evidence, risk implications and correspondence seeking clarification. A cautious reviewer can formulate a conditional or limited finding while avoiding an invented rule. Such disciplined uncertainty is not weakness; it is a safeguard against arbitrary evaluation.

2.13 Strengthening Rwanda's regulatory and institutional quality-assurance practices

Rwanda's current framework provides important legal and technical foundations for quality governance. The 2026 presidential order clarifies and extends HEC's contemporary mandate; the RQF articulates national qualification standards; and published guidance addresses internal assurance, distance learning, virtual modalities, AI and postgraduate education. The remaining professional challenge is how these instruments are used together. A regulator can make individual requirements more intelligible, and institutions can improve their own compliance and educational capability, without first undertaking a complete structural reorganisation of the higher-education system.

A first opportunity is *authoritative consolidation*. HEC could maintain a clearly versioned, publicly searchable register distinguishing in-force legal instruments, current accreditation standards, official guidelines, superseded procedures, consultation drafts and explanatory materials. Each record would identify issue date, effective date, legal foundation, affected activities, amendments and interpretation notes. The public availability of a PDF is valuable, but a reader also needs to know what it supersedes and to whom it applies. Where older materials are retained for historical continuity, prominent archival labels could prevent accidental use as current controlling criteria. For institutions, the equivalent responsibility is to maintain a local standards register owned jointly by academic quality and legal or compliance functions, with periodic review rather than a spreadsheet updated only before inspections.

A second opportunity is *qualification and curriculum control*. HEC and universities would benefit from harmonised data fields connecting award level, credit totals, notional hours, programme duration, delivery mode, approved programme version, core outcomes and responsible academic body. Such a system need not impose one technological product or template on every institution. Functional interoperability matters more than uniform software. The essential capability is to reconcile the qualification offered in marketing materials, the curriculum approved by the academic body, the submission reviewed by HEC, the programme configured in the learning environment, and the award eventually recorded on a transcript. Disagreement among these representations should trigger controlled correction rather than informal alteration.

A third opportunity is *proportionate modality-specific assurance*. Online and blended programmes should be evaluated through realistic demonstrations of content accessibility, staff capacity, meaningful interaction, authentic assessment, learner support, information security and continuity. Practical and regulated professional disciplines require additional safeguards relevant to supervised performance. At the same time, there should be space for functionally equivalent low-bandwidth approaches and affordable delivery arrangements that achieve the underlying educational purpose. Quality would be weakened if one expensive procurement model were treated as a universal standard without examining alternative means. Conversely, resource constraints cannot justify the absence of non-negotiable competence, safety or learner-protection conditions.

A fourth opportunity is *documented regulatory interpretation*. Questions involving overlapping HEC guidance, new postgraduate pathways, programme modifications, foreign-provider activities or unusual credit arrangements will arise even in well-designed systems. Universities should not resolve these questions solely through internal assertion, and reviewers should not rely on private preferences. A formal route for reasoned clarification, interpretive circulars or published frequently asked questions, alongside applicable appeals and complaint procedures, can increase consistency and fairness. Where a clarification changes prior practice, transitional treatment of students already enrolled should be made explicit. Predictability reduces avoidable conflict while preserving regulatory discretion where the law legitimately allows it.

A feasible improvement programme can be staged without confusing its timetable with a statutory rule. During a first institutional review cycle, each programme owner could reconcile its official approval record, definitive programme specification, RQF level, credits, admission rules, delivery mode and current curriculum. A second cycle could test whether material programme changes have passed through the appropriate authorisation route and whether corrections were verified rather than merely signed off. A further periodic check would examine whether student outcomes, moderation results, staff deployment and learner complaints reveal persistent problems despite apparently complete paperwork. These are proposed institutional controls whose workload and sequencing must be adapted to capacity and educational risk.

A fifth opportunity is *reviewer calibration and epistemic accountability*. Reviewers assessing the same programme need a shared understanding of the applicable standard, the evidentiary burden and the distinction between substantive deficiency and documentary insufficiency. Training could use anonymised or hypothetical dossiers, independently generated provisional findings, comparison of warrants and structured discussion of uncertainty. For example, a curriculum containing the expected 480 credits may still schedule them implausibly over three years; a module list may cover major marketing topics but lack adequate research and professional progression; an online programme may have an LMS licence without a functioning assessment environment. Such cases test whether evaluators can defend their

conclusions without introducing unsupported rules. Whether calibration actually improves inter-rater reliability is an empirical question requiring testing, not a result that can be claimed from the existence of a workshop.

Finally, strengthening QA requires better *post-approval learning*. Monitoring data, assessment moderation, complaints, student progression, graduate feedback, cybersecurity events and programme reviews should be used to establish whether approved commitments were fulfilled and whether corrective action made a measurable difference. Not every available performance indicator is valid evidence of quality: LMS clicks do not measure mastery, employment figures do not independently measure educational value, and the closure of an action item does not automatically mean that the underlying problem was solved. A credible cycle asks what was promised, what was implemented, which evidence was verified, what remains uncertain and what should change. This logic is the regulatory foundation of the book's proposed Integrated Evidence-Traceable Quality Governance (IETQG) framework, whose conceptual promise still requires independent testing and contextual adaptation (Sangwa, 2026a).

An implementation pathway should be staged. In the near term, institutions can complete a provenance audit, reconcile their programme master records and identify missing authorisations or unclear versions. In the medium term, they can improve curriculum change control, evidence registers, staff preparation and modality-specific quality reviews. Over the longer term, HEC and universities can evaluate whether common data definitions, calibration practices and digital interfaces reduce error and improve decisions. This approach does not assume that more regulation always yields better education. It treats transparency, usability, public accountability and tested institutional capability as mutually necessary conditions for regulatory legitimacy.

2.14 Conclusion: Regulation as a foundation for credible educational quality

This chapter has shown that higher-education regulation is not an administrative appendix to curriculum development. It establishes the legitimate conditions under which institutions operate, qualifications are offered, academic programmes are approved, learners are protected and public claims about educational standards can be trusted. Yet regulatory conformity remains only one dimension of quality. The existence of a law, institutional charter, approved curriculum or accreditation decision cannot establish that teaching is effective, resources are available, assessments are valid or academic promises remain sustainable. Those are questions of implementation and continuing verification.

Rwanda illustrates the importance of documentary precision. Presidential Order No. 044/01 of July 2026 provides the current governing account of HEC's mandate and repeals most of the relevant 2020 order. The 2021 RQF supplies formal qualification and credit expectations, while HEC's more recent virtual-learning, distance-learning and postgraduate documents

introduce increasingly specific requirements for contemporary provision. These sources should not be flattened into one undifferentiated checklist. Their legal force, temporal status, scope and relationship must be established before an institution or evaluator applies them to a particular programme. The tension between the general annual credit reference and the 2026 doctoral framework is an instructive example of why interpretation should be recorded and, where necessary, clarified by the competent authority rather than concealed behind apparently tidy arithmetic.

Comparison with Kenya, Ghana, South Africa and continental frameworks confirms the value of shared quality-governance principles but not the existence of a universal African regulatory procedure. Accountability, qualification integrity, programme coherence, credible evidence, independent review and continuing enhancement recur across different statutory architectures. What remains local is the distribution of powers, the exact legal threshold, the responsible decision-maker, the procedure and the available remedy. The proposed regulatory reference matrix and provenance protocol translate this insight into a practical method for making academic evaluation more transparent and reviewable, without claiming regulator approval or empirical validation.

The logical next question is organisational rather than primarily legal. Once an institution has identified the rules governing its promises, does it possess the enduring governance, academic, financial, digital and evidentiary capabilities needed to fulfil them? That question leads from normative authority to the architecture of institutional capability and sustainable educational quality, where compliance documents must be connected to people, resources, processes and actual educational work.

CHAPTER 3

Institutional Governance, Organisational Capability, and Sustainable Educational Quality

Building Universities Capable of Delivering What They Promise

Abstract

Institutional quality cannot be inferred from approved programmes, qualified employees, adopted policies or installed technologies considered separately. Universities deliver education through interdependent organisational arrangements that must persist across cohorts, leadership changes, technological failures and fiscal pressures. This chapter develops an institution-wide account of enduring capability, distinguishing resources, formal readiness, enacted routines, adaptive capacity and demonstrated educational consequences. It offers a critical, Rwanda-anchored synthesis of scholarship on institutional and socio-technical organisation, academic governance, quality culture, dynamic capabilities and evidence-informed management, interpreted alongside selected official regulatory and international guidance. Twelve interconnected capability domains are examined: governance, quality culture, staffing, curriculum-design support, physical and digital infrastructure, research and supervision, information systems, data protection and cybersecurity, financial sustainability, institutional dependencies, risk governance and evaluation. Particular attention is given to the difficulties of equating documents with implementation, technological procurement with educational transformation, and performance metrics with learning. The original practical contribution is a proposed Institutional Capability Self-Assessment Instrument, comprising evidence-based maturity descriptors, non-compensatory safeguards, an institutional diagnostic matrix and an improvement-prioritisation protocol. The instrument is designed for institutional self-review, internal quality assurance and preparation for external evaluation; it is not an authorised Higher Education Council accreditation tool or a psychometrically validated maturity measure. The chapter concludes that sustainable quality depends less upon the isolated possession of assets than upon accountable coordination, credible evidence, continuous organisational learning and the ability to protect educational commitments under changing conditions.

Keywords: institutional governance; organisational capability; quality culture; African higher education; academic staffing; digital maturity; institutional sustainability

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3.1 Introduction: From institutional readiness to enduring capability

An institution may truthfully report that it employs doctorate-holding lecturers, subscribes to a digital library, operates a learning-management system (LMS) and has approved a comprehensive quality-assurance policy. None of these statements establishes, by itself, that students will consistently receive appropriately challenging teaching, timely academic feedback, supervised practical experience, dependable learning resources or fair assessment. The distinction is between the possession of resources and the capacity to mobilise them, with suitable governance, to fulfil an educational obligation. A university cannot deliver its academic promises through disconnected assets. Teaching, research, assessment, student services, financial planning and regulatory accountability must function as mutually supporting practices.

The preceding chapters have established two conditions of credible higher education. Educational quality is multidimensional and purpose-referenced, while lawful operation requires careful identification of applicable national authority, qualification requirements and programme approval. The missing institutional question is consequential: which organisational arrangements enable a university to translate defensible educational purposes and legally authorised programmes into reliable practice? This chapter argues that institutional capability constitutes that connecting mechanism. It is not an interchangeable synonym for readiness, resource sufficiency, organisational size or competitive reputation. Nor is it merely a list of departments. It is an institution's sustained capacity to coordinate people, systems, knowledge, decisions and resources so that academic commitments can be enacted, monitored and revised without sacrificing fundamental standards.

The distinction is particularly important in African higher education, where institutions differ considerably in age, mission, funding, ownership, delivery modalities and the circumstances of their students. It would be analytically unsound to presume that a small regional teaching university must resemble a research-intensive metropolitan institution to demonstrate quality. It would be equally unsound to excuse inadequate academic staffing, unsafe laboratories or unprotected student data simply because an institution operates with constrained resources. Sound evaluation therefore differentiates functionally necessary standards from contextually variable methods of achieving them. A modest institution may build reliable capability through carefully governed partnerships, shared facilities, open educational resources and transparent service arrangements, provided that responsibility, continuity and academic standards remain demonstrable.

This chapter uses a critical integrative and documentary approach. Its antecedents include the author's thesis manuscript (Sangwa, 2026a), established literature on organisational theory, university governance and educational quality, supplemented by identifiable policy and professional reference documents. Sources were selected purposively for conceptual explanatory power, relevance to institutional operation or recognised normative authority. No

new fieldwork, interviews, institutional case audit, exhaustive database search or PRISMA screening is claimed. The analysis distinguishes normative requirements from empirical findings, theoretical inferences and the author's proposed professional instruments. Illustrations of institutional practice are hypothetical unless explicitly identified otherwise. Rwanda provides the principal regulatory setting, not a basis for assuming that arrangements elsewhere in Africa are legally identical.

The chapter develops its argument through twelve capability areas and then assembles them into an operational assessment instrument. The treatment of institutional capabilities intentionally precedes the book's detailed discussion of curriculum design: programme teams cannot reasonably plan coherent learning unless the institution can provide the governance, staffing, instructional expertise, infrastructure and evidence services on which those plans depend. The question throughout is not whether an institution has described a desirable system, but how it knows the system exists, works for its students and can continue to work.

The analytical claim requires a distinction between a capacity's observable expressions and the organisational conditions that generate them. The doctoral work underlying this volume adopts a critical realist orientation: formal rules, institutional representations and reported outcomes provide fallible evidence about what organisations can actually do, while resources, authority relationships, incentives and collective routines may help explain observed performance (Sangwa, 2026a; Sayer, 2000). Institutional theory identifies the possibility of symbolic conformity; socio-technical analysis explains why people, technologies and work practices cannot be evaluated separately; and dynamic-capabilities scholarship directs attention to adaptation rather than one-off preparedness. These perspectives are complementary but not interchangeable. The central evaluative proposition is that a university has credible capability when it can repeatedly enact legitimate educational commitments, recognise threats to delivery, and correct deficiencies on the basis of trustworthy evidence.

The evidentiary boundary should be explicit. A statutory instrument can establish an authority's mandate; a university's policy can establish intended conduct; a committee minute can establish that a recorded deliberation occurred; and verified student work can illuminate educational achievement. None of these forms of evidence, considered alone, establishes an institution-wide causal mechanism. The chapter therefore undertakes interpretive synthesis and proposes operational tests rather than offering estimated causal effects or claims about the average condition of Rwandan universities. Its diagnostic examples illustrate how an assessor might reason, not how an unidentified institution has actually performed. This restraint is important because sophisticated language about organisational capability can otherwise conceal an evidentiary gap between explanatory theory and observed institutional practice.

3.2 University governance structures, leadership, institutional autonomy, and strategic accountability

University governance concerns the distribution and legitimate exercise of authority over institutional purpose, academic standards, resources, risk and accountability. It includes the governing council or board, senate or other academic authority, executive management, faculties and schools, departments, specialist committees and operational services. These titles should not be assumed to have identical statutory competences across jurisdictions or institutional categories. The significant analytical issue is whether decision rights are sufficiently clear for the institution to act responsibly. Governing organs approve strategic direction and exercise stewardship within their authorisation; academic bodies safeguard qualification integrity and scholarly judgement; executives implement decisions and maintain viable operations; programme teams translate standards into teaching and assessment; specialised units supply assurance, evidence and support. When these boundaries are uncertain, important decisions may be approved by actors without the necessary mandate or implemented without adequate academic scrutiny.

Effective governance has both an authorising and a restraining function. It authorises programmes, appointments, budgets and initiatives only after proportionate inquiry. It also prevents short-term pressures from overriding academic obligations. A decision to increase enrolment should therefore be considered alongside teaching capacity, assessment turnaround, access to laboratories, library licences, student support and the timetable for additional staff recruitment. The financial attractiveness of an expansion cannot itself demonstrate its academic feasibility. Likewise, a technologically ambitious executive should not approve a new AI-supported assessment system without appropriate academic, data-protection and procurement scrutiny. Governance quality is visible in how an institution decides, how it records reasons and whether it revisits decisions when evidence changes.

The literature on institutional isomorphism warns against mistaking formally appropriate structures for functioning governance. Meyer and Rowan (1977) showed how organisations can adopt legitimate formal arrangements while decoupling them from everyday practices. DiMaggio and Powell (1983) explained why regulatory, professional and mimetic pressures can produce organisational resemblance. These insights do not imply that every adopted committee or strategy is ceremonial. Rather, they direct scrutiny to the connection between the structure's stated responsibilities, the matters it actually considers, the records of its decisions and the consequences of its oversight. A quality committee that produces regular minutes but never detects recurring grading anomalies or follows up complaints may possess procedural visibility without material influence.

Institutional autonomy is neither immunity from regulation nor a purely rhetorical privilege. Academic freedom permits reasoned inquiry and disciplinary judgement; corporate autonomy enables institutions to determine legitimate strategy and manage resources within their mandates. Accountability requires that both forms of discretion be exercised with regard

to learners, public obligations and applicable law. Excessive centralisation can suffocate timely curriculum adjustment and professional responsibility. Uncontrolled decentralisation can instead produce incompatible assessment regulations, uneven digital infrastructure, fragmented data practices and varying interpretations of award requirements. A defensible model distributes authority to the lowest competent level while retaining common controls where inconsistent decisions would threaten legality, learner protection or comparability.

For Rwanda, governance analysis must be anchored in current statutory and institutional instruments rather than inherited organisational diagrams. Presidential Order No. 044/01 of 24 July 2026, published in the Official Gazette on 30 July 2026, concerns the mission and responsibilities of the Higher Education Council (HEC). Its scope is relevant to institutional monitoring, programme approval and technology-related responsibilities (Republic of Rwanda, 2026). It does not mean that HEC directly substitutes for every internal academic or governing decision. An institution's statutes, authorisations and applicable HEC instruments must be consulted to determine the particular legal powers of its governing bodies. The chapter's suggested delegation and review procedures are professional proposals, not quotations of a prescribed uniform governance chart.

A practical governance audit should follow a decision from initiation to closure. Consider a hypothetical proposal to offer an existing classroom-based degree in a blended format. The department establishes educational equivalence and teaching requirements; ICT and learning-design services test delivery; the data-protection function examines vendors and student information; finance evaluates continuing costs; academic authorities determine whether the curriculum and assessment remain academically sound; management confirms implementation responsibilities; and the designated officer checks whether the change requires HEC action. The audit asks not merely whether these actors exist but whether they were consulted at the appropriate stages and whether the final approved version matches what is delivered. Such decision traceability is the institutional counterpart of the evidence-traceable reasoning developed later in the volume.

Strategic accountability also requires attention to mission integrity. Universities may have commitments to regional development, advanced research, professional service, adult learning or a particular educational tradition. These missions legitimately affect programme priorities and organisational configurations. Yet distinctive mission cannot exempt a provider from minimum requirements for truthful advertising, competent supervision, reliable assessment or student protection. Strategy should therefore specify desired educational contributions, the capabilities required, the resources assigned, the risks accepted and the evidence by which responsible authorities will judge progress. The more explicit these connections are, the less plausible it becomes for a favourable strategic narrative to conceal persistent operational weakness.

A governance structure should be judged through the decisions it is required to make, the information available when decisions are made, and the accountability that follows. A

university council cannot responsibly approve a major programme portfolio expansion on forecast tuition alone if the accompanying risk analysis omits supervision capacity, full cohort costs or the educational consequences of a failed recruitment scenario. Equally, a senate's academic autonomy is weakened when curricular decisions are routinely predetermined by commercial negotiations or when technically significant changes escape scholarly scrutiny. A decision-rights matrix should therefore differentiate proposal, expert review, recommendation, approval, implementation, verification and appeal. The same person or office need not perform all these functions, and their separation may be essential where conflicts of interest or consequences for students are material.

Student representation and independent challenge are governance capabilities rather than ceremonial additions. HEC's 2021 internal quality-assurance guidelines explicitly address student participation in appropriate governance bodies, sound governance and management, research, community engagement, periodic review and information management (Higher Education Council, 2021a). Their eighteen standards provide an official institutional reference, while the twelve-domain instrument developed here is an analytical reorganisation and must not be mistaken for an HEC-issued replacement. Effective participation requires access to understandable information, protected opportunities to raise concerns and evidence that issues are considered. Students should not be asked to certify the adequacy of technical matters beyond their expertise, but their lived experience can expose scheduling, assessment, accessibility and support failures that formal reporting misses.

3.3 Internal quality culture, organisational learning, and institutional effectiveness

Quality culture describes more than favourable attitudes towards accreditation. It concerns the shared habits, responsibilities and conditions through which academics, administrators and leaders identify problems, use evidence, protect academic standards and pursue improvement. A university may have an extensive internal quality-assurance manual without encouraging lecturers to report assessment failure or giving departments time to revise ineffective modules. Conversely, informal goodwill alone is inadequate where student complaints are unresolved, moderation is inconsistent or decisions lack records. A mature quality culture depends upon both formal structures and the willingness to use them honestly. It combines expectations, professional competence, constructive challenge, psychological safety and proportionate accountability.

Organisational learning supplies the dynamic element. Argyris and Schön (1978) distinguished learning that corrects departures from established assumptions from learning that questions the governing assumptions themselves. In a university, a shortfall in assessment turnaround might initially be addressed through reminder emails, an example of adjustment within the existing system. Repeated failure should prompt deeper examination of class sizes, marking workload, moderation procedures, staff incentives and digital submission arrangements. Without that second level of inquiry, leaders may repeatedly correct visible

symptoms while preserving their causes. Institutional effectiveness emerges when review processes can alter resource allocation, programme design and routine practice, rather than merely generate annual reports.

The problem of measurement is inseparable from this discussion. Retention, pass rates, completion, research publications, staff-student ratios and student satisfaction can all reveal important patterns, but none is an unproblematic measure of institutional quality. A high pass rate may indicate effective teaching, lowered academic demand, selective admissions or unreliable grading. A high publication count may hide predatory outlets, unequal workload or weak research supervision. Strong student satisfaction may coexist with undemanding learning experiences; critical but educationally rigorous modules can initially receive lower satisfaction scores. Indicators must therefore be interpreted against clear definitions, contextual characteristics and independent evidence. The purpose of a dashboard is to direct informed inquiry, not to replace it.

An important safeguard is to distinguish evidence of process from evidence of results. The existence of an annual programme review establishes that a review process is defined; completed minutes show that a review occurred; documented changes suggest institutional response; subsequent assessment samples, progression patterns or external evaluation may help establish whether changes improved learning. The strength of any conclusion depends on the question, the evidence's credibility and plausible alternative explanations. Because educational systems are open and influenced by many factors, one should rarely attribute an observed improvement exclusively to a single administrative measure without an appropriate design for doing so.

Quality culture must include the ability to disagree responsibly. Senate debate, independent external examining, staff consultation, student representation and protected channels for reporting misconduct all contribute to institutional self-correction when supported by fair procedures. Governance that punishes unwelcome evidence risks cultivating inaccurate reports and ceremonial compliance. At the same time, unstructured dissent is not itself an improvement strategy. Concerns must be recorded, evaluated and resolved through competent authority, with feedback explaining the eventual judgement. Transparent disagreement can strengthen the legitimacy of institutional decisions, especially where resource allocation requires difficult trade-offs.

A learning institution maintains what might be called a closed evidence-to-action loop. It identifies a specific concern, tests the evidence, establishes a plausible cause, assigns a proportionate intervention, appoints a responsible owner, specifies a review date and verifies whether the problem has actually been addressed. A corrective-action register should record unresolved matters as openly as completed matters. Treating an action as closed when a policy has been circulated, but before affected practice has changed, is a common category error. Closure should depend on the risk and the kind of problem: a revised assessment rule

may require evidence from the next assessment cycle, while a laboratory safety failure may require immediate reinspection before use resumes.

Continental and international standards reinforce the importance of institutional responsibility without establishing one mandatory managerial template. The African Standards and Guidelines for Quality Assurance in Higher Education describe internal and external assurance functions and emphasise coherent institutional policies, programme quality, information management and periodic evaluation (HAQAA Initiative, 2018). They are a comparative professional benchmark, not a substitute for Rwanda's applicable domestic requirements. The material question is whether national standards and an institution's own academic commitments are translated into roles and regular practices that people can perform. A culture of improvement is difficult to sustain where teaching review is detached from budget decisions, where staff have no protected time to amend deficient learning activities, or where a quality office is evaluated mainly by the volume of documentation produced.

Quality culture also requires organisational justice. Learners and staff are unlikely to report recurring problems candidly if complaints are treated as disloyalty, errors are concealed to protect institutional reputation, or similar cases receive unexplained different decisions. Conversely, an improvement culture is not a promise of consequence-free error: negligence, misconduct and discriminatory treatment require appropriate procedures and proportionate accountability. Universities should distinguish good-faith disclosure of problems from deliberate falsification, provide credible channels for review and document how contested evidence is resolved. This relational aspect of quality is especially important in small institutions, where informal authority and concentrated responsibilities can make reporting both efficient and vulnerable to personal influence.

3.4 Academic staffing: Recruitment, qualifications, workload, professional development, and succession

Academically credible provision depends on more than the aggregate number of employees or the credentials listed beside their names. Institutional capability requires disciplinary expertise at the required qualification level, pedagogical competence, sufficient availability, manageable workload, continuity and appropriate support. A staff profile showing doctoral qualifications may offer evidence of formal expertise but cannot establish that lecturers have signed contracts, are assigned to the relevant modules, have time to supervise students or are competent to use the particular teaching modality. Reviewers should distinguish persons named in a staffing plan, persons contractually committed, persons currently employed, persons appropriately deployed and persons demonstrably performing the specified work.

Recruitment policy is therefore an academic risk-control mechanism. Appointment criteria should relate to the responsibilities of the position, and selection should consider disciplinary competence, teaching practice, research integrity and professional registration where relevant.

Institutions should document qualification verification and transparent recruitment decisions without using irrelevant prestige signals as substitutes for capability. A globally recognised degree may be valuable, but the evidence that an individual can teach a demanding module or supervise a particular research topic requires disciplinary assessment. In regulated professions, academic qualifications and legally required professional authorisations may need separate verification.

Workload is a decisive but frequently hidden quality variable. Teaching involves preparation, synchronous or classroom contact, facilitation, marking, feedback, consultation, course redesign, academic advising and assessment moderation. Research-intensive responsibilities include scholarly production, grant administration, ethics compliance and supervision. Leadership and service responsibilities consume further time. A workload model that counts only contact hours may conceal substantial demands in blended provision, where discussion facilitation and feedback are distributed across a week. When programmes expand without corresponding workload revision, feedback is delayed, staff development is displaced and supervision becomes episodic. Staffing adequacy must therefore be judged against actual cohort size, assessment design, supervision intensity and the support infrastructure available.

Faculty development should be governed as an institutional system rather than a collection of occasional workshops. Initial induction should clarify academic regulations, assessment expectations, integrity obligations, student-support routes and the educational philosophy of the institution. Continuing development should respond to observed needs through peer observation, communities of practice, mentoring, short courses, research collaboration and discipline-specific updating. Attendance at a training session is weak evidence of improved teaching. Stronger evidence may include redesigned assessments, reviewed learning materials, peer feedback and observed changes in students' opportunities to demonstrate learning. Professional development also requires protected time and support; exhortation without the opportunity to change practice is unlikely to produce durable capability.

Postgraduate supervision deserves special protection because its demands are not represented by conventional classroom ratios. Capacity depends on topic expertise, availability, doctoral examination experience, access to literature and methods training, suitable ethical review, candidate monitoring and alternative supervision arrangements when staff leave. A doctorate programme dependent on one external professor for nearly every specialist topic has an evident continuity risk even if that professor's qualifications are impressive. Institutions should maintain a supervision-load register, explicit milestone expectations, a policy for co-supervision and procedures for reassignment. Such safeguards should preserve scholarly independence and confidentiality, not reduce research supervision to managerial surveillance.

Succession planning is closely related to workforce sustainability. Universities may rely on founding academics, visiting specialists or a small number of ICT and registry employees who hold knowledge unavailable elsewhere. Departure, illness or prolonged absence can interrupt whole programmes. A risk-sensitive succession plan documents critical functions, identifies

deputies, preserves lawful access to essential records, trains successors and establishes recruitment contingencies. It should never imply that expertise is instantaneously interchangeable: replacement teaching and supervision require appropriate discipline and level. The institutional capability test is whether foreseeable personnel changes can be accommodated without making the educational offer misleading or imposing unreasonable harm on enrolled learners.

Staff adequacy can be tested through a transparent workload model rather than a single staff-to-student ratio. The analysis should identify contact and preparation requirements, frequency and complexity of assessments, expected feedback turnaround, supervision commitments, reasonable accommodations, academic administration and staff research or professional obligations. In a hypothetical programme admitting 120 additional students, the increase in student numbers does not mechanically identify the number of lecturers required; the answer depends on whether students need individual project feedback, small-group practice, laboratory sessions or field supervision, and whether trained teaching assistants have legitimate responsibilities. A defensible model records activity assumptions, available staff hours and bottlenecks, then tests them under realistic absence and reassessment scenarios. Such calculations are internal management analyses, not automatically national staff-ratio rules.

Professional development should also be differentiated by role. A lecturer responsible for online assessment needs skills in accessible task design, timely formative feedback and protection of academic integrity; a postgraduate supervisor needs methodological currency and ethical judgement; a curriculum chair needs qualification-level and standards-mapping competence; and academic leaders need the ability to recognise flawed performance measures. UNESCO's AI competency framework for teachers identifies human-centred practice, AI ethics, foundational knowledge, AI pedagogy and professional learning as related domains of competence (Miao & Cukurova, 2024). This does not impose a universal course on faculty, but it strengthens the case for role-specific evidence of informed human oversight rather than assuming that AI-related proficiency follows from general ICT familiarity.

3.5 Curriculum-development and instructional-design capabilities

Curriculum development is often assigned to an ad hoc committee constituted shortly before external submission. This can produce a technically completed dossier while leaving uncertain whether the organisation has a continuing capacity to design, update, assess and govern its academic programmes. A durable institutional capability requires a repeatable process connecting programme rationale, graduate competencies, qualification descriptors, curriculum sequencing, intended learning, assessment, staffing, learning resources, student support and regulatory verification. Constructive alignment helps explain this requirement: educational outcomes must correspond coherently with learning activities and assessment

tasks (Biggs, 1996). Yet programme alignment is not achieved merely because the same outcome wording appears in several templates.

A mature curriculum function combines disciplinary judgement with educational design expertise. Academics protect the knowledge structures and methods of their fields. Curriculum specialists support outcome formulation, workload planning and assessment mapping. Digital-learning professionals advise on meaningful interaction, accessibility and modality. Librarians determine whether students can access appropriate literature. Laboratory, placement and clinical coordinators assess practical feasibility. Registry and quality-assurance teams check credit arithmetic, award rules, version control and approvals. Finance evaluates recurrent affordability rather than simply start-up expenditure. Coordination does not mean that all participants hold a veto over academic substance; it means that academic decisions are informed by constraints that affect whether students can actually learn.

Programme design should be treated as an institutional knowledge asset. Approved programme specifications, definitive module descriptions, curriculum maps, assessment blueprints and external approval conditions should be stored with clear identifiers, effective dates, owners and change histories. An isolated Word document saved on a lecturer's personal computer is a fragile master record. Institutions need controlled baselines so that a new cohort is taught the version authorised for that cohort and so that amendments are reviewed for consequences across prerequisites, progression, credit totals, learning outcomes and student-facing regulations. Incoherent duplicate module codes or contradictory year allocations indicate more than typographical shortcomings: they reveal deficiencies in configuration control.

The advent of AI-assisted content production intensifies, rather than diminishes, the need for academic ownership. Generative systems can help propose outlines, reading questions or example scenarios, but fluent text does not establish disciplinary correctness, local relevance, copyright permission or alignment with qualification standards. A university should define which uses are permitted, how human review occurs, where confidential curriculum data may be processed and who remains accountable for the final approved material. AI output should not become a substitute for engagement with current scholarship, applicable law or disciplinary peer review. These decisions must be developed institutionally even where individual lecturers retain appropriate pedagogical discretion.

Instructional-design capability also concerns the feasibility of learning for actual students. A programme offered to working professionals may need carefully paced asynchronous study, accessible materials and predictable consultation. A laboratory-intensive degree may need scheduled physical practice and verified equipment access. A low-bandwidth cohort cannot be assumed to experience a sequence of high-definition synchronous classes on equal terms. UNESCO (2023a) cautions against technological adoption disconnected from equity, appropriateness and sustainability. Institutions should therefore test proposed learning

pathways with expected device, connectivity, timetable and accessibility conditions. This is not a request to lower intellectual standards; it is a request to make the educational means adequate to the declared ends.

The next chapter undertakes the detailed pedagogical and regulatory work of programme design. The institutional issue here is prior and enabling: does the university have a competent and durable system capable of producing coherent curricula, checking feasibility, preserving their authorised versions and improving them in response to evidence? A positive response requires records of real design work, cross-functional review and subsequent improvements, rather than merely a curriculum policy or a list of committee members.

Curriculum governance becomes more reliable when institutions define the route by which academic decisions are checked before a programme is promised to students. A formal design gate should verify that the proposed qualification's academic level, credit structure and assessment philosophy are defensible; a feasibility gate should test staffing, learning resources and practical delivery; and a regulatory gate should determine which current approvals or notifications are required. These gates need not form a slow bureaucratic chain. They can operate through a coordinated review if all professional responsibilities remain visible and material objections are resolved in the authoritative record. Crucially, a programme specification is not the only output: a sustainable system must also provide mechanisms for reviewing student achievement and changing the programme without losing control of its authorised baseline.

The relationship between institutional and programme capability is asymmetric. A strong institutional curriculum office can make a coherent programme possible, but it cannot guarantee that every proposed degree has a defensible graduate profile. Conversely, an impressive degree proposal may have been produced by temporary consultants while the university lacks staff able to implement or maintain it. Review must therefore ask both whether the programme itself is academically sound and whether the institution can support recurring programme-design cycles. This distinction prevents external accreditation preparation from becoming a one-time substitution for embedded academic design competence.

3.6 Educational infrastructure: Classrooms, laboratories, libraries, LMS platforms, digital systems, and connectivity

Infrastructure becomes an academic capability only when it is fit for a specific educational purpose, accessible to the intended cohort, reliably maintained and governed through accountable arrangements. A classroom inventory says little about timetabling clashes, furniture suitability, power reliability, accessibility or acoustic conditions. A laboratory catalogue does not establish equipment functionality, consumable availability, safety controls, technical support or sufficient practical time. A digital library subscription does not demonstrate that the assigned readings are covered by licences permitting student access.

Infrastructure evaluation should therefore begin with programme requirements and learner pathways rather than an institution-wide inventory of assets.

Physical infrastructure demands discipline-specific interpretation. Engineering workshops, clinical simulation centres, science laboratories, studios and fieldwork sites serve fundamentally different learning processes. Some activities can be supported by simulation; others involve embodied procedures, professional judgement, safe handling and supervised performance that cannot be inferred from watching a video. The relevant evidence may include operational logs, maintenance and calibration records, inspection findings, timetables, student access records, consumable budgets, safety incident procedures and agreements with external placement providers. The appropriate standard is not identical infrastructure for every programme, but credible provision of the experiences needed to meet its legitimate learning outcomes.

Digital infrastructure is similarly more than the acquisition of an LMS licence. The institution must assure identity and access management, secure account provisioning, course navigation, assessment submission, gradebook integrity, backups, integration with the student information system, accessibility, help-desk support and continuity during interruption. Interoperability can reduce the risks associated with information silos, but integration creates additional responsibilities for security, data quality and change control. A working pilot should test the intended academic workflows, not merely confirm that users can log in. For example, a complete assessment test should cover submission, late and special arrangements, feedback, moderation, release of marks, appeal evidence and export of final authorised grades.

Library capability is an intellectual rather than decorative resource. Academic holdings must correspond to discipline, qualification level, research methods and the language needs of learners. The capacity to retrieve, evaluate and ethically use scholarly literature is especially important for postgraduate study and AI-mediated information environments. Resource adequacy involves cataloguing, discovery, remote authentication, accessible formats, user orientation, licensing compliance and professional support. Open educational resources can improve access and contextualisation, but openness does not guarantee accuracy, suitability or permanence. Institutions should provide processes for academic evaluation, licence checking, version review and replacement where access or quality changes.

Connectivity and electricity reveal an important boundary between institutional assets and learner experience. A campus may possess strong broadband while remote learners depend on unstable household access, expensive mobile data or shared devices. Institutions cannot remove every national infrastructure constraint, but they can avoid designing programmes around implausible access assumptions. Downloadable resources, mobile-compatible interfaces, alternative low-bandwidth media, accessible asynchronous participation and reasonable recovery arrangements can reduce exclusion where consistent with programme requirements. For staff, reliable power, secure off-site access and contingency communication

are likewise necessary for continuity. These design choices should be tested rather than merely announced in an online-learning strategy.

Asset stewardship also requires total-life-cycle thinking. A donated laboratory may be difficult to maintain without parts, technicians or recurrent supplies. A promotional platform discount may disappear after initial enrolment. A library package may impose restrictions on simultaneous use; a vendor may discontinue a service. Decisions should therefore consider replacement, depreciation, licensing, staff training, security patches, transition costs and the ability to export institutional data in usable formats. Procurement should be accompanied by accountable ownership and maintenance plans. The basic assessment question is whether educational services can continue as promised at a sustainable standard, not whether the institution can display modern equipment on the day of inspection.

Accessibility is a technical, pedagogical and institutional property of the learning environment. An online platform may permit keyboard navigation while required documents remain inaccessible; a classroom may have an accessible entrance while practical laboratories or examination arrangements remain unusable for particular students. The World Wide Web Consortium's Web Content Accessibility Guidelines 2.2 provide a recognised technical benchmark for digital content and interfaces, although legal applicability and the appropriate conformance target must be checked separately (World Wide Web Consortium, 2024b). A competent institutional process tests a representative student journey, including authentication, content access, submission, interaction, feedback and help-seeking, and includes people with relevant access needs in responsible evaluation. The target is substantive participation in demanding learning, not the production of a self-declared accessibility badge.

Evidence of infrastructure capability should be collected across locations and times. A facility inspection during an unusually quiet week may miss congestion caused by concurrent teaching; a successful LMS demonstration may miss peak assessment demand; and a digital-library access test performed by a privileged staff account may not reproduce the experience of a newly enrolled student. Sampling should therefore reflect likely peak use, different user roles, relevant campuses, connectivity conditions and contractual constraints. Asset availability and actual educational service are related but separate propositions. When a critical service is supplied externally, the institution should identify who can inspect performance records, authorise alternatives and protect learner interests if the partner fails.

Learner-support services also form part of infrastructure in the functional rather than merely physical sense. Reliable admission advice, orientation, academic guidance, disability support, accessible library assistance, assessment accommodations and fair complaints procedures must be available to the learners and programmes for which they are promised. HEC's internal QA standards address student recruitment and support as well as learning resources (Higher Education Council, 2021a). A self-assessment should therefore examine case-handling capacity, staff competence, confidentiality and the effect of support interventions, rather than counting offices or publishing contact addresses. This chapter establishes institutional

ownership of those functions; their curriculum-level design and differentiated student-success implications are developed later in the volume.

3.7 Academic research, postgraduate supervision, scholarly publication, and research-capacity development

Research capability is a substantive dimension of university quality, although its configuration should reflect institutional mission and award levels. A teaching-focused institution may reasonably devote a different share of resources to research than a doctoral research university, but it cannot treat disciplinary currency, research integrity or scholarly inquiry as irrelevant. Degree programmes rely on knowledge whose methods and conclusions must be critically examined. Postgraduate qualifications make further demands: a research master's or doctorate requires appropriate supervision, research governance, scholarly resources and defensible examination. An institution's declaration that it values research is not sufficient evidence of its ability to sustain these functions.

Research capability comprises interrelated conditions: a critical mass of competent scholars, time for inquiry, access to literature and research infrastructure, methodological expertise, ethical oversight, research administration, funding or realistic low-cost research pathways, dissemination opportunities and dependable supervision. The relative importance of these conditions differs by discipline. Laboratory-based experimental research may depend on costly consumables and technical support; archival, theoretical, educational or documentary research may require extensive library access, data management and advanced methodological judgement. A single generic research productivity target can conceal these differences and can encourage substitution of countable outputs for scholarly quality.

Pressure to publish illustrates the danger. Publication counts can be useful descriptive measures but should not become the sole criterion of research effectiveness. Journal legitimacy, peer-review quality, intellectual contribution, methodological transparency, correct attribution, open scholarship and the sustainability of research activity matter. Institutions need safeguards against predatory outlets, invented citations, plagiarism, manipulated authorship and inappropriate use of generative AI. Research evaluation should consider different forms of legitimate output, including books, disciplinary scholarship, evidence syntheses, datasets where ethically releasable, policy studies and applied contributions assessed through appropriate disciplinary criteria. The emphasis should be on scholarly merit and integrity, not merely quantity or publisher prestige.

Postgraduate research quality depends on the relationship between admission promises and supervisory provision. Institutions should know which academics are qualified to supervise at each level, what topical areas they cover, how many candidates are assigned to them and what arrangements exist for feedback, monitoring, examination and appeal. An applicant should not be admitted into a topic for which the institution cannot provide appropriate expertise or legitimate external arrangements. Co-supervision can strengthen disciplinary and

methodological support, but roles, availability and intellectual responsibility should be specified. Supervisory feedback must be prompt enough to permit meaningful progress without reducing scholarly independence to a fixed production schedule.

Research governance must also protect participants, researchers and academic records. Ethics review requirements should be proportionate to the method and risk; secondary-data and public-document research should not be automatically represented as involving human participants, although privacy, copyright and data security questions can still arise. Institutions should distinguish ethical approval, scientific or scholarly validity, disciplinary supervision and legal compliance rather than relying on one committee to certify every aspect. Research data management, secure storage, retention, publication permissions and conflict-of-interest rules should be governed consistently with applicable requirements. Where work involves international collaborations, contractual data control and publication rights deserve particular attention.

Research-capacity development is best understood as an institutional learning process. Early-career scholars need access to research mentoring, methodological seminars, critical peer feedback, grant-writing support where relevant and opportunities to join credible disciplinary networks. Staff must have time to develop their intellectual work, not merely a formal expectation that they publish. Collaboration with better-resourced partners may expand access to equipment and expertise, but agreements should address equitable attribution, intellectual-property arrangements, research agenda-setting and the ability of the local institution to retain expertise. Partnerships that produce short-term outputs without building local scholarly responsibility may intensify rather than reduce dependence.

A useful research-capability evaluation distinguishes input, operation, scholarly output and educational contribution. Input evidence includes qualified researchers, library access and allocated research time. Operational evidence includes supervision meetings, methodological support, ethics processes and peer critique. Output evidence includes defensible publications, completed theses and research products. Educational contribution may be demonstrated through updated teaching, student participation in inquiry, improved postgraduate progression or useful engagement with professional and public problems. None should be presumed from another without examination. This distinction prevents institutional publicity about a handful of celebrated publications from substituting for systematic evidence of a research environment capable of supporting the awards it offers.

Research assessment creates strong incentives, making its design an aspect of institutional governance. The Hong Kong Principles call for researcher evaluation that values responsible methods, transparent reporting, open scholarship where appropriate, diverse research contributions and the work that supports reliable inquiry (Moher et al., 2020). Their relevance is not that universities should abandon assessment of contribution, but that crude counting of papers or citations can reward quantity without testing trustworthiness. A credible research strategy uses disciplinary peer evaluation, recognises different knowledge outputs and reports

conflicts of interest, while distinguishing publications produced by staff from the support that students actually receive. An institution should be especially cautious about accepting indexing claims, editorial-board lists or paid publication promises as evidence of genuine scholarly review.

Rwanda's HEC Postgraduate Degree Framework, dated July 2026 and listed on the Council's publications site in October 2026, provides a more recent official reference for postgraduate programme organisation, research ethics, supervision, milestones and examination (Higher Education Council, 2026b). Its publication strengthens the need for award-specific capability tests rather than a generic claim that a university has 'research-active faculty'. A proposed doctoral pathway should identify the research contribution expected, the competence and independence of supervisors and examiners, candidate progression arrangements and the applicability of each regulatory requirement. The existence of the framework must not be read as proof that a particular university or pathway has obtained accreditation; the authorised programme approval and its conditions remain separate evidence.

Institutional research capability should also connect responsibly with public engagement, without reducing academic inquiry to contract consultancy or public-relations activity. HEC's IQA guidelines identify community engagement as a distinct assessment area (Higher Education Council, 2021a). Institutions can demonstrate such responsibility through credible knowledge exchange, policy research, professional training, community partnerships and research dissemination, with clear safeguards for scholarly independence and attribution. Public-engagement activities should be evaluated for relevance, quality, reciprocity and evidence of delivery; the mere signing of memoranda of understanding establishes neither research impact nor service value. This connection matters because sustainable quality is partly judged by whether institutional capabilities enable the university to fulfil its stated contribution beyond the campus.

3.8 Institutional information systems, evidence management, and learning analytics

An institution cannot govern what it cannot describe accurately, but the existence of abundant data does not guarantee knowledge. Academic administration commonly generates information through admissions, registration, student finance, timetabling, the LMS, examinations, human resources, library systems and research offices. When these systems use inconsistent identifiers, definitions or effective dates, administrators may produce conflicting figures for the same student population or programme. Such contradictions are not simply information-technology inconveniences. They affect student progression, award accuracy, financial planning, regulatory reporting and the fairness of academic decisions.

Institutional evidence capability begins with clear data ownership and definitions. Universities should maintain an authorised programme register, a student-record system, an approved academic calendar, controlled staff-deployment records and reliable qualification

and module identifiers. Core definitions such as active enrolment, withdrawal, progression, completion, full-time-equivalent workload and research supervision load should be documented. When figures are reported, a reviewer should be able to identify the source, population, extraction date, transformations and authorised owner. Without this provenance, a dashboard may look precise while its underlying data remain ambiguous. Data stewardship is therefore a governance function involving academic, registry, quality and ICT personnel, not merely a task assigned to database administrators.

Evidence should be organised around institutional claims. If management asserts that assessment feedback is timely, the relevant evidence may include policy standards, assignment-level release logs, a sample of actual feedback, exception records and student complaints. If it asserts that all doctoral students have adequate supervision, evidence must link enrolled candidates to qualified supervisors, workloads, research topics and review records. A curriculum mapping spreadsheet cannot independently verify the quality of enacted teaching, and an annual review minute cannot by itself establish effective corrective action. Credible evidence management preserves the inferential relationship between a proposition and what the records can actually show.

Learning analytics can assist staff in recognising students who may need support, but its educational meaning must not be overstated. Platform logins, time online, resource downloads and automated engagement scores are indirect behavioural traces. Low recorded activity could indicate disengagement, offline study, poor connectivity, shared-device use or technical failure. High activity may reveal difficulty rather than success. Analytics should therefore support proportionate human inquiry, not automatically label learners as deficient or predetermine adverse academic decisions. Jisc's learning-analytics code of practice and contemporary data-ethics scholarship emphasise legitimate purposes, transparency and safeguards when institutions use learner data (Jisc, 2015; Slade & Prinsloo, 2013).

Institutional dashboards require analytic discipline. Indicators should have an explicit decision purpose, accountable owner, quality checks and interpretation guidance. Where possible, cohort outcomes should be examined by programme, stage, modality and relevant access characteristics, while observing lawful data minimisation and avoiding exposure of small or identifiable groups. Trends should be compared on consistent definitions, with structural breaks noted when curricula, assessment rules or information systems change. Composite scores deserve caution because an attractive average can conceal non-negotiable failures. For example, strong student satisfaction and research performance cannot compensate for a serious breach of assessment security or the loss of the authoritative examination record.

A meaningful information system must support not only reporting but action. Suppose programme completion declines. Rather than presenting a red indicator as a conclusion, the quality office examines how the rate was defined, checks student pathways and assessment evidence, seeks disciplinary interpretations, identifies possible contributing factors and

assigns an intervention. Subsequent monitoring establishes whether progress occurred without assuming causation from simple before-and-after comparison. The institutional capacity lies in the full cycle of valid definition, responsible interpretation, decision, implementation and learning. Investment in analytics without corresponding data literacy, staff capacity and fair governance can merely accelerate the production of misleading interpretations.

Evidence management must also reconcile transparency with appropriate confidentiality. Academic committees and external evaluators may need detailed records to establish a particular claim, but this does not justify unrestricted disclosure of student files, staff medical information or sensitive research data. Access should be role-based, proportionate and logged where necessary. Evidence extracts can be pseudonymised or aggregated, provided that authorised reviewers retain an appropriate means to verify authenticity. The aim is a traceable institutional record whose integrity can be assessed without treating every private record as a public document.

Institutions also need an explicit evidence-retention architecture. A governance record should identify the decision made, the version of the applicable rule, the person or body responsible, the period or student cohort affected and the source records that support the decision. The level of detail should reflect educational risk: a timetable change may need a short controlled log, while a doctoral examination or a serious academic-misconduct finding requires an appropriately protected and reviewable decision trail. Records should be preserved under a lawful retention schedule, with access controlled by function and corrections tracked rather than silently overwriting previous authorised outcomes. A file repository without provenance, secure permissions and an authorised owner is not a reliable institutional memory.

The professional value of evidence traceability is greatest when institutional assertions are contestable. Consider a report stating that all modules deliver feedback within fifteen working days. To evaluate that claim, the institution must establish which assessments and cohorts count, how late submissions or approved extensions are treated, which events the system records and whether a sample of actual student accounts matches the reported dates. Where the measure is incomplete, responsible reporting explains the limitation instead of presenting a falsely exact figure. Later accreditation analysis will formalise this inferential discipline through the proposed Evidence-Traceable Accreditation Judgement model, but the underlying evidence infrastructure must be created and maintained inside the institution.

3.9 Data governance, privacy, cybersecurity, and responsible technological procurement

Digital universities handle educational records, identities, research information, financial transactions, assessment submissions and communications that are integral to the continuity and legitimacy of academic provision. Data governance therefore belongs inside institutional quality assurance, not solely within a technical compliance office. A loss of student records can

jeopardise progression and awards; compromise of assessment systems can undermine confidence in grades; unauthorised sharing of personal information can injure learners and staff. The educational consequences of these events make privacy and cybersecurity questions part of the university's core obligations.

Rwanda's Law No. 058/2021 of 13 October 2021 relating to the protection of personal data and privacy provides a relevant national legal reference, alongside competent-authority guidance and other applicable rules (Republic of Rwanda, 2021b). A responsible institution should establish current applicability and relevant obligations for each processing operation rather than rely on generic language copied from another jurisdiction. Information governance should address lawful purposes, minimisation, access, secure processing, authorised disclosures, retention, correction and deletion when applicable, incident handling and cross-border arrangements. Educational necessity cannot be presumed to authorise indefinite retention or unlimited reuse of learner records for unrelated technology services.

Cybersecurity governance involves both technical controls and organisational preparation. The NIST Cybersecurity Framework 2.0 distinguishes the functions of Govern, Identify, Protect, Detect, Respond and Recover (National Institute of Standards and Technology [NIST], 2024). These functions offer a useful voluntary analytical benchmark; they are not a substitute for Rwanda's legal requirements. Their educational application includes assigning security accountability, identifying critical academic services, applying appropriate authentication and backup controls, monitoring vulnerabilities, responding to incidents and restoring access with the integrity of authoritative records intact. Universities should test recovery plans rather than assume that purchasing cloud services eliminates responsibility for resilience.

Procurement is a particularly consequential point of control because a university may outsource operations without outsourcing its duties to learners. Vendor evaluation should consider data processing, ownership and export rights, location and sub-processors where relevant, service availability, accessibility, security assurance, support response, pricing over the expected contract period, termination assistance and the educational consequences of failure. A contract that offers attractive initial functionality but prevents reliable extraction of student assessment records may create unacceptable institutional dependence. Institutions should also preserve a meaningful human review of consequential automated recommendations, including admissions screening, plagiarism allegations and grading assistance.

Generative AI introduces additional uncertainties. Staff may paste identifiable student work, unpublished manuscripts, sensitive programme records or confidential committee information into general-purpose services without clarity about storage and reuse. AI applications may produce erroneous or biased advice while presenting it with confident language. The relevant governance response is not indiscriminate prohibition or uncritical adoption. It is a differentiated framework defining authorised uses, prohibited disclosures, human accountability, staff and student competence, procurement scrutiny and periodic

revision as systems and risks change. UNESCO's guidance on generative AI in education and research provides a professional reference for human-centred safeguards (Miao & Holmes, 2023), though institutions must determine their own current legal and regulatory duties.

A cybersecurity incident is also a test of academic continuity. Consider a hypothetical attack that renders the LMS unavailable during a high-stakes assessment window. The institution needs a verified incident escalation route, alternative communication, secure assessment contingency, preservation of submitted work, fair treatment of affected candidates, restoration protocols and a documented decision on whether deadlines or assessment conditions require change. An ICT response that restores the server but cannot establish the reliability of affected grades has not fully restored the educational service. Recovery requires cooperation between technology specialists, academic authorities, registry, quality assurance and student support.

Under Rwanda's personal data legislation, institutional data governance cannot be reduced to obtaining a general consent checkbox. The law establishes a framework for personal-data processing and specifies responsibilities that can depend on the roles and activities of controllers and processors (Republic of Rwanda, 2021b). Universities should maintain a processing-activity inventory, determine lawful grounds and purposes for material uses, identify appropriate safeguards for sensitive student records, and examine processor arrangements before deploying technologies that transfer or infer personal information. The Data Protection and Privacy Office identifies the National Cyber Security Authority as the supervisory authority under the 2021 law (Data Protection and Privacy Office, n.d.). The law and competent guidance, rather than a generic international template, must control any case-specific legal conclusion.

Responsible procurement also requires evaluation of failure and exit conditions before a contract is signed. Institutions should test whether course content, assessment submissions, feedback, grade histories and authoritative student records can be exported in interoperable formats, with predictable support and secure deletion at termination. In a practical procurement exercise, a low-cost platform with weak portability may generate a greater long-term threat to learner protection than a slightly more expensive system with documented continuity arrangements. The trade-off should be assessed through full-life-cycle educational consequences, not a technology demonstration or headline subscription price. The same discipline applies to AI-powered student support, where fluent advice must not be mistaken for accurate authorised guidance on award rules, academic appeals or financial obligations.

3.10 Financial sustainability, resource allocation, partnerships, and operational scalability

Financial sustainability is often presented as the ability of an institution to balance its books. Educational sustainability requires a stricter test: whether the resources necessary to deliver existing academic commitments remain sufficient and dependable over the periods in which students are entitled to receive them. A budget surplus can coexist with overburdened staff,

deteriorating laboratories, inadequate library resources or deferred maintenance. Conversely, a temporary deficit may reflect justified investment but creates exposure if financing cannot be sustained. The proper question is how financial decisions protect educational obligations and how the institution knows that its operating model remains viable.

Programme costing should recognise the full cost of learning. Relevant components include academic staffing, preparation and assessment, supervisory time, support personnel, facilities, utilities, laboratories, consumables, library resources, platforms, data protection, disability accommodation, maintenance, insurance, professional accreditation where applicable and institutional oversight. Digital programmes may reduce some physical attendance costs while introducing substantial recurring expenditure for learning design, support, licences, connectivity and security. UNESCO's 2023 Global Education Monitoring Report cautions that technology choices should be tested for sustainability and appropriateness rather than presumed to be cost-saving (UNESCO, 2023a). A credible business case therefore shows both institutional and learner costs, including costs shifted to students.

Resource allocation should reflect academic priorities and risk. An expansion proposal might be profitable under optimistic enrolment assumptions but financially fragile under realistic variations in recruitment, collection rates, exchange rates, procurement costs or attrition. Scenario planning can reveal whether minimum staffing, placement capacity and academic support remain feasible under adverse conditions. Institutions should establish threshold conditions for safe growth, such as confirmed supervisors, functioning facilities and adequate assessment support. Growth beyond those limits should be postponed or redesigned rather than justified by the possibility that future revenue will solve present capability gaps.

Partnerships can increase capability when institutions lack specialised resources. Shared library consortia, laboratory access agreements, professional placements, research collaboration and cloud infrastructure may be academically sound. However, a partner's reputation or verbal commitment does not prove that the university's students have enforceable access to the promised service. Agreements should establish permitted use, available capacity, academic responsibility, accessibility, costs, contingency arrangements and termination provisions. Partnerships in postgraduate research should also address supervision, authorship and intellectual-property responsibilities. The institution conferring the award remains responsible for demonstrating the legitimacy of its educational claims within the applicable regulatory framework.

Financial dependence introduces governance risks. A university reliant on a single donor, corporate sponsor, founder, international partner or technology provider may face pressure over academic priorities or suffer abrupt service withdrawal. Mission-aligned donations are legitimate but should not grant sponsors unreviewable influence over grades, research findings, student admissions or the integrity of awards. Transparent conflict-of-interest rules and diversification strategies can reduce exposure. Reserves and contingency plans matter not

only for institutional survival but for learner protection, especially when students have already invested years in a qualification.

Operational scalability should be evaluated by function rather than enrolment count alone. Some academic activities scale through reusable resources and automation; others, such as individual feedback, clinical supervision, laboratory access and dissertation examination, remain labour-intensive. A learning platform can serve many accounts but does not automatically generate the lecturer time or professional judgement needed for credible assessment. Scalability tests should therefore specify demand drivers, service constraints, resource thresholds and the point at which educational standards would deteriorate. The appropriate operational model is one that grows only while sustaining legitimate academic commitments.

An academically defensible financial model should also separate annual operating affordability from the obligation to support every enrolled cohort until its approved educational pathway is completed or lawfully concluded. Programme approval may create commitments whose duration exceeds the current budget cycle, including supervision, placement arrangements, access to learning materials and the ability to issue trustworthy records. Institutional leaders should therefore test the adequacy of cash-flow assumptions, restricted funding, capital replacement, exchange-rate exposure, scholarships and collection risk. A formal contingency should identify how students will be protected if the institution cannot continue a programme as planned. Merely projecting growth in new enrolments to cover obligations to existing cohorts can conceal a financially and educationally unstable arrangement.

The problem is not solved by imposing a universal financial ratio. Institutions differ in capital structure, legal form, course mix, staff employment models and sources of revenue. A small specialist provider with carefully documented low fixed costs can be viable without replicating the balance sheet of a comprehensive university, while a wealthy institution can misallocate resources in ways that damage particular programmes. The appropriate test is whether financial evidence is reconciled with programme-specific teaching and research commitments and whether the institutional governing body has considered plausible adverse scenarios. A budget is strongest when linked to named service owners, operational evidence and feasible corrective choices rather than only aggregate forecasts.

3.11 Risk governance, institutional independence, strategic dependencies, and accountability

Risk is not merely the possibility of financial loss. For universities, material risks include compromised qualification integrity, student harm, failed academic continuity, unavailable laboratories, staff shortages, non-compliance, reputational deception, unsafe placements, cyber incidents and disruption to research or assessment. A risk register becomes educationally meaningful when it describes the threatened academic outcome, the plausible

pathway of failure, the persons exposed and the controls that could prevent or limit harm. Generic labels such as 'technology risk' or 'staffing risk' offer little guidance unless translated into an operational consequence and an accountable response.

Risk governance requires clear appetite and threshold distinctions. Some risks can be accepted within reasonable limits because they are reversible and unlikely to affect core obligations. Others involve non-compensatory requirements: unsafe clinical practice, unauthorised award delivery, serious breaches of academic integrity and absence of essential supervision should not be balanced away by a high score on unrelated institutional indicators. An institution may choose an inexpensive LMS rather than a premium product if it meets its requirements; it should not choose a platform that cannot preserve trustworthy examinations because it offers attractive cost savings. Governance must distinguish strategic choice from impermissible erosion of minimum standards.

Independence concerns the practical ability to preserve academic authority when external actors exert influence. Public universities may be affected by changes in government priorities or fiscal allocations; private and nonprofit institutions may face founder influence, donor dependence or commercial pressure; internationalised universities may rely on foreign awarding bodies, platform vendors or cross-border research funding. Such dependencies are not automatically illegitimate. They become governance concerns when they compromise transparent decision rights, the reliability of academic judgement or the university's ability to fulfil its obligations. Formal agreements, conflict declarations and institutional checks should therefore be examined alongside financial and operational reliance.

Risk ownership should be sufficiently specific to support action. The chief financial officer may monitor liquidity, but the academic dean must assess how a budget shortfall affects module delivery; ICT may lead technical recovery, but registry and senate must protect academic records and assessment fairness; a research office may track grants, but supervisors remain responsible for research quality. Risk governance fails when all material problems are referred to an abstract 'management' without clear escalation routes. Council-level oversight should focus on strategic exposure and adequacy of controls, while competent operational units provide evidence of implementation.

Resilience demands more than a written business-continuity plan. Universities should identify critical academic services, maximum tolerable interruptions, recovery dependencies and available alternatives. A conventional classroom programme may require alternative sites during flooding; an online institution may need geographically separated backups, communication channels and assessment continuity; a clinical programme may need alternative approved placements; a postgraduate research school may need continuity of supervision and secure data access. The effectiveness of continuity measures depends on scenario-specific tests and post-incident learning. The later dedicated resilience chapter examines pandemics, conflict, environmental hazards and systemic disruption in detail; here the central point is that preparedness must be embedded in ordinary institutional capability.

Risk assessment must also acknowledge its epistemic limits. Likelihood and impact scores are often subjective, particularly for rare and interacting events. Overly precise numerical matrices can create false confidence. Institutions should record assumptions, uncertainty, evidence sources and plausible scenarios, using qualitative judgement transparently when quantitative probabilities are unavailable. A scenario involving concurrent power failure, connectivity loss and assessment deadlines may reveal dependencies that three independent low-risk entries conceal. Periodic challenge from independent reviewers, affected academic units and student-support representatives can improve the credibility of risk interpretations.

Three different risk responses must be distinguished. Prevention seeks to reduce the likelihood or exposure of harm before it occurs, such as verifying staff credentials before assigning specialised supervision. Preparedness establishes alternatives when a failure remains possible, such as maintaining a secure assessment contingency during a network outage. Recovery restores academic services and verifies the integrity and fairness of the recovered process after disruption. A university that has purchased backups but never restored an authoritative gradebook has evidence of a protective intention, not a verified recovery capability. Each response requires accountable roles, realistic testing and a record of any residual risk accepted by the appropriate authority.

Institutional independence also has an epistemic dimension: academic and governance bodies must retain the capacity to make findings that are unwelcome to funders, owners, political authorities or technology suppliers. This does not imply unrestricted separation from public accountability or a denial of lawful governmental oversight. It means that research conclusions, examination outcomes and accreditation-related evidence should not be manipulated for commercial or reputational convenience. Institutions should document conflict declarations, safeguards for external examiners, contractually protected access to relevant records and escalation routes when interested parties seek to override professional judgements. Trustworthy academic autonomy is demonstrated by controlled decisions under pressure, not simply by claims of independence.

3.12 Institutional capability maturity, performance evaluation, and continuous improvement

The preceding analysis supports an institution-wide model of capability whose components are distinct but operationally connected. Governance authorises and coordinates activities; staff and research expertise supply disciplinary substance; curriculum and learning design organise educational intentions; infrastructure and services make delivery possible; information systems establish an evidentiary memory; data and cybersecurity controls protect trust; finance sustains commitments; and risk governance preserves continuity under strain. Quality culture and organisational learning connect these functions through feedback and improvement. Weakness in one domain may propagate into others, meaning that an overall average conceals important dependency and threshold effects.

A useful conceptual distinction can be drawn among resources, readiness, capability and performance. Resources are assets or inputs available to the institution. Readiness is an assessment of whether specified conditions are in place for a particular activity at a particular time. Capability is the more durable organisational capacity to mobilise and renew those conditions across changing circumstances. Performance consists of what actually occurs, including the educational experience and outcomes of defined cohorts. These categories are related but not interchangeable. A university may be ready to launch a single programme using exceptional external assistance while lacking the internal processes needed to maintain quality across subsequent cohorts. Conversely, an institution with mature internal processes still needs to verify the particular staffing and facilities of each newly proposed programme.

The capability concept resonates with dynamic capabilities scholarship, which explains how organisations sense changes, mobilise resources and reconfigure practices under shifting conditions (Teece, 2007; Teece et al., 1997). Its application to higher education must be cautious: universities pursue scholarly and public purposes that cannot be collapsed into private-firm competitiveness. An institution may be highly effective at marketing programmes or reducing unit cost without delivering academically credible education. Dynamic capability is therefore normatively incomplete unless anchored in educational purpose, qualification standards, learner protection and legitimate governance. Critical realism adds a further caution: observed processes and performance indicators provide fallible evidence of underlying organisational mechanisms, not unmediated access to causation (Sayer, 2000).

Maturity models offer a practical language for distinguishing aspirational arrangements from repeatable and evidence-supported practice. Yet maturity should not be confused with age, technological complexity or size. A newly established specialist university may demonstrate robust controls in a limited portfolio; a long-established university may retain fragmented records and depend on personal arrangements. The proposed model uses five maturity levels within each domain, subject to evidence requirements and critical-failure overrides. It does not claim that the levels have been statistically calibrated or that movement from one level to another will cause a quantified improvement in learning. The descriptors are professional evaluation aids requiring adaptation and field testing.

Table 3.1. Proposed five-level institutional capability maturity descriptors

Level	Descriptor	Evidence character	Primary concern
0	Absent or materially unsafe	No credible arrangement, or verified critical failure	Protect learners and restore minimum requirements
1	Stated or ad hoc	Plans, policies, isolated appointments and informal practices	Establish ownership, basic controls and feasible resources
2	Established	Approved procedures, allocated resources and some deployment records	Demonstrate repeatable implementation across units

Level	Descriptor	Evidence character	Primary concern
3	Consistently enacted	Corroborated implementation, review records and working escalation	Test outcomes, variations and unresolved risks
4	Evaluated and adaptive	Verified improvements, controlled revisions, continuity exercises and cross-cycle evidence	Sustain improvement and examine unanticipated effects

Note. Original proposed descriptors for institutional self-evaluation. Level 0 includes critical substantive failure and is not automatically a statement about institutional licensing. Levels are ordinal professional judgements, not psychometrically validated interval scores.

Table 3.1 specifies an evidence progression rather than a technology acquisition path. At Level 1, a policy and designated responsible officer may establish an intention to provide a service; at Level 2, records should show that resources and procedures have been deployed; at Level 3, evidence should demonstrate consistent operation in relevant programmes and cohorts; and at Level 4, the institution should show that systematic review has led to verified improvements and that routines can be adjusted under change. An institution should not receive a high maturity judgement merely because it has submitted more documents. The relevant question is whether available evidence supports the strongest claim implied by the assigned level.

A practical assessment needs both domain coverage and a threshold rule. The twelve domain questions set out below are designed to support a discussion between academic leaders, internal QA professionals and responsible service owners. The institution should score each domain only after reviewing representative evidence from the relevant delivery contexts, not simply from headquarters or the strongest faculty. Where evidence is contradictory, incomplete or outdated, the judgement should be qualified. Critical breaches of legality, academic integrity, student safety or essential programme provision should trigger separate escalation and should not be hidden within a weighted total.

Table 3.2. Institutional Capability Self-Assessment Instrument: core domains and evidence tests

Domain	Core assessment question	Representative evidence	Indicative failure signal
Governance and decision rights	Do authorised bodies make, record and follow through on material academic decisions?	Statutes, delegated authority, senate/council decisions, change logs	Decisions lack accountable approval or implementation
Quality culture and learning	Do identified deficiencies produce verified institutional changes?	QA policy, programme reviews, completed action records, follow-up evidence	Reports recur without problem closure
Academic staffing	Is competent teaching and supervision available at sustainable workloads?	Verified credentials, contracts, deployment, workload and succession registers	Named but unavailable specialists; excessive supervision

Domain	Core assessment question	Representative evidence	Indicative failure signal
Curriculum and learning design	Can coherent programmes be designed, validated, versioned and improved?	Programme baselines, maps, assessment plans, review comments	Conflicting specifications or unsupported modality
Physical and digital infrastructure	Can intended learning and assessment activities operate safely and reliably?	Facility tests, lab logs, LMS transaction tests, support reports	Equipment unserviceable; assessment system fails
Research and postgraduate capability	Are inquiry, integrity and supervision appropriate to awards and mission?	Research governance, supervision matrix, examination records, scholarship	Admitted doctoral topics have no viable supervision
Evidence and information systems	Are records reliable, retrievable and traceable to decisions?	Data dictionary, register controls, reconciliations, audit trails	Inconsistent programme or student records
Privacy, cybersecurity and procurement	Are information and vendor risks governed with educational consequences in view?	Processing register, contracts, access controls, incident tests	Uncontrolled confidential data or no recovery route
Financial sustainability	Can commitments be met over their whole educational lifecycle?	Full-cost plans, audited reports, scenarios, renewal budgets	Growth depends on unconfirmed future finance
Partnerships and dependencies	Are external services contractually credible, controlled and replaceable?	Agreements, capacity evidence, exit plans, service records	Essential service relies on revocable informal promise
Risk, continuity and independence	Are threats to academic delivery identified, owned and tested?	Risk register, conflict rules, continuity exercises, responses	Critical function has no accountable contingency
Evaluation and adaptation	Can leadership establish whether interventions changed practice and outcomes?	Indicator definitions, evaluation reports, review cycles	Indicator reporting without causal scrutiny or action

Note. Original author-developed instrument. Indicators are illustrative, must be adapted to mission and programme risk, and do not represent HEC's officially approved criteria. Each domain should be assessed against the applicable national requirements and the precise scope of provision.

The proposed instrument should begin with a scope statement: institution, campus or site, programme portfolio, delivery modes, learner characteristics, period reviewed and applicable regulatory regime. Reviewers then identify the domain's material claims, minimum requirements, evidence sources, observations and uncertainties. Evidence should be assessed for authenticity, relevance, currency, sufficiency and whether it describes intention, deployment, enactment or outcome. Representatives of the relevant units should be able to

correct factual errors, while the review panel preserves the independence of its judgement. Scores without evidence identifiers or explanations should be treated as preliminary prompts, not definitive findings.

A useful maturity assessment also needs an improvement rule. The institution should first identify any non-negotiable deficiency requiring immediate protection or regulatory action. It should then map interdependencies, because correcting an upstream problem may resolve several downstream failures. For example, poor feedback turnaround may appear to be a teaching issue but have roots in enrolment modelling, understaffing, assessment design or LMS configuration. Priority should be informed by educational materiality, number and vulnerability of affected learners, immediacy, reversibility, feasibility and uncertainty. Urgent learner-protection concerns should not be deferred merely because an easier and more visible initiative promises a higher maturity score.

Table 3.3. Evidence-anchored institutional improvement register: proposed fields and decision rules

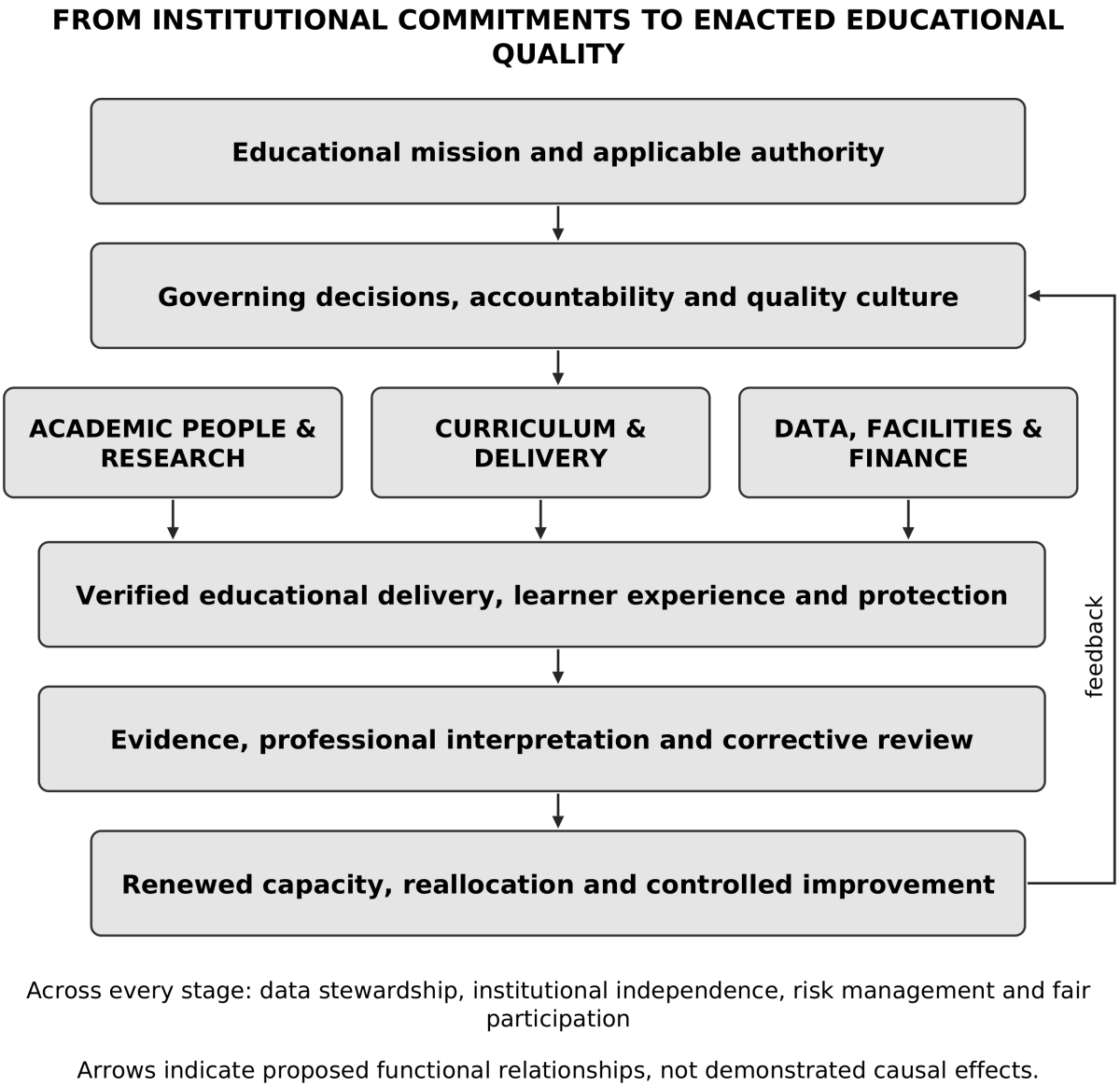
Field	Required entry	Decision discipline
Finding and affected academic function	Specific deficiency, programme/cohort and academic consequence	Avoid generic labels and unsupported institutional generalisation
Normative or policy basis	Applicable requirement, internal commitment or professional benchmark	State category and verify version before alleging non-compliance
Evidence and confidence	Record identifiers, dates, sources and counter-evidence	Distinguish missing evidence from verified failure
Root-cause hypothesis	Plausible organisational mechanism and alternative explanations	Do not equate correlation with causation
Risk and priority	Severity, exposure, likelihood, reversibility and time sensitivity	Override average scores for critical safeguards
Accountable owner and resources	Named office, competent decision-maker, budget and dependencies	Avoid unfunded or ownerless recommendations
Corrective action and completion criterion	Specific intervention and verifiable performance criterion	Closure cannot rest solely on issuing a new policy
Verification and review	Independent check, evidence date, residual uncertainty and next review	Reopen when the intervention fails or context changes

Note. Original proposed management instrument. Formal enforcement, accreditation conditions and legally consequential decisions remain with the competent authorities under applicable rules.

The assessment should not culminate in a single 'institutional quality percentage'. Where a summary is useful for leadership, it should report a domain profile, critical thresholds, confidence levels and material dependencies rather than burying them in a composite index. A profile can show that a university is strong in governance and financial control yet vulnerable in postgraduate supervision and cybersecurity. Such an interpretation is more

actionable than an overall grade that implies false comparability between domains. Repeated assessment should preserve scoring criteria and versions, while openly recording why definitions change when law or technology changes.

Figure 3.1. Institutional capability as an interdependent quality-governance architecture



Note. Author-developed conceptual synthesis. The five main stages are connected through feedback; data stewardship, quality culture, institutional independence and risk governance are cross-cutting conditions. Arrows indicate interpretive functional relationships, not empirically established causal effects. The figure is intended to explain institutional capability within the proposed IETQG architecture.

The architecture is intentionally not a linear checklist. Educational mission and law establish the purposes and thresholds against which performance is judged. Governance coordinates

choices and authorises commitments. Personnel, curricular systems, infrastructure and financial resources make implementation feasible. Enacted delivery generates evidence, including evidence of outcomes, limitations and failures.

Review then informs changes to capabilities and programme decisions. Data protection, risk governance and quality culture operate throughout the cycle. In the book's larger Integrated Evidence-Traceable Quality Governance (IETQG) framework, institutional capability is therefore the enabling organisational level, while programme quality assurance and evidence-traceable accreditation judgement test different, related claims (Sangwa, 2026a). Neither the diagram nor the maturity instrument has been subjected here to prospective institutional validation.

The crosswalk in Table 3.4 identifies where several proposed capability domains correspond to subject areas named in HEC's 2021 IQA guidelines. It is deliberately functional rather than legalistic: an alignment of topics is not evidence that a university has satisfied an operative criterion, and a dimension absent from the selected crosswalk is not outside regulatory oversight. The reviewer must still consult the authoritative provision, confirm its applicability, examine implementation evidence and record any qualification in the resulting judgement.

Table 3.4. Indicative alignment of the proposed capability domains with Rwanda's 2021 IQA standards

Capability concern	Illustrative HEC IQA reference	Institutional evidence that merits examination
Leadership and decision rights	Standard 3: Governance and management	Delegations, academic decisions, accountability and student participation
Culture and quality improvement	Standards 5 and 18: QA policy; periodic review	Review findings, corrective-action closure and subsequent evaluation
Staff and staff development	Standard 6: Human resource	Verified deployment, workloads, continuing development and succession
Curriculum and design control	Standards 4 and 9: Academic programmes; design and review	Authorised curricula, validation records, revision and implementation
Infrastructure and student access	Standards 8 and 12: Infrastructure; learning resources and support	Facility/learning-platform tests, accessibility and service availability
Student support and protection	Standard 10: Recruitment, admission, certification and support	Case-response pathways, accessible services and protected complaint records
Research and postgraduate capacity	Standard 13: Research and innovation	Research support, supervisor assignments, ethics and examination systems
Knowledge exchange and service	Standard 14: Community engagement	Documented service activities, community partnerships and review

Capability concern	Illustrative HEC IQA reference	Institutional evidence that merits examination
Information and educational evidence	Standards 15 and 16: Information; public communication	Defined records, reconciliations, reliable disclosures and audit trail
Financial sustainability	Standard 7: Financial resource management	Full-cost forecasts, budgets and cohort-completion contingencies
Partnerships and mobility	Standard 17: Collaboration and mobility	Written agreements, delivery capacity, exit and accountability
Risk, continuity and technology	Cross-cutting interpretation; consult current modality and data law	Risk ownership, recovery tests, lawful data processing and supplier exit

Note. Original author-developed functional crosswalk informed by Higher Education Council (2021a), not a reproduction of the HEC self-assessment form. HEC's eighteen standards remain distinct; this table identifies selected connections, not legal equivalence or exhaustive compliance. Current requirements, including later instruments, must be checked for each programme and institution.

Worked institutional illustration: rapid digital expansion

Consider a hypothetical private university that plans to double admissions to a blended business programme within two years. Management identifies unused LMS capacity and a favourable forecast for tuition income. On an asset inventory, the proposal appears inexpensive: existing classrooms, a valid platform subscription and a roster of highly qualified adjunct lecturers. Yet a capability review reveals that enrolment growth would double marking and advising loads; library licences restrict simultaneous use; no service-level agreement guarantees weekend technical support; assessment moderation relies on one academic administrator; and there is no tested export of student records if the platform becomes unavailable. The apparent readiness of one technical component conceals a system-wide constraint.

A responsible institutional decision would first establish the approved programme and delivery configuration, test actual cohort demand, model staff and support workloads, negotiate adequate library access and verify the platform's critical workflows. Finance would cost the recurrent commitments and test downside scenarios. Academic leadership would establish minimum staffing and feedback thresholds. ICT would conduct continuity tests, while quality assurance would define a limited pilot and measurable review conditions. Only once the key dependencies were credibly addressed would the university authorise expansion within its lawful remit. The lesson is not that growth is inherently dangerous; it is that capacity claims must survive examination of the full educational service rather than merely its most visible asset.

Worked institutional illustration: postgraduate research expansion

Consider a hypothetical university proposing two new research doctorates in fields where most senior lecturers are already supervising several students and carrying significant undergraduate teaching. Its submission contains a research strategy, a list of professors and a library-access statement. A closer capability review finds that proposed supervisors have not confirmed topic-specific availability, doctoral examination arrangements remain informal, candidates would depend on one external specialist, and no recurrent funding covers essential research access. These findings do not establish that the proposed academic fields are unsuitable. They expose a gap between the attractiveness of the awards and the arrangements required to sustain research quality over several years.

An appropriate response would require the academic authority to map proposed topics to available expertise, verify supervision and examination arrangements, forecast candidates' cumulative workloads and reconcile research-resource commitments with the institution's longer-term budget. Where external supervisors are involved, agreements should define responsibility, availability, confidentiality, conflicts and replacement arrangements. The quality unit should distinguish an unmet current requirement from an unresolved evidence question, then establish verifiable gates before admission or expansion. This illustration shows why institution-level research capability cannot be inferred from publication records and why programme-specific doctoral approval remains a separate regulatory matter (Higher Education Council, 2026b).

Implementation sequence and governance responsibilities

An institution applying the proposed instrument can begin with an evidence-provenance review rather than commissioning a new strategic-plan document. The council or equivalent governing authority establishes oversight and the purpose of assessment; senate or the authorised academic organ identifies non-negotiable academic requirements; the executive appoints cross-functional domain owners; the internal QA unit coordinates evidence collection and independent challenge; and finance and risk functions check resource and dependency assumptions. Students and academic staff should have opportunities to provide relevant experience evidence through fair and privacy-conscious processes. Where external expertise is required, terms of reference should specify independence, confidentiality and limits of authority.

The first cycle should prioritise critical gaps, not pursue the highest possible numerical maturity rating in every domain. Its outputs should include a domain profile, a carefully bounded claim-evidence register, verified immediate safeguards, an authorised improvement plan and a calendar for follow-up testing. Subsequent cycles should examine whether interventions improved practice and whether risks shifted elsewhere. Institutional differences justify flexible implementation pathways, but not acceptance of unsafe or unauthorised

provision. This is the essential distinction between proportionate professional judgement and arbitrary relaxation of academic standards.

For a first application, the institution should document a bounded scope and assemble a small multidisciplinary assessment group with direct knowledge of academic operations and a member able to challenge institutional self-description. Each of the twelve domains should have a responsible evidence owner, a narrative claim, the applicable normative source, record identifiers and dates, verification observations, an ordinal maturity judgement and a confidence qualifier. The assessor should visit or otherwise inspect a sample of actual academic workflows rather than merely request a document pack. Where operating arrangements vary substantially by campus, degree level or modality, separate profiles should be retained rather than forcing an institution-wide consensus rating.

A defensible prioritisation protocol then examines critical thresholds first, followed by educational exposure, learner vulnerability, duration of harm, dependencies and reversibility. Consider an institution with a robust strategic plan but unreliable student-result backups: a low-cost communication campaign to improve its maturity profile should not displace restoration testing needed to protect existing awards. Similarly, an incomplete report should not automatically be labelled a substantive regulatory violation where the actual status is uncertain. The institutional improvement register should preserve the distinction among established failure, inadequate evidence, residual risk and developmental opportunity. Independent follow-up should test operational improvement and close the action only when the defined verification criterion has been met.

The instrument has four important limitations. First, its maturity descriptors are conceptually derived and have not been psychometrically validated or calibrated against independent reviewer ratings. Second, documentary evidence can be inaccurate or selectively presented; credible application needs targeted verification and triangulation. Third, cross-institutional comparison requires careful consideration of mission, discipline, student composition and regulatory differences. Fourth, the model's proposed functional relationships are hypotheses for subsequent evaluation, not established causal estimates. Useful research would test feasibility, inter-rater consistency, association with educational outcomes, institutional burden and possible unintended incentives in varied Rwandan and African universities.

The theoretical architecture has a further consequence for institutional comparison. Capability is domain-specific and relational: a university can possess well-established financial controls while remaining weak in research-supervision succession, or maintain an effective LMS while lacking reliable assessment moderation. A claim of maturity should therefore name the precise function, cohort, programme portfolio and period to which it applies. An institution-wide descriptor that depends exclusively on the strongest department is not defensible. Neither can a university legitimately infer consistent capability from a recently completed pilot without showing how that performance will be reproduced under ordinary operating conditions. The

proposed instrument is consequently intended to generate a multidimensional profile with explicit uncertainties, not a league table.

The maturity descriptors should be applied conservatively. An assessor should begin at the lowest level supported by corroborated evidence and move upward only when the corresponding conditions are demonstrated in representative settings. A missing record does not always prove that a service never operated, but it limits what the reviewer can establish; a verified safety or legality failure is different from incomplete documentation and must be recorded separately. Conflicting accounts should prompt a bounded verification request and a qualified conclusion, not automatic averaging. For high-consequence decisions, independent moderation and an opportunity for the institution to correct factual errors are preferable to unreviewed scoring by one assessor.

3.13 Conclusion: Institutional capability as the condition of credible educational promises

The argument of this chapter is that institutional quality cannot be purchased as a technology package, certified through a collection of policies or guaranteed by the credentials of a few distinguished lecturers. It must be built and continually renewed through governance arrangements that make legitimate decisions, academic staffing that matches programme obligations, functioning educational services, trustworthy records, financially feasible commitments and routines that transform evidence into improvement. Institutional capability is durable only when these arrangements continue to work through ordinary teaching cycles, leadership transitions, enrolment changes and foreseeable disruptions. Readiness remains indispensable for particular decisions, but it is a bounded judgement rather than proof of enduring institutional strength.

The twelve-domain Institutional Capability Self-Assessment Instrument translates this account into a usable, evidence-anchored professional process. Its purpose is diagnostic rather than promotional: to reveal what is enacted, what remains aspirational, where evidence is weak, which dependencies threaten delivery and how improvement should be verified. Its maturity levels cannot replace the applicable statutory and regulatory requirements, and no aggregated score can excuse material failures of legality, academic integrity, safety or essential learner support. The proposed instrument extends the original doctoral distinction between resources, readiness, capability and verified implementation without claiming independent validation of its effectiveness (Sangwa, 2026a).

The implications are substantial for councils, senates, institutional leaders, HEC evaluators and academic departments. Decisions should be supported by records that connect promises with staffing, budgets, curriculum processes, facilities, digital services and learner experience. Governing bodies should protect the academic consequences of resource choices; internal QA units should test enactment instead of merely collecting documentation; and evaluators should distinguish credible operational capacity from institutional self-description. Once this

organisational foundation is understood, attention can turn to the next level of the quality undertaking: designing the curriculum itself so that qualifications, graduate capabilities, learning activities, assessment and available institutional resources form one coherent educational programme.

PART II

Curriculum Development, Digital Learning and Educational Effectiveness

An educational promise acquires substance through the learning students are enabled to undertake and the achievement a qualification can credibly certify. This part examines the design and delivery of that relationship. Chapter 4 connects programme need, graduate purposes, qualification levels, coherent module progression, learning activities and assessment. Chapter 5 examines intentional online, blended and flexible provision. Chapter 6 considers how artificial intelligence changes curriculum expectations, academic work and the evidence of individual attainment. Chapter 7 completes the analysis through inclusion, learner support and student success.

The four chapters should be read as connected professional inquiries. A choice of delivery mode affects participation, interaction, practical learning and assessment; an assessment redesign affects the evidence needed to justify an award; and a commitment to inclusion requires accessible arrangements without weakening the competence being certified. The accompanying tools support these connections from programme conception through implementation. They also prepare the central question of Part III: how can an institution and its external reviewers know whether the intended education is being delivered, improved and protected through time?

4. Evidence-Based Curriculum Development and Programme Design in Higher Education

5. Designing and Quality-Assuring Online, Blended, and Flexible Higher Education

6. Artificial Intelligence, Assessment Integrity, and the Future of Curriculum and Teaching

7. Inclusive Curriculum, Learner Support, and Student Success in Digitally Mediated Higher Education

CHAPTER 4

Evidence-Based Curriculum Development and Programme Design in Higher Education

From Educational Needs and Graduate Competencies to Coherent, Accreditation-Ready Programmes

Abstract

Curriculum development is the point at which universities translate educational purposes, qualification requirements and organisational capabilities into learning that can be taught, assessed and credibly awarded. Yet programme proposals are often evaluated as inventories of modules rather than as integrated, evidence-supported educational designs. This chapter develops a Rwanda-anchored framework for constructing and scrutinising higher-education curricula across disciplinary, professional and digitally mediated contexts. Drawing on critical documentary synthesis, curriculum theory, constructive alignment, qualifications frameworks and official quality-assurance guidance, it examines programme justification, stakeholder evidence, graduate profiling, learning outcomes, credit and workload integrity, progression, assessment, interdisciplinary provision, practice-based education, internationalisation, recognition of prior learning and programme renewal. Its principal contribution is a curriculum-development architecture that distinguishes the educational worth of the intended programme, design coherence, implementation readiness and evidence of enacted achievement. The chapter presents a practical toolkit comprising a needs-analysis record, graduate-competency profile, sequencing map, constructive-alignment matrix, coherence diagnostic and model programme specification. An extended, explicitly hypothetical Rwandan undergraduate example connects a reconciled module register and semester allocations with curricular mapping, workload assessment, conditional validation and an evidence-based submission test. Regulatory obligations are distinguished from professional benchmarks and the author's proposed tools; no institutional implementation or independent validation is claimed. The resulting approach advances evidence-traceable quality governance while retaining disciplinary judgement, educational inclusion and capacity for curriculum renewal.

Keywords: curriculum development; programme design; constructive alignment; Rwanda Qualifications Framework; graduate competencies; curriculum mapping; accreditation readiness

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4.1 Introduction: Curriculum as educational philosophy, institutional strategy, and regulatory responsibility

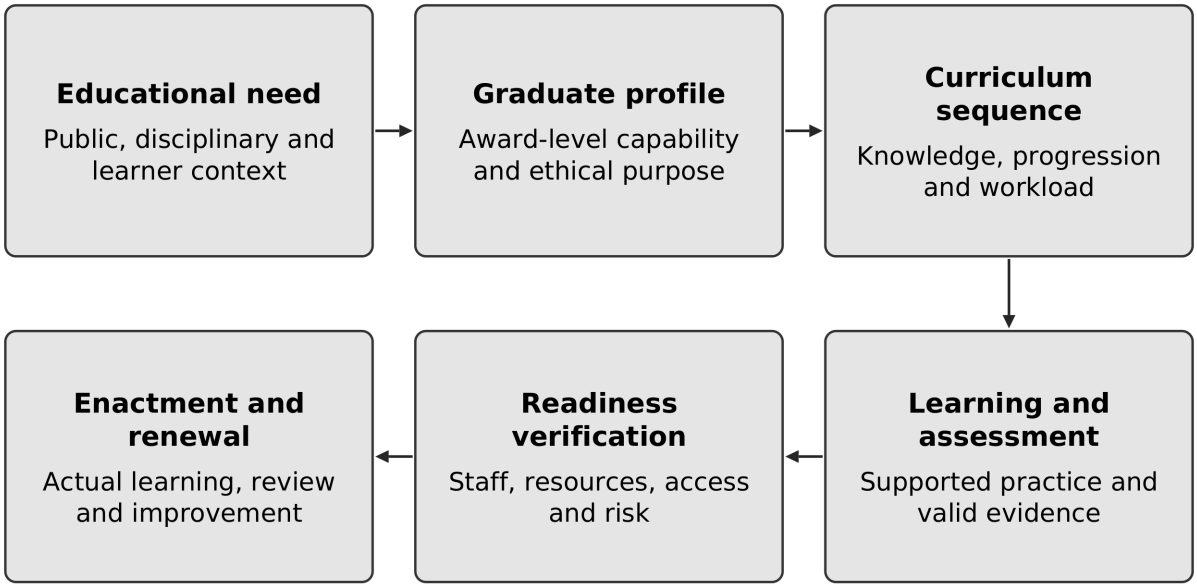
The most consequential curriculum errors are often concealed by documents that appear complete. A proposed degree may include a persuasive rationale, a graduate profile, forty professionally titled modules, a timetable and a list of qualified lecturers while failing to explain how students will develop the promised capabilities, why the modules appear in their particular order, or which assessments will establish achievement at the claimed qualification level. A programme can be internally consistent in its arithmetic but pedagogically incoherent; it can be intellectually excellent on paper but impossible to deliver with its available staffing; and it can obtain approval without maintaining the quality initially promised to students. These are different failures, demanding different forms of evidence and corrective action.

The previous chapters established that educational quality is multidimensional, legal and regulatory authority must be identified accurately, and institutional capability is the sustained capacity to deliver educational commitments. Curriculum development takes those conditions into the programme itself. Its object is not an inventory of teaching topics but an organised, publicly consequential proposition about what a qualification means. A curriculum determines which knowledge matters, whose experience is recognised, what students must learn to do, how intellectual independence develops, and which evidence can justify the award. As Lattuca and Stark (2009) argue, academic planning is embedded in wider institutional and societal contexts rather than produced by disciplinary experts in isolation. Curriculum is simultaneously an intellectual selection, a pedagogical design, a professional and ethical commitment, and a regulated institutional undertaking.

A defensible programme therefore requires four distinguishable judgements. **Educational justification** asks whether the intended qualification answers a worthwhile scholarly, public, professional or economic need. **Design coherence** asks whether graduate aims, qualification level, curriculum content, sequencing, learning activities and assessments form an academically plausible progression. **Implementation readiness** asks whether personnel, resources, partnerships, systems and learner protections have been committed and tested for the anticipated cohort. **Enacted effectiveness** asks, after delivery begins, what students actually experience and demonstrably achieve. The final judgement cannot be settled prospectively; equally, subsequent outcome evidence should not excuse a defective initial design or a breach of lawful requirements (Biggs, 1996; Harden, 2001; Sangwa, 2026a).

Figure 4.1 summarises the interdependent curriculum decisions developed in this chapter. Its directional links indicate an idealised design-and-review process, with subsequent monitoring expected to feed back into reconsideration of need and graduate purposes; they do not assert a validated causal sequence.

Figure 4.1. Evidence-traceable curriculum development from need to educational enhancement



Note. Original conceptual diagram by the author. Relationships are proposed professional reasoning aids rather than established causal mechanisms or official HEC processes.

This chapter uses a critical, purposive synthesis of established curriculum scholarship, the doctoral work underpinning this volume, the completed introductory chapters and selected verifiable official sources. Rwanda is the anchor jurisdiction, particularly the 2021 Rwanda Qualifications Framework (RQF), the Higher Education Council's (HEC) programme instruments and the 2026 governing order. UNESCO, CAST, continental quality-assurance references and selected international practice offer analytical comparisons, not competing national law. Sources are considered for conceptual relevance and recognised authority, not through a claimed exhaustive systematic search. For each legal proposition, the relevant instrument must be read for scope, date, hierarchy and specific application; the public availability of an HEC template does not by itself establish its present legal force.

Scholarly sources provide theoretical explanations and critical comparison, not evidence that a specific Rwandan institution has implemented a practice. No interviews, employer survey, direct institutional audit or primary institutional records were generated for this chapter, and the purposive documentary synthesis is not represented as a PRISMA-compliant systematic review. All numerical programme illustrations are constructed examples rather than empirical observations or statements of HEC approval.

Curriculum coherence must also be distinguished from curricular uniformity. Programmes can differ legitimately in scholarly orientation, professional exposure and delivery

configuration while meeting comparable qualification-level expectations. Such variation is defensible only where the institution explains its educational choices and the evidence demonstrates that important outcome claims remain credible. The central argument is that curriculum quality depends on **traceable educational coherence**: each major qualification claim must connect to a defensible educational need, appropriate disciplinary and professional standards, sequenced learning opportunities, a valid assessment demand, available implementation resources and an identifiable evidence source. Traceability is not a demand that every experience be reduced to an indicator. It is a safeguard against programmes whose strongest claims cannot be examined. It also establishes a curriculum-specific bridge to the proposed Integrated Evidence-Traceable Quality Governance (IETQG) architecture and the later Evidence-Traceable Accreditation Judgement (ETAJ) model, neither of which is represented here as an authorised HEC instrument or independently validated causal theory (Sangwa, 2026a).

4.2 Curriculum theories and approaches: Discipline-based, outcomes-based, competency-based, interdisciplinary, and transformative education

Curriculum design begins with a question that cannot be settled by software, a benchmarking spreadsheet or a regulator's form: what is educationally worth knowing, understanding and being able to do? Tyler's (1949) classical approach links purposes, learning experiences, organisation and evaluation, providing a durable planning discipline. Stenhouse (1975), however, understood curriculum as a proposal open to critical testing and development in educational practice. The difference is substantial. A narrowly prescriptive model assumes that desirable outcomes can be specified in advance and subsequently measured. A process-oriented approach emphasises the professional judgement, inquiry and intellectual possibilities emerging through engagement with subject matter. Contemporary higher education needs both the clarity of explicit purposes and the openness necessary for inquiry, contested knowledge and unexpected learning.

Discipline-based curricula organise study around the conceptual structures, methods and standards through which knowledge is produced. Their major strength is intellectual depth: mathematics cannot be treated as an arbitrary sequence of workplace tasks, nor can history be understood without evidence criticism, historical context and interpretive argument. Disciplinary progression protects students from receiving a superficial collection of fashionable applications without the explanatory concepts needed to understand them. Yet disciplinary structures can become inward-looking when they protect inherited course boundaries despite new knowledge, public needs or opportunities for synthesis. Curriculum review must test whether disciplinary foundations are sufficient and how they contribute to the programme's larger intellectual purposes (Lattuca & Stark, 2009; Wheelahan, 2015).

Outcomes-based education begins with explicit graduate achievements and uses them to inform content, pedagogy and assessment. Harden et al. (1999) emphasised the clarity this can

bring to professional programmes. Properly employed, outcomes enable students and reviewers to ask what learning is expected and where it will be demonstrated. Its danger is not the presence of outcomes but their misuse: sprawling lists of low-level verbs, mechanical mapping that conceals curricular gaps, and the assumption that all valuable formation can be captured as discrete performances. A programme promising intellectual independence may undermine it if every teaching decision is tied to a narrow predetermined checklist. Outcomes should communicate defensible standards without exhausting the legitimate possibilities of scholarly education.

Competency-based education strengthens attention to integrated performance in contexts where knowledge, technical skill, professional judgement and ethical responsibility must operate together. In clinical practice, teaching, software engineering and public administration, being able to repeat an explanation is not equivalent to acting responsibly when consequences matter. Competence therefore demands assessment tasks that sufficiently resemble the intended domain while preserving validity, fairness and supervision. However, competency language can be impoverished when detached from underlying disciplinary knowledge. Wheelahan (2015) cautions that an exclusively skills-oriented curriculum may deny learners access to the conceptual resources that support future mobility, critical understanding and autonomy. The solution is a competency profile in which performance rests upon knowledge, inquiry and justified judgement rather than on tasks alone.

Interdisciplinary curricula respond to problems that resist treatment within one field, such as public health, climate adaptation, sustainable agriculture, data governance and digital commerce. Interdisciplinarity should be distinguished from placing unrelated modules under an attractive programme title. Real integration requires a clear organising problem, sufficient disciplinary foundations, methods for negotiating differing forms of evidence and assessment capable of examining synthesis. Students first need to understand what each discipline contributes and where its explanatory limits lie. Otherwise the programme risks breadth without depth, leaving graduates with scattered vocabulary rather than competence in interdisciplinary reasoning (Lattuca & Stark, 2009).

Transformative and critical approaches ask whose knowledge is privileged, whose participation is made possible, and how education develops agency rather than simply reproducing existing occupational arrangements. They direct curriculum designers to examine colonial inheritances, gendered exclusions, social inequalities, language, professional authority and the ethics of development. These perspectives are important for African universities, yet contextual relevance must not become permission to abandon rigorous disciplinary standards or to treat all claims as equally reliable. A decolonially alert science programme should take African research questions, institutional histories and contributions seriously while retaining the standards of evidence appropriate to scientific investigation. Educational transformation must remain distinguishable from the adoption of any particular political vocabulary.

The approaches become complementary when a programme uses disciplinary knowledge to establish intellectual seriousness, outcome and competency statements to clarify expected attainment, interdisciplinary learning to address complex questions, and critical reflection to examine values and social consequences. Their conflicts are productive when examined explicitly. If employer-defined competencies would crowd out essential theory, the team must defend a curricular balance. If a traditional discipline omits relevant emerging practice, it must explain its educational choices. If a cross-cutting ethical theme appears in a programme mission but nowhere in assessment, the programme must remedy the inconsistency. Curriculum theory becomes professionally useful precisely where it exposes such choices rather than offering a universal sequence of forms to complete.

Table 4.1. Curriculum traditions and their evaluative implications

Approach	Principal design contribution	Typical failure mode	Appropriate review question
Discipline-based	Conceptual depth, methods and epistemic standards	Fragmented subjects or rigid inheritance	Which indispensable concepts and methods progress across the award?
Outcomes-based	Explicit intended achievement and accountability	Verb inflation and superficial mapping	Which authentic tasks demonstrate each outcome at award level?
Competency-based	Integrated judgement and performance	Atomised tasks without explanatory knowledge	Is professional performance grounded in transferable understanding?
Interdisciplinary	Integration across relevant knowledge domains	Attractive labels without methodological synthesis	Where is cross-disciplinary reasoning taught and assessed?
Transformative/ critical	Agency, equity, contextual questioning and ethical reflection	Vague aspiration or ideological closure	Can students examine assumptions and defend claims with evidence?

Note. Author's critical synthesis of Tyler (1949), Stenhouse (1975), Harden et al. (1999), Lattuca and Stark (2009) and Wheelahan (2015). The approaches are overlapping, not mutually exclusive.

4.3 Identifying programme need: Educational, social, professional, research, economic, and labour-market analysis

The case for a programme must establish more than a marketable title. Needs analysis identifies a credible educational problem, tests whether a full qualification is an appropriate response and examines whether a proposed institution should supply it. It requires a distinction among **social need**, **disciplinary and research need**, **professional or statutory need**, **labour-market demand**, **student demand** and **institutional strategic opportunity**.

These categories often overlap but cannot be substituted without explanation. A shortage of qualified practitioners may support a professional award; a recognised research gap might justify an advanced interdisciplinary degree even where current vacancies are limited; strong applicant interest might demonstrate market potential but little about the academic worth of a qualification.

A useful inquiry proceeds from the context and target population to capability gaps and plausible educational responses. For a proposed undergraduate programme in digital enterprise, a national strategy may indicate the importance of enterprise transformation, but it cannot establish that graduates need a particular module named "Blockchain Entrepreneurship" or that four identical analytics modules are necessary. Labour-market signals should be disaggregated by occupation, sector, region, technology and expected skill level. Advertised vacancies are especially incomplete in economies containing substantial informal work or self-employment, while employer surveys may overrepresent larger formal organisations. Reliable review combines official economic and education policies, occupational or professional reports, scholarly developments, comparable programmes, graduate evidence where lawfully available and reasoned consultation. Evidence should be dated and assessed for representativeness rather than collected merely to support a prior decision (P. A. Thomas et al., 2016).

The evaluative difficulty is one of **inference**. A strategic policy endorsing digital skills may justify consideration of digital capacity, but its evidentiary warrant for a particular 480-credit award is weak unless the institution specifies the work, knowledge and graduate capabilities that require higher education of that duration. Similarly, a business association's support letter demonstrates interest, not necessarily workplace capacity to employ or supervise graduates. Where reliable labour statistics do not exist, an institution should identify uncertainty rather than invent numerical forecasts. Reasonable qualitative evidence may establish educational relevance without pretending to predict the job market precisely.

A well-designed needs analysis should be capable of disconfirming the proposed award. The programme team should specify, before final design, what counter-evidence would require reframing or abandoning its preferred option: for example, a substantial existing supply of broadly equivalent programmes, no convincing graduate distinction, an unstable occupational forecast, or mandatory practical capacity that the institution cannot obtain. Triangulation is meaningful only when conflicting evidence is recorded and interpreted, rather than when documents endorsing the proposal are merely accumulated. The final justification should identify its strongest evidence, unresolved questions, plausible alternative explanations and the academic decision taken in response.

A comprehensive assessment also tests **alternatives to a new award**. Could a current degree be renewed, a minor introduced, continuing professional education provided, a jointly delivered qualification developed, or recognition of prior learning improved? Programme proliferation consumes scarce lecturers, laboratories, student-support capacity and budget.

Before approving a new programme title, institutions should examine overlap with their portfolio, the public implications of fragmentation and whether the same graduate need could be met more efficiently without lowering standards. If a new programme remains justified, its distinctiveness should be reflected in the graduate profile and curriculum, not merely promotional language.

Needs-analysis evidence requires structured scepticism. Every source has a date, origin, scope, interests and limits. National data may be credible but lag technological change. Employer testimony may be current but local or partial. Alumni accounts illuminate actual transitions but are affected by selection and recall. Benchmark curricula show what others choose to teach, not whether those choices have worked. In this sense needs analysis is not a one-off fact-finding exercise; it is an argument linking different kinds of evidence to a proportionate programme response. That argument should be open to challenge by academic peers, employers, learners, regulators and communities, without surrendering academic responsibility to any constituency.

Table 4.2. Programme-needs evidence register

Evidence stream	Question addressed	Minimum record in an institutional needs analysis	Interpretive precaution
National and regional policy	Is there a public-development rationale?	Instrument, date, priority, relevant passage, applicability	A policy objective does not prescribe a module list.
Professional and occupational sources	What standards or practices shape competence?	Issuing body, current requirements, practice conditions	Differentiate mandatory professional rules from advice.
Scholarly and technical literature	What knowledge is established or emerging?	Recent review, unresolved debates, disciplinary expectations	Novelty does not automatically justify a whole degree.
Labour and graduate evidence	What transitions and opportunities are plausible?	Definitions, timeframe, sample, bias, source	Vacancies and employment rates do not establish learning.
Students and communities	Who may benefit or encounter barriers?	Documented feedback, access conditions, response	Demand must be interpreted with equity and affordability.
Institutional portfolio and resources	Can the university deliver sustainably?	Existing awards, overlap analysis, staffing and cost scenario	Institutional interest is not an independent public need.

Note. Original professional instrument proposed by the author, drawing on the needs-assessment logic of P. A. Thomas et al. (2016).

4.4 Stakeholder consultation, benchmarking, and graduate competency profiling

Stakeholders contribute differently to curriculum judgement. Academics are responsible for the integrity of disciplinary knowledge; students and alumni can disclose learning burdens and transition problems; employers clarify professional performance and emerging practices; regulated professions specify mandatory competence; communities identify neglected needs; and authorities establish applicable qualifications and approval requirements. The challenge is to convert these diverse perspectives into informed programme decisions without treating a consultation vote as a substitute for academic reasoning. Consultation should ask respondents to identify tasks, knowledge demands, changing risks and capability failures, not simply whether they endorse a proposed programme.

Meaningful consultation requires transparency concerning whom the institution consulted, why, under what conditions and with what limitations. Formal committees may underrepresent rural enterprises, microbusinesses, public-interest careers, students with disabilities and informal-sector experience. An institution should avoid claiming that an entire profession or country "requires" a competence on the basis of a small purposive discussion. For a proposed programme, an advisory group may be useful, but its recommendations should be documented alongside the curriculum team's acceptance, adaptation or rejection and reasons. Academic staff need the freedom to disagree with an employer's desire for narrow software training when deeper transferable learning is warranted.

Benchmarking similarly requires careful choice of comparators. Comparing module titles with a high-ranking international institution may generate a surface resemblance while concealing different student preparation, award level, professional requirements and institutional resources. Strong benchmarking uses a transparent comparator rationale, verified programme documents and a multidimensional framework: qualification architecture, essential disciplinary domains, level of intellectual demand, sequence, practice, assessment, research, accessibility and evidence of implementation where available. A benchmark is a source of questions, not an automatic template. International comparison should strengthen local academic decision-making rather than displace it (Lattuca & Stark, 2009).

The **graduate competency profile** is the point where needs, scholarly standards, professional expectations and mission become a coherent educational identity. Rather than listing dozens of fashionable skills, it describes the integrated capabilities that a credible graduate should demonstrate independently. Each capability should include its disciplinary knowledge base, expected judgement, contexts of application, ethical responsibilities and plausible assessment evidence. A digital-enterprise graduate, for example, should not merely "understand analytics" but be able to formulate a decision question, interrogate data quality, choose suitable methods, explain uncertainty, assess fairness and recommend action under realistic constraints. Such a statement connects intellectual knowledge with an accountable decision rather than equating competence with a software certificate.

Profiles must also distinguish **entry capability**, **developing capability** and **exit capability**. Students should not be assumed to perform at graduate standard during introductory modules. The curriculum must create deliberate opportunities to practise with feedback before final demonstration. A single capstone cannot repair years of missing foundation; neither can repeated exposure to a topic establish increasing independence. A rigorous graduate profile therefore anticipates the programme's developmental structure and identifies outcomes requiring direct, moderated evidence at the point of award.

4.5 Formulating programme aims, graduate attributes, and measurable programme learning outcomes

Programme aims express the educational purposes and distinctive contribution of an award. Graduate attributes communicate a broader institutional conception of an educated person, such as scholarly integrity, communication, civic responsibility or capacity for continued learning. **Programme learning outcomes (PLOs)** state the demonstrable achievements expected of students who qualify for the award. These three levels should cohere but should not be copied into one another. Aims can properly express aspirations too broad for direct assessment; PLOs must be sufficiently clear to justify judgements about attainment; attributes may be developed across several programmes while receiving different disciplinary expression (Biggs & Tang, 2011).

A well-specified PLO combines an intelligible performance, relevant knowledge or context and the standard of independent judgement appropriate to the award. Observable verbs assist clarity but cannot by themselves guarantee intellectual rigour. "Critically evaluate" can describe a demanding research task or a superficial five-minute response; difficulty depends on evidence complexity, methodological expectations, conditions and standards. The formulation "critically evaluate contemporary management issues" offers little guidance about disciplinary scope or the basis of judgement. A stronger undergraduate outcome would require graduates to "evaluate alternative enterprise strategies using relevant market and financial evidence, explicitly appraising uncertainty, ethical implications and implementation constraints." Its assessment implications are more readily testable, although detailed criteria must still be specified in the programme's assessment blueprint.

A programme should have a manageable number of integrated PLOs, collectively covering disciplinary knowledge, inquiry, application, communication, professional or civic responsibility and appropriate independent learning. No universal number is legally prescribed by that proposition. The number should be chosen because each outcome can be taught, progressively developed and assessed, and because the set captures the award's intellectual identity without making mapping unusable. Designers should avoid outcomes such as "appreciate the importance of entrepreneurship" when they need assessable evidence, and should avoid promising "mastery of all AI technologies" where the field changes rapidly and no defensible level is specified.

Outcome quality can be evaluated through five tests. **Worth** asks whether the capability is academically and socially defensible. **Level** asks whether the demand corresponds to the qualification's descriptors. **Clarity** asks whether responsible assessors can recognise acceptable evidence. **Coverage** asks whether the set represents the graduate profile without major gaps. **Feasibility** asks whether a realistic programme can teach and assess the set with available resources. These tests must be applied together. A perfectly measurable but trivial outcome is not high-quality curriculum design; an inspiring outcome with no credible opportunity for development is equally problematic.

The critical relation is not simply between two texts, programme outcomes and module outcomes, but between claims and students' work. A programme claiming advanced inquiry must allocate sufficient opportunities for framing questions, using evidence, engaging competing explanations and receiving feedback before a final research assessment. A programme claiming ethical professionalism must test decisions under plausible conflicts of interest rather than merely require attendance at an ethics lecture. As Harden (2001) showed for curriculum mapping, the value of explicit outcomes lies in making relationships visible. The mapping should expose missing development, redundant repetition and assessment blind spots, not merely demonstrate that every cell has been marked.

Table 4.3. Illustrative graduate outcome architecture

Graduate domain	Illustrative PLO for an undergraduate applied programme	Evidence of attainment	Core academic safeguard
Disciplinary reasoning	Explain and apply foundational economic, organisational and quantitative concepts to unfamiliar enterprise problems.	Moderated analytical examination and integrated case analysis	Theory must exceed tool-specific training.
Inquiry and evidence	Design a proportionate inquiry, assess data quality and communicate warranted findings and uncertainty.	Research-methods portfolio and supervised capstone	Evidence must support inferences; integrity must be verifiable.
Professional practice	Develop and defend a viable enterprise or service intervention under constraints.	Practicum evidence, prototype and oral defence	Feasibility and judgement matter more than presentation quality.
Ethics and digital responsibility	Appraise privacy, fairness, security and ethical risks of business technology choices.	Scenario-based decision memo with reasoned justification	Human accountability cannot be delegated to AI.
Communication and lifelong learning	Communicate with diverse audiences, respond to critique and plan independent development.	Revised professional report, presentation and reflective portfolio	Assess substantive reasoning, not fluency alone.

Note. Original example created for this chapter; not an official or accredited programme specification.

4.6 Aligning qualifications with national frameworks, award levels, credits, and notional learning hours

Qualification alignment asks whether the award's title, level, scope, duration, credit volume, expected intellectual complexity and conditions of attainment form one defensible academic claim. It is not achieved by appending the name of a national qualifications framework to a document. The curriculum must demonstrate that students move towards the types of knowledge, application, cognitive skill, communication and autonomy associated with its claimed level. Examinations, research tasks and practical assessments must be sufficiently demanding to distinguish the award from neighbouring qualifications. A framework is consequently both an interpretive resource and a guard against credential inflation.

In Rwanda, Ministerial Order No. 003/MINEDUC/2021 of 20 October 2021 establishes the RQF. Its general higher-education sub-framework identifies diploma qualifications at Level 6, advanced diplomas at Level 7, bachelor's qualifications at Level 8, and postgraduate qualifications at Levels 9 and 10. Its general table indicates 480 cumulative credits for a bachelor's degree, 180 for the listed master's qualification and 360 for the doctorate, subject to the distinctions and qualifications in the instrument. Section 5.2 defines one credit as ten notional learning hours and uses 120 credits, corresponding to 1,200 hours, as the annual reference (Republic of Rwanda, 2021c). The 2021 instrument should not be silently combined with the older, differently numbered higher-education award tables still retrievable through legacy HEC webpages. In a live proposal, the reviewer should identify the operative RQF, more specific current sector instruments, relevant approval conditions and any legally authorised exceptions.

Notional learning time includes guided teaching, independent study, reading, individual or collaborative practice, practical activities, assessment preparation and assessment itself. It is not equivalent to timetabled lectures. In a 15-credit module, 150 notional hours might plausibly include 36 hours of facilitated interaction, 54 hours of readings and guided exercises, 36 hours of independent investigation and 24 hours of assessment work. This allocation is hypothetical and must be reconciled with the particular cohort, subject and calendar. The test is not whether a table adds to 150 but whether the intended learning can reasonably occur in those hours. If students simultaneously undertake four such modules, their total learning expectation is 600 hours for the teaching period, which must be tested against its actual duration, student circumstances and assessment calendar.

Credit counting alone also fails to reveal qualification level. A 30-credit capstone requiring compilation of descriptive web sources may be intellectually weaker than a 15-credit module involving demanding independent inquiry, theoretical criticism and a properly defended analytical result. Programme teams should therefore distinguish **volume**, **complexity**, **autonomy** and **attainment**. Volume is the workload associated with the educational opportunity; complexity concerns the structure and difficulty of the knowledge and problems; autonomy concerns the independence of judgement expected; and attainment requires

students actually to meet the relevant standards. Credits represent notional workload towards outcomes, not a licence to award academic achievement for mere attendance (Biggs & Tang, 2011; Republic of Rwanda, 2021c).

Duration and workload must be tested together. A hypothetical 480-credit programme over four years produces an arithmetic distribution of 120 credits and 1,200 hours per year. Compressing exactly the same workload into three years produces 160 credits and 1,600 notional hours annually. The figures do not themselves decide whether an accelerated pathway is lawful, but they establish a substantial issue requiring specific authoritative approval and a convincing feasibility analysis. An evaluator should check the academic calendar, simultaneous module burden, vacation or block-teaching assumptions, assessment time and placement capacity. Part-time or flexible study requires its own intelligible accumulation and maximum-period rules, rather than the fiction that the same weekly workload can be absorbed without consequence by every learner.

Admission criteria, progression and award rules complete the qualification architecture. Prerequisites should protect necessary foundation, not reproduce avoidable barriers. Assessment thresholds, reassessment arrangements, transfer decisions, compensation rules where allowed and exit routes should be consistent with the approved academic regulations. A proposal must explain whether a learner can advance while missing a competence essential to a later laboratory, clinical or analytical module. Where professional registration or practice rights are involved, the academic award and the external professional authorisation must be verified separately. Qualified internal approval cannot substitute for the legally required external act (Higher Education Council, n.d.-a; Republic of Rwanda, 2026).

A robust credit register is a master-controlled document, not three independently maintained spreadsheets. It records module code and title, credit value, academic year and term, qualification-level contribution, prerequisites, mode, contact and independent workload, assessment, owner and effective version. Automated arithmetic can detect duplicate codes or inconsistent totals, but human review must establish whether progression is educationally defensible. In the worked example below, an entire four-year plan is therefore reconciled numerically and evaluated intellectually rather than treated as a list of compliant numbers.

4.7 Designing module structures: Content coverage, progression, prerequisites, sequencing, and workload balance

Curriculum structure determines the relationship among knowledge domains over time. The simplest architecture is a sequence from foundations through development and integration to independently defended performance. Yet sequence is not always linear: students may revisit core concepts in increasingly complex applications, integrate methods alongside theory or study professional problems before having mastered every underlying discipline. Such progression can be represented as a spiral, provided that later encounters increase complexity, independence or transfer. Repetition without advancement is not spiral learning; novelty

without prerequisites is not progression. A well-designed programme explains how its sequence balances accumulation, integration and application (Harden, 2001).

The central design unit is a **module with a defined educational function**. Every module should contribute to one or more PLOs, carry a coherent level and workload, have appropriately challenging outcomes and assessments, and occupy a defensible place in the programme. Its existence should be justified by knowledge necessity, developmental contribution or integrative purpose. Modules duplicated under attractive but overlapping titles consume scarce credits. Conversely, essential foundations may be absent when curriculum teams privilege immediately marketable topics. An expert reviewer should therefore examine the complete module content, not merely title resemblance, and determine whether essential disciplinary domains are covered at appropriate depth.

Prerequisites and co-requisites function as educational safeguards. A course in statistical inference normally presupposes appropriate quantitative understanding; advanced programming requires foundations in algorithmic reasoning and computational practice; a clinical practicum requires specified safety and disciplinary competence. Formal prerequisites should correspond to actual dependencies rather than arbitrary administrative sequencing. A curriculum map ought to show where students acquire the competence and how that acquisition is checked. Where a programme permits multiple entry points, bridging provision or prior-learning assessment must establish equivalent readiness. Flexibility that conceals missing foundations transfers academic risk onto learners.

Workload should be evaluated both **horizontally** and **vertically**. Horizontal analysis examines what a student encounters in the same term: simultaneous deadlines, laboratory sessions, placement days, group demands and assessment concentration. Vertical analysis examines how learning deepens across successive terms and years. A programme may distribute credits evenly while setting four high-stakes submissions during the same week; another may defer every demanding research task to the last term. Constructive sequencing needs an assessment calendar and student-workload estimate, not merely an annual credit total. Consultation with learners can test assumptions, but consultation is not a substitute for academically calibrated notional-time analysis.

The curriculum also contains **boundaries and interfaces**. An internship may rely on the preceding ethics module and supply evidence for a later capstone; a statistics module may underpin marketing research, financial forecasting and a research project; a communications module may cultivate skills assessed repeatedly across disciplinary contexts. These interfaces require named academic owners and agreed assessment standards. Otherwise, each module can appear individually adequate while the programme suffers gaps, unjustified duplication and inconsistent terminology. An academic curriculum committee should be able to trace these relationships in a controlled sequencing and coverage register and require a reasoned explanation for every unaddressed critical dependency.

Table 4.4. Module-sequencing diagnostic

Progression stage	Primary learner demand	Typical design features	Diagnostic warning
Foundation	Explain concepts, use elementary methods and recognise evidence limits	Disciplinary introductions, quantitative/literacy support, structured feedback	Advanced modules assume unverified entry knowledge.
Development	Apply and compare methods to bounded unfamiliar problems	Data exercises, case analysis, guided projects, integrative seminars	Exposure is repeatedly counted as competence.
Integration	Combine disciplinary reasoning in realistic contexts	Practice, simulations, collaborative inquiry, ethically complex tasks	Integration is promised but not assessed.
Independent demonstration	Justify decisions, conduct inquiry and defend original applied work	Capstone, supervised research, professional portfolio or practicum	Final assessment is too weak for qualification level.

Note. Author's operational synthesis informed by Harden (2001) and Biggs and Tang (2011). Stages may overlap rather than correspond mechanically to years.

4.8 Constructive alignment between programme outcomes, module learning outcomes, learning activities, and assessment

Constructive alignment is often described as consistency among outcomes, teaching and assessment. That account is necessary but incomplete. Biggs (1996) placed learner activity at the centre: the purpose of curriculum design is to elicit the forms of understanding and performance being claimed, not simply to reproduce similar wording across documents. A programme may map "critical thinking" to every module while assessing only factual recall. Conversely, an innovative project may require high-level reasoning that was never taught or supported. Genuine alignment requires an intelligible progression from graduate expectations to learning opportunities and independent evidence of achievement.

The alignment chain begins with the graduate profile and qualification descriptors. PLOs translate the profile into award-level outcomes. Module learning outcomes (MLOs) then specify what a particular component contributes to those PLOs. Learning activities create opportunities for students to acquire and practise the capability; formative feedback allows revision; assessment tasks require demonstrable performance; marking criteria determine what counts as acceptable evidence. At programme level, moderation and review establish whether the collection of module assessments covers the graduate profile at the requisite level. One cannot infer programme coherence from the separate adequacy of each module.

A useful curriculum map distinguishes **introduced (I)**, **developed (D)** and **assessed at exit standard (A)**, while keeping other types of formative and summative evidence available. I indicates that the capability receives explicit foundational attention; D indicates substantive practice, feedback and increasing complexity; A indicates an assessment providing direct evidence against the award-level expectation. These labels are proposed mapping codes, not

HEC-prescribed classifications. A PLO marked A only in a final capstone may be at risk if earlier developmental opportunities are absent. A PLO marked A in every term is equally questionable if the claim concerns final independent achievement rather than routine low-level exercises. The matrix is a diagnostic representation whose entries must be substantiated by module plans and assessment artefacts.

Alignment is strengthened by evaluating **assessment validity**, not just coverage. Does the task require the capability claimed? Can a student succeed without demonstrating it? Would reliance on a generative-AI system make the observed response ambiguous about individual achievement? Does the rubric privilege surface presentation over disciplinary reasoning? Are conditions and accommodations fair? Can different markers reach sufficiently consistent judgements? In higher education, complex outputs may require several kinds of evidence: a written analytical report, documented process, supervised demonstration and oral questioning can together support a stronger inference than a single polished submission. These forms should be proportionate to the stakes and include due process, rather than unnecessary surveillance (Biggs & Tang, 2011; UNESCO, 2023a).

Alignment must include feedback and opportunities to use feedback. Nicol and Macfarlane-Dick (2006) demonstrate that formative assessment can support self-regulation when learners have criteria they understand, information about gaps in performance and opportunities to act on that information. In a curriculum map, this means verifying that a learner who receives feedback on research design in Year 2 can revise the method in a later authentic assignment before the capstone. A programme with numerous examinations but no cumulative revision opportunities may measure isolated performances without cultivating the capacity for independent self-correction. Furthermore, assessment should foster graduates' ability to evaluate future work beyond university, rather than only certify performance at the end of each semester (Boud & Falchikov, 2006).

An alignment matrix must therefore contain more than ticks. The stronger record links each PLO to contributing MLOs, teaching activities, assessment tasks, assessed criteria, academic year, direct evidence and responsible owner. It should flag outcomes with no assessment, assessed outcomes with little teaching, unnecessary overassessment, excessive common assessment methods and weak calibration across assessors. Internal reviewers may sample actual assignment briefs and grading descriptors to verify the entries. This document-to-practice test is central to evidence-traceable accreditation judgement: a curriculum map is a claim about design, while the assessment it references can provide independent evidence about how the claim will be evaluated (Sangwa, 2026a).

Table 4.5. Programme-level constructive-alignment matrix for the hypothetical example developed in Section 4.14

PLO	Foundation and development	Direct exit-standard evidence	Verification question
P1: Disciplinary reasoning	Business, economics, quantitative methods; integrative cases	Year 4 strategic analysis and capstone	Do students justify decisions through relevant theory?
P2: Evidence and research	Inquiry, statistical inference, research ethics; coached projects	Methods portfolio and independently defended capstone	Is method choice justified and data provenance credible?
P3: Applied innovation	Programming, design, operations; enterprise studio and placement	Prototype/feasibility report plus presentation	Is performance observable beyond written assertion?
P4: Ethics and governance	Legal foundations, privacy, AI responsibility; applied scenarios	Risk assessment and professional ethics examination	Are trade-offs evaluated rather than definitions recited?
P5: Communication	Academic writing, negotiated group work, professional briefs	Revised report and oral defence	Are communication claims disciplinary and audience-sensitive?
P6: Sustainability and learning	Social impact, systems thinking, reflective practice	Integrated impact analysis and developmental portfolio	Does assessment test critical reflection and future learning?

Note. The evidence is proposed, not collected or verified.

4.9 Integrating research, digital literacy, artificial intelligence, entrepreneurship, ethics, sustainability, and lifelong learning

Contemporary programme proposals routinely promise research competence, digital fluency, entrepreneurial thinking, ethical decision-making, environmental responsibility and employability. The difficulty is translating these broad commitments into discipline-sensitive learning instead of adding a token elective for each theme. Cross-cutting capacities should possess a clearly defined learning trajectory, relevant teaching staff and direct assessment evidence. Some warrant dedicated modules; others require repeated application across disciplinary settings. The design choice should respond to what students must actually learn, not to the number of fashionable terms a programme specification can display.

Research and information literacy should begin before the capstone. Students need to formulate answerable questions, distinguish data from inference, locate trustworthy literature, understand methods and limitations, cite transparently, and recognise the responsibilities associated with research participants and sensitive data. These skills require progressive tasks that differ in intellectual complexity. A first-year source appraisal may teach students to inspect authorship and evidence; a later methods module can address sampling, research ethics and methodological fit; an advanced inquiry requires justification of claims in relation

to alternative explanations. A capstone cannot substitute for several years of methodological formation.

Digital and AI literacy should be defined in terms of informed judgement, not brand-specific software proficiency. UNESCO's student AI competency framework identifies human-centred approaches, ethics, AI techniques and applications, and AI-system design as related dimensions, while the teacher framework emphasises competence and oversight among educators (Miao & Cukurova, 2024; Miao et al., 2024). A university may use these as international pedagogical references, but they are not Rwandan legal requirements merely because UNESCO published them. Programme designers should decide what each discipline needs to know about AI capabilities, error, bias, data governance, intellectual property, professional liability and appropriate human verification. In Rwanda, this pedagogical choice should also be checked against HEC's published 2025 virtual-learning and AI assessment guidance, with its current applicability established for the intended mode of provision (Higher Education Council, 2025b). An engineering or data-science student may require system design; a teacher or business graduate may need critical evaluation and responsible use; every graduate should understand why automated fluency is not synonymous with reliable knowledge.

Entrepreneurship should be broader than compulsory business-plan rhetoric. In professional and scholarly programmes, it can mean opportunity recognition, responsible resource stewardship, innovation, financial reasoning and implementation under uncertainty. **Ethics** should be encountered where real trade-offs occur, such as privacy versus analytic convenience, safety versus cost, research ambition versus consent, or growth versus environmental damage. **Sustainability** should concern evidence-based assessment of social, economic and ecological consequences rather than generic declarations of commitment. The OECD Learning Compass highlights agency and responsibility as orientation points, while UNESCO's 2023 education recommendation situates global citizenship and sustainable development among learning considerations (OECD, n.d.; UNESCO, 2023b). These international perspectives should inform institutional deliberation without overriding a programme's disciplinary or national qualification requirements.

Lifelong learning is particularly difficult to assess directly because graduates' future behaviour depends on circumstances not yet observable. A degree can nonetheless create and examine antecedent capabilities: self-assessment, identification of knowledge limits, response to feedback, source evaluation, independent problem formulation and reasoned plans for further development. It should avoid claiming that the availability of an alumni portal or a final reflective essay proves lifelong learning. Programme review needs appropriately cautious inferences about what curricula prepare students to do after graduation.

4.10 Work-integrated learning, internships, clinical and professional placements, capstones, and applied research

Learning in professional and community settings can connect theoretical understanding with situated judgement, expose students to constraints absent from the classroom and improve their capacity for reflective practice. Yet practical education is often praised without attention to its design conditions. An internship is not inherently educational merely because a student occupies a workplace; a clinical placement is not adequate simply because a facility has beds; a capstone is not rigorous simply because it is the last assignment. Each experience requires intended outcomes, suitable supervision, safe and ethical participation, assessed evidence and continuity arrangements.

The structure of work-integrated learning must reflect the profession and the lawful boundary between student learning and regulated practice. A business student might investigate a documented operational problem with a mentor and submit a critically justified improvement proposal. A trainee teacher may need observed teaching and reflective feedback. Clinical and laboratory students can require specified equipment, practice opportunities, professional supervision and safety controls that cannot be replaced by remote observation. Where external bodies govern scope of practice, mandatory standards and licensing requirements must be established by current authoritative sources before the programme promises professional eligibility. The HEC materials include national guidance on industrial attachment, while specific professional programmes may have additional requirements (Higher Education Council, 2021b).

A credible placement agreement defines the provider's and institution's responsibilities, suitability of site and mentor, learning activities, supervision frequency, working conditions, insurance or other protections where applicable, accessibility, confidentiality, ethical handling of data, assessment authority, reporting of incidents and continuity if the placement fails. Quality is not guaranteed by the existence of an affiliation memorandum. Institutions should verify the number of genuinely available placements relative to the proposed cohort and consider geographic and financial barriers. A placement opportunity that requires students to relocate at their own expense can be exclusionary even when it offers valuable experience.

Capstones and applied research provide particularly valuable integrative assessment when they require students to demonstrate disciplinary mastery and independent synthesis. A high-quality capstone begins with a tractable question or design problem, uses appropriate methods, applies ethically sourced evidence, makes uncertainty visible and requires a defensible conclusion. Supervision should support learning without taking authorship from the student. Where group projects are appropriate, assessment must still establish meaningful individual contribution. Oral defence, research logs, version histories and moderated artefacts can strengthen evidence of independent achievement, especially in an AI-mediated environment. These procedures should be fair, proportionate and explicitly communicated in advance.

The assessment of practical competence should not be reduced to a host supervisor's unstructured satisfaction score. Supervisors may observe aspects of attendance, conduct and workplace performance, but academic staff retain responsibility for determining whether outcomes meet the qualification standard. Calibration, explicit rubrics, evidence sampling and appeal arrangements should therefore operate across academic and workplace assessors. An institutional review should examine practice agreements, supervisor induction, student logs, actual capacity, incidents, feedback and assessed performance, while distinguishing plans from the later evidence of real implementation. In this way experiential learning becomes a disciplined part of curriculum architecture rather than an honorary credit block.

4.11 Curriculum internationalisation, African contextual relevance, interdisciplinary education, and indigenous knowledge

Internationalisation has legitimate intellectual purposes: graduates should understand bodies of knowledge produced elsewhere, engage with diverse scholarly perspectives, work across contexts and assess claims that travel between societies. It becomes superficial, however, when reduced to imported textbooks, an overseas institutional logo, foreign visiting lecturers or a promise of international employability. An internationally credible curriculum is one whose knowledge, assessments, qualifications and student protections can withstand serious scrutiny beyond its institution, while remaining responsive to the society in which it is taught. It need not mimic the timetable or elective structure of a prestigious university in a different regulatory and resource environment.

African contextual relevance requires specific pedagogical choices. A programme in entrepreneurship should analyse informal and formal enterprises, regional trade arrangements, digital payments, agricultural value chains and public-service constraints where these are relevant to its declared aims. A climate-related programme should engage African environmental data and the uncertainties of place-specific models. A history or education programme should evaluate African scholars and intellectual traditions as substantive contributors to knowledge rather than as supplementary cultural examples. Localisation is not achieved by inserting a Rwanda-focused case at the end of an otherwise imported syllabus. It concerns the questions students learn to ask, the evidence they are taught to consider, the problems through which they apply knowledge and the relationships between local and global scholarship.

The curricular treatment of **indigenous and community knowledge** demands both respect and epistemic discipline. Community agricultural practice, land management, local languages, medical knowledge, artistic traditions and conflict-resolution mechanisms can provide valuable evidence and conceptual challenges. Such material should be studied with appropriate attention to consent, attribution, intellectual property, cultural stewardship and the distinction between observed practice and independently verified causal efficacy. A scientific curriculum should not dismiss a practice because its origin is indigenous, nor affirm an empirical claim because the practice is longstanding. The educational goal is the capacity to

examine knowledge fairly with methods suited to the proposition and its consequences. This supports epistemic inclusion without abandoning scholarly standards.

International qualifications and mobility introduce additional boundaries. Alignment with regional comparability initiatives, including the African Standards and Guidelines for Quality Assurance in Higher Education, can improve shared understanding but does not automatically confer equivalence or authorise practice in another country (HAQAA Initiative, 2018). Students should receive accurate information about the awarding institution, local approval, partner roles, credit transfer and the limits of cross-border recognition. For jointly delivered programmes, curriculum teams should allocate responsibilities for assessment, supervision, quality assurance, complaints, data protection and teach-out with sufficient legal clarity. Curriculum internationalisation becomes ethically deficient when international prestige is used to obscure uncertain recognition or fragmented academic accountability.

Interdisciplinary teaching can support contextual relevance when genuine public problems organise collaborative inquiry. For instance, a health-systems module might integrate epidemiology, organisational behaviour, ethics and resource economics around a documented decision problem, but it must specify which specialist methods students will use and which claims each method can support. Joint teaching arrangements require agreed assessment ownership and a coherent language for grading across faculties. A programme that adds courses from several departments without an integrative design remains multidisciplinarily assembled rather than educationally interdisciplinary.

4.12 Recognition of prior learning, micro-credentials, flexible pathways, and stackable qualifications

Recognition of prior learning (RPL) begins from a defensible principle of fairness: relevant knowledge and capability may be acquired through formal, non-formal or informal learning, and requiring a learner to repeat already demonstrated attainment can be unnecessary and exclusionary. Yet fair recognition is not the granting of academic credit for experience as such. A programme should require appropriate evidence that the applicant has achieved the relevant outcomes at the required level, with sufficient currency, authenticity and breadth. Years of service, employer endorsement, a course certificate or a professional title may provide useful context without independently establishing equivalence. The RQF provides an architecture for recognition and qualification pathways, while specific institutional and regulatory rules determine how the principle can be enacted (Republic of Rwanda, 2021c).

A credible RPL process begins with a published policy setting out eligibility, advice, evidence, fees where authorised, assessment standards, credit limits if applicable, decision rights, moderation, records and appeal. Evidence may include supervised performance, portfolios, authenticated work products, examinations, oral questioning, professional licences and records of prior accredited study. Assessors should make an explicit equivalence judgement against identified outcomes and level descriptors rather than rely on a holistic impression.

Where an applicant demonstrates extensive vocational skill but lacks necessary theoretical foundations, partial recognition combined with bridging learning may be more educationally responsible than either full exemption or complete repetition.

RPL decisions should distinguish credit transfer from credit awarded for assessed prior experiential learning. Credit transfer ordinarily concerns documented attainment from another provider; experiential RPL requires the receiving institution to assess demonstrated knowledge and performance against the destination programme's outcomes. Neither route should be used to bypass a prerequisite that is academically indispensable, even when the applicant's overall experience is impressive. A defensible decision records the assessor's rationale, authenticity checks, any required reassessment, implications for the learner's sequence and the reasons for accepting or refusing credit. Moderation and appeal processes matter because inconsistent discretionary decisions can compromise fairness and qualification comparability.

Micro-credentials can record focused learning achievement and provide flexible opportunities for professional development. UNESCO's discussion of a common definition and the European Union's 2022 recommendation emphasise transparency about outcomes, assessment, workload, quality and recognition arrangements (Council of the European Union, 2022; Oliver, 2022). These are comparative sources, not instruments that automatically authorise credit transfer into a Rwandan degree. A badge issued after attendance at a short online seminar is not equivalent to a credit-bearing university assessment merely because the two use the word credential. Universities should state the awarding organisation, level, actual credit status, assessment evidence, learner identity verification, quality-assurance arrangements, record retention and conditions under which a micro-credential may count towards a larger award.

Stackability should be designed prospectively and governed explicitly. A set of short units may correspond to part of a qualification only if credit, levels, outcomes, assessment standards and award rules are academically coherent and the appropriate authority permits accumulation. The problem of double counting is particularly serious where overlapping short courses award the same competence under different names. Programme specifications should define permissible combinations, credit ceilings, currency rules, prerequisites and progression. Flexible entry must not conceal a reduction in exit standards. A student entering through RPL should face the same defensible award-level expectations as a student following the conventional pathway.

Flexibility also has an economic and pedagogical dimension. Modular or part-time pathways can help working adults, caregivers, rural learners and internationally mobile students, but extensive flexibility may weaken cohort integration, timely feedback or access to practical facilities if not designed carefully. The institution should test advising, timetabling, student-record interoperability, availability of modules over time and support for interrupted study. A promised self-paced programme can become a maze of unavailable prerequisites and

uncertain assessment windows. Curriculum quality demands that the actual sequence offered to learners, not merely the ideal sequence printed in a brochure, provides a viable route to completion.

4.13 Developing programme specifications, module descriptions, teaching plans, and assessment matrices

Programme documentation serves three audiences that should be kept analytically distinct: the institution that must implement an agreed academic design, the learner entitled to accurate programme information, and the regulator or reviewer assessing a particular qualification claim. Documentation becomes useful when it is simultaneously complete, internally consistent, controlled and intelligible. HEC provides forms and guidance for programme proposals, programme specifications and module descriptions through its accreditation portal. These remain important operational references, but an institution must verify the applicable edition and approval procedure instead of assuming that every historically posted document reflects the latest legal requirements (Higher Education Council, n.d.-a, n.d.-b; Republic of Rwanda, 2026).

A **programme proposal** explains why the institution wishes to introduce or substantially change an award, what evidence establishes relevance, how the qualification fits its mission and regulatory context, and whether the resources and approval pathway are adequate. A **programme specification** defines what the authorised educational offer actually is: award name and level, credits, duration, mode, entry and progression, graduate profile, learning outcomes, module structure, assessment and quality-assurance arrangements. **Module descriptions** translate that offer into specific, achievable learning activities and assessment arrangements. **Teaching plans** organise the anticipated student experience over time. **Assessment matrices** demonstrate how learning outcomes are examined at appropriate points, with suitable criteria and moderation. Their purposes differ, but contradictory statements across them are a sign of unmanaged curricular risk.

An effective specification begins with an unambiguous programme identifier and controlled version. It records the degree-awarding institution and academic unit, proposed award, governing qualification framework, legally relevant delivery modality, applicable professional requirements, responsible academic authority, proposed first intake, duration and credit volume. It then states the educational rationale, consultation basis, graduate profile and PLOs, and includes the programme structure with every module code, title, credit and term. Admission, RPL, progression, assessment, appeals, placement, dissertation or capstone, accessibility and student-support arrangements must not be left to informal assumptions. Requirements should be documented with the appropriate sources and final approval status; no draft should be labelled accredited merely because internal deliberation has concluded.

A module descriptor should articulate its role in the programme before listing weekly topics. It needs a unique code, precise title, allocated credits, year and term, any prerequisites,

delivery mode, module outcomes, thematic content, teaching and learning methods, notional-hour breakdown, assessment components and their outcome mappings, reading resources, learning support and staff responsibility. Where a laboratory, field placement or protected dataset is necessary, its use and capacity should be specified. Assessment weights must reconcile to the total and rules for reassessment or mandatory pass components must be consistent with approved regulations. An AI-use policy should be expressed at assessment level where necessary, with clear disclosure expectations and due process, rather than a blanket slogan about academic honesty.

Version governance is essential because a curriculum changes through many hands. One programme proposal may use a former title, the specification an updated title and several module descriptors an obsolete allocation. The HEC (2026a) distance-learning guidance adds a specific operational reference when the programme uses distance provision; its version and relevance to the proposed mode must be verified. An institution should identify a master module register, assign document owners, keep a change log and subject material modifications to authorised academic review. Checks should detect duplicated codes, missing or unexpected modules, conflicting term labels, unmatched credits, non-existent prerequisites, inconsistent assessment weights and unassigned learning outcomes. A controlled template can prevent predictable defects, but it cannot determine intellectual relevance, practical feasibility or the validity of an assessment. Automation is valuable for reconciliation, not the replacement of academic judgement.

The following six instruments form the proposed **Programme Development and Curriculum Review Toolkit**. The CAST (2024) Universal Design for Learning framework offers a useful, non-binding reference when examining whether these design decisions create meaningful participation for diverse learners. They are designed for adaptation by institutional programme teams and evaluators, not as replacements for HEC forms. Their professional value lies in revealing specific unanswered questions and preserving the chain between curricular claims and their evidence.

4.13.1 Programme-needs and justification record

The programme-needs instrument should produce a reasoned academic decision rather than a collection of letters and statistics. Its controlled record identifies the proposed educational problem, affected populations, disciplinary and public relevance, the exact sources examined, their dates and limitations, and plausible alternative responses. The team should distinguish evidence of current interest from evidence of graduate demand and from requirements established by law or a regulated profession. Table 4.2 provides the evidentiary streams; the completed record should name the claim each source supports and flag contested or missing information.

Its most valuable output is an institutional decision memo explaining why the proposed award is preferable to renewing an existing programme, offering a minor, developing non-

award study or entering a partnership. The memo should identify reasons that might require the decision to be revisited, the committee responsible for that review and the date at which new evidence is expected. When data are absent, uncertainty should remain visible rather than be disguised by an unsupported numerical forecast. This makes the instrument useful both before programme authorisation and during later renewal.

4.13.2 Graduate-competency and qualification-level profile

The graduate profile links programme purpose with the knowledge, methods, judgement and dispositions expected at exit. For each competency domain, the profile should identify its conceptual foundation, application context, level of independence, ethical or public responsibilities and suitable demonstration of attainment. The profile is not merely an employer survey transformed into outcomes. Academic specialists must judge its intellectual sufficiency, while professional bodies, employers, learners and student-support services can interrogate relevance, accessibility and plausibility. Table 4.3 demonstrates how these expectations can be framed.

A useful profile also specifies development from entry to graduation. For example, a claim that graduates will undertake reliable applied research should be linked to introductory source evaluation, progressively more demanding inquiry, structured feedback and a defensible final assessment. Reviewers should challenge any graduate attribute that is invoked in marketing but has no identifiable learning or assessment pathway. Where different disciplines share an attribute such as ethical judgement, its performance standard should be expressed in the authentic forms of that discipline, rather than assumed to be identical across programmes.

4.13.3 Controlled module-sequencing and workload map

The module-sequencing instrument should serve as the single authoritative record for codes, titles, credit allocation, year, teaching term, prerequisites, co-requisites, module ownership, principal assessments and intended learning-hour distribution. Automated validation can check uniqueness, arithmetic, prerequisite cycles and consistency with programme-specification documents, while subject specialists judge whether foundational knowledge is adequate and whether the sequence genuinely increases independence. Table 4.4 offers the developmental distinctions that a curriculum committee can use in reviewing the map.

The workload analysis should then examine the student experience in an actual academic calendar. A programme that totals 120 credits annually may still schedule laboratory access, placement days and major submissions impossibly within one teaching period. Reviewers should build a term-by-term assessment calendar, check concurrency and identify periods of exceptional demand; staff workload and resource capacity must be evaluated against the same schedule. The record should indicate its version and responsible custodian so that changes to one module trigger checks on every dependent module and assessment.

4.13.4 Programme-to-module constructive-alignment register

A defensible alignment instrument follows each programme learning outcome into the module outcomes through which it is introduced, practised with feedback and assessed at the award standard. Table 4.5 demonstrates a concise top-level register, but an operational institutional version should specify actual module codes, assessment briefs, grading criteria, programme-year positions and evidence identifiers. The objective is to establish what students are required to demonstrate, rather than to make a visually dense matrix appear complete.

The reviewer should look deliberately for negative evidence. If a critical outcome is absent from the final assessment programme, a matrix full of introductory ticks cannot establish graduate competence. If a demanding assessment occurs before students receive the requisite teaching or feedback, alignment is also deficient. Where the same outcome is assessed repeatedly, the team should demonstrate increasing cognitive demand rather than the reproduction of an unchanging task. For high-stakes assessment, an additional record should explain moderation, acceptable individual evidence, accessibility and permitted AI assistance.

4.13.5 Curriculum-coherence and evidence-sufficiency diagnostic

Curriculum review benefits from a structured diagnostic, but a numerical average must not be mistaken for an accreditation judgement. The proposed instrument in Table 4.6 separates the academic object of the claim, the documentary or operational evidence needed and the kinds of deficiency that have significant consequences for an award. A reviewer should record **adequate** only where the evidence supports the specified test, **revision required** where a deficiency has been established, and **not established** where a reliable conclusion cannot yet be made. These descriptors are authorial review categories, not HEC-assigned ratings.

Each finding should include a concise evaluative warrant: why the observed evidence supports the stated conclusion against the correct standard. The record should identify an accountable owner, a proposed corrective action and the evidence required to verify closure. Award-level failure, absence of safe compulsory practical training or a wholly unassessed essential competence must receive independent attention rather than be offset by strong scores in other domains. Conversely, a minor typographic inconsistency should not be inflated into a critical academic finding. This proportionate and non-compensatory reasoning provides an operational bridge to ETAJ, while reserving formal accreditation decisions for the competent authority.

Table 4.6. Curriculum-coherence diagnostic for internal validation

Diagnostic domain	Test applied to the actual programme	Appropriate evidence	High-consequence deficiency
Rationale and public value	Does the qualification address a defensible need?	Needs analysis, alternatives appraisal, consultations	Unsupported or misleading programme promise

Diagnostic domain	Test applied to the actual programme	Appropriate evidence	High-consequence deficiency
Level, credits and duration	Does the award meet applicable framework and approved rules?	Operative RQF, controlled credit register, calendar	Wrong award level or unlawful credit/duration configuration
Graduate capability	Are PLOs substantial, level-appropriate and assessable?	Graduate profile, disciplinary review	Claimed qualification has no credible achievement standard
Content and progression	Are essential domains sufficiently covered and sequenced?	Detailed descriptors, prerequisite and coverage maps	Missing foundational competence or impossible progression
Constructive alignment	Are outcomes developed and directly assessed?	PLO/MLO map, briefs, rubrics and samples	Critical outcomes never genuinely assessed
Practical provision	Can placements, laboratories and research be delivered safely?	Agreements, capacity evidence, supervision plans	Unavailable or unsafe mandatory practical learning
Staffing and resources	Are actual named staff and resources adequate for the cohort?	Verified assignments, contracts, workload, access tests	Critical specialist function or resource absent
Inclusion and academic integrity	Can students access, demonstrate and contest learning fairly?	Accessible designs, assessment policy, support processes	Predictable exclusion or untrustworthy individual evidence
Regulatory and version control	Does the submitted design match approved authority and forms?	Standards register, internal decisions, document master	Conflicting submissions or unauthorised claims

Note. Original proposed professional instrument. A finding should state the applicable source, observed evidence, reasoning, uncertainty, necessary correction, owner and verification date.

4.13.6 Controlled model programme specification

A programme specification must be readable as an authoritative description of the academic offer, rather than an anthology of independently drafted sections. The fields in Table 4.7 connect the award's legal identity, educational case, graduate standards, module architecture, assessment, learner pathways, resources and quality arrangements with the records through which each claim can be verified. A model specification can improve completeness, but the edition and status of any HEC-issued form take precedence whenever such a form is currently operative.

The institution should issue a definitive controlled version after the appropriate internal approvals and record the status of any outstanding external authorisation separately. The specification, proposal, module descriptors, timetable and student-facing information should be reconciled against the same module register, with an audit trail for substantive change. Responsibility for preserving the original approval baseline must remain clear when programmes expand across campuses or delivery modalities. The purpose of this control is

not clerical tidiness: it prevents students, departments and regulators from relying on incompatible versions of the same promised qualification.

Table 4.7. Model programme specification register

Specification component	Essential controlled content	Source or verification route
Award identity and authority	Name, institution, academic unit, RQF level, awarding powers, status	Founding/approval instrument, current RQF, regulatory register
Educational case	Evidence of need, comparator logic, mission and public value	Needs register and approved concept paper
Graduate outcomes	Aim, attributes, PLOs, level demand	Profile and external academic advice
Curriculum architecture	Modules, codes, credits, prerequisites, terms, total hours	Single master register and reconciled diagrams
Learning and assessment	Pedagogy, placement, capstone, mapping, rubrics, feedback	Course plans, moderation and assessment blueprints
Learner pathway	Entry, RPL, credit transfer, progression, graduation, student support	Approved academic rules and service plans
Implementation resources	Named staffing, library, ICT, infrastructure, placement, finances	Contracts, capacity tests, budget, partner agreements
Governance and quality assurance	Internal approvals, version, monitoring and modification responsibility	Senate/board records as applicable; HEC status verification

Note. Original authorial adaptation for professional planning; the actual Rwandan submission must follow the currently applicable HEC forms and instructions.

The toolkit should operate as a linked set rather than six independent appendices. The needs record explains why a capability is proposed, the graduate profile names that capability, the sequencing map shows how it develops, the alignment matrix shows where it is assessed, the diagnostic tests for defects, and the specification consolidates the approved design. If a graduate competency changes, that decision should trigger review of module content, staffing, assessment and regulatory implications. This is the operational meaning of evidence-traceable curriculum governance.

4.14 Internal curriculum validation, external review, evidence of implementation readiness, and regulatory submission

Internal validation is the moment when an institution must challenge its own educational proposal rather than certify that a team has completed the paperwork. A defensible sequence begins with departmental disciplinary review, proceeds through independent academic and cross-functional evaluation, and culminates in decisions by the competent academic and governing organs as provided in the institution's current statutes and regulations. It ordinarily requires evidence of award-level integrity, sound need, curricular coherence, staffing and

resources, assessment, student protection and financial feasibility. Rwanda's HEC accreditation portal supplies programme forms and historically published validation procedures. Their precise current applicability must be checked against the institution's operative academic rules and HEC's governing instruments, especially Presidential Order No. 044/01 of 24 July 2026 (Higher Education Council, 2007, n.d.-a; Republic of Rwanda, 2026).

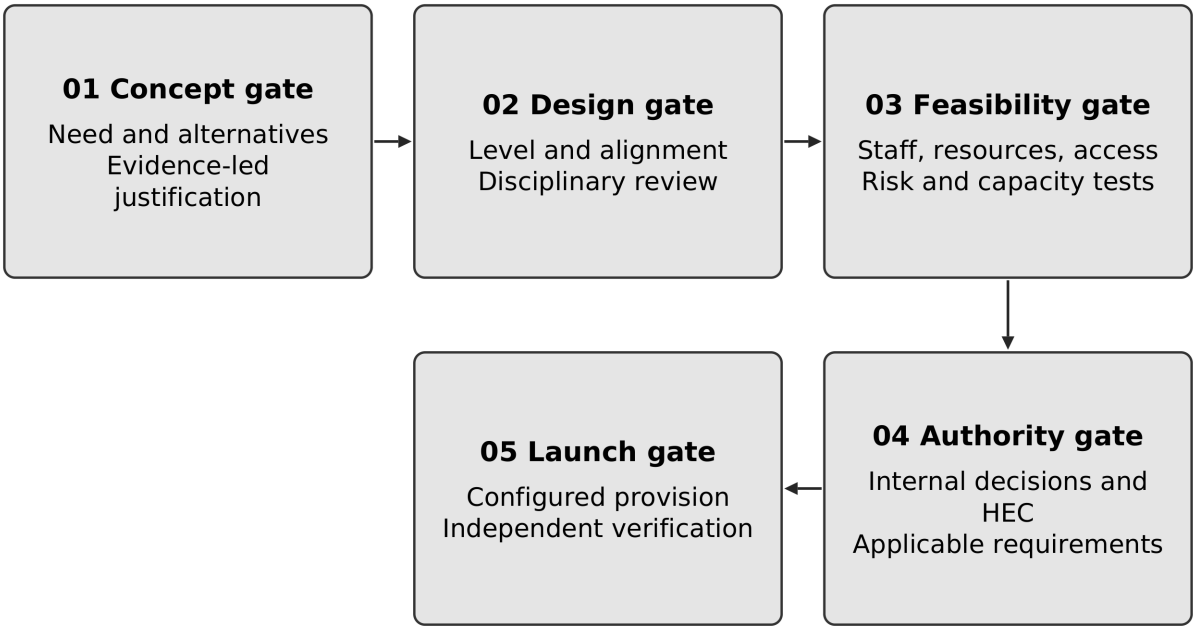
The important distinction is between **endorsement, approval, and readiness**. A department may endorse an educational concept; an academic board may approve the internally controlled programme design; management may authorise resources; and the external regulator may exercise a legally required approval function. None of these acts automatically establishes that teaching staff have been appointed, required library holdings are available to students, placement sites can accept the cohort or digital assessment workflows have been tested. An institution should therefore introduce a final programme-specific readiness gate before recruitment or launch. Its evidence should identify actual allocated staff, feasible workload, constructed module materials, library access, practical capacity, student-support routes, accessibility tests, assessment safeguards and contingencies. A launch plan is not proof that launch conditions exist.

Internal review should be critical without being adversarial. Independent reviewers need an explicit mandate, relevant disciplinary and educational expertise, access to the complete current programme record, declaration of conflicts and freedom to record unresolved disagreements. Institutions should separate errors that can be corrected editorially from deficiencies affecting intellectual standards, student safety, award legality or implementation feasibility. When evidence is incomplete, the report should state "not established" rather than infer compliance from institutional confidence. The review minute should record the finding, its grounds, required action, accountable owner, deadline and verification evidence, so that the programme team is not left to guess how a condition will be cleared.

External consultation and regulatory submission should follow the same evidence discipline. An expert may recommend revisions and an internal academic authority may validate them, but the regulatory decision belongs to the legally competent body. In the dossier, the module register, programme specification and proposal must describe exactly the same award. A reviewer should be able to locate each stated PLO in the alignment matrix, inspect the assessment tasks intended to establish it, reconcile all credits and identify the resources needed to implement it. This is the curriculum-level preparation for ETAJ: the applicable requirement, institutional claim, supporting evidence, verification and evaluative warrant are deliberately separable rather than concealed inside a single assertion that the programme is "ready" (Sangwa, 2026a).

Figure 4.2 identifies the review gates that should connect institutional validation with evidence of launch readiness. The gate sequence is a proposed professional method, not a depiction of a legally prescribed HEC approval route.

Figure 4.2. Evidence-gated programme validation and readiness sequence



Note. Original conceptual diagram by the author. Relationships are proposed professional reasoning aids rather than established causal mechanisms or official HEC processes.

4.14.1 Context and limits of the hypothetical programme

The following case is an integrated, constructed curriculum-design illustration, not an existing institution, completed needs assessment, HEC decision or approved award. Its purpose is to demonstrate how an academic team can move from a plausible concept towards an internally validated and externally reviewable submission while preserving uncertainty about actual authorisation. All module titles, codes, sequencing decisions, assessments and resources are illustrative and would require a real institution's disciplinary, financial, legal and practical evaluation.

4.14.2 Educational need and programme rationale

Assume a Rwandan teaching-oriented university proposes an applied bachelor's programme intended to prepare graduates to examine enterprise problems through business theory, quantitative evidence, responsible digital technology and practical innovation. The concept responds to a reasonable but still unverified institutional hypothesis: some organisations and entrepreneurs may benefit from graduates able to connect business decisions, data analysis and ethical technology governance. The hypothesis is not presented as an empirical finding or

a demonstrated labour-market shortage. Before approval, the programme team would need to analyse current national priorities, relevant economic and educational evidence, actual prospective-student demand, available comparator programmes and employer/community perspectives, recording their provenance and limitations. It would also need to show why a degree offers greater educational value than revising an existing business or information-systems award or supplying a short professional course.

For this illustration, the programme's proposed evidence record should separate policy alignment, scholarly justification and projected programme viability. Policy alignment would require the team to identify precisely which public objectives are relevant to digital enterprise rather than cite an entire strategic document. Scholarly justification would require assessment of the enduring business, quantitative and information-systems knowledge that a Level 8 graduate needs. Viability would require independently defensible assumptions about prospective enrolment, competition, student costs, staffing and ongoing technology maintenance. Because these analyses have not been conducted for the constructed case, their potential outputs are specified as questions and documents to be produced, not as favourable findings.

The imagined consultation record would also need to investigate countervailing evidence. A demand for proficiency in a currently fashionable analytics platform might favour short-course training instead of an entire degree; a need for reliable financial or statistical judgement, by contrast, would justify advanced conceptual foundations. The programme's distinctiveness would need to be tested against existing business administration, information systems and entrepreneurship pathways. Approval should depend on an academically reasoned explanation of that distinctiveness, not on the novelty of the programme title or an unsupported forecast of employment.

4.14.3 Award architecture and graduate attributes

The proposed qualification is a four-year bachelor's degree aligned provisionally to RQF Level 8 and 480 credits, following the 2021 RQF's general higher-education structure. This yields 4,800 notional learning hours across four years at an illustrative 1,200 hours per academic year. The designation and internal subject architecture would require confirmation under current HEC and institutional rules, including whether the final approved programme may use the selected name and award description. Its graduate profile combines six domains: P1 disciplinary business and quantitative reasoning; P2 critical research and evidence use; P3 applied enterprise innovation; P4 ethical digital and data governance; P5 professional communication; and P6 sustainability, reflective learning and responsible judgement. The domains are designed to integrate scholarship and practical capability without asserting that any specific employer has endorsed them.

The six proposed programme outcome domains must eventually be translated into precise exit-standard claims. P1 would require evidence that a student can draw on established

economic and management theory when interpreting unfamiliar enterprise cases; P2 would require defensible inquiry and analysis; P3 would require feasible applied design; P4 would require reasoned governance of data and technology; P5 would require intelligible communication to different audiences; and P6 would require evaluation of longer-term social and environmental consequences and a reflective learning response. To establish equivalence with the qualification level, academic reviewers should scrutinise the complexity of the tasks and moderation standards, not merely the verbs chosen for the outcomes.

4.14.4 Modules, credits and academic sequencing

Table 4.8 sets out a complete, arithmetically balanced illustrative structure. Each ordinary module carries 15 credits, corresponding to 150 notional hours; the final capstone carries 30 credits, corresponding to 300 hours. Years 1 to 3 each contain eight 15-credit modules. The final year contains six 15-credit modules and a 30-credit capstone. Thus the total is thirty ordinary modules (450 credits) plus one capstone (30 credits), yielding 31 module records and 480 credits. An actual timetable would require allocation by approved semester or trimester pattern and further review of academic-calendar constraints, assessment density and staff availability. The table deliberately distinguishes the indicative year from any assertion that the programme is authorised for a specific term structure.

Table 4.8. Complete illustrative 480-credit programme register

Academic year	Proposed modules and codes	Credit reconciliation	Developmental purpose
Year 1	DE101 Academic Inquiry and Evidence; DE102 Digital Foundations and Systems; DE103 Business and Society; DE104 Quantitative Reasoning I; DE105 Principles of Economics; DE106 Communication and Argumentation; DE107 Accounting for Decisions; DE108 Programming Fundamentals	8 × 15 = 120	Foundational disciplinary vocabulary, evidence judgement, communication and quantitative capability
Year 2	DE201 Quantitative Reasoning II; DE202 Data Management; DE203 Marketing and Consumer Evidence; DE204 Business Law, Regulation and Intellectual Property; DE205 Programming for Analytics; DE206 Operations and Supply Chains; DE207 Research Design and Ethics; DE208 Human-Centred Service Design	8 × 15 = 120	Methodological development, contextual business analysis, controlled research practice and initial design integration
Year 3	DE301 Statistical Inference and Modelling; DE302 Enterprise Finance; DE303 Cybersecurity and Data Protection; DE304 Digital Platforms and Commerce; DE305 AI and Responsible Business; DE306 Sustainable Enterprise and Social Impact; DE307 Work-Integrated Learning; DE308 Strategic Analysis and Decision-Making	8 × 15 = 120	Cross-disciplinary application, supervised practice, ethical risk evaluation and increasingly independent analysis

Academic year	Proposed modules and codes	Credit reconciliation	Developmental purpose
Year 4	DE401 Governance and Risk; DE402 Advanced Analytics and Evidence Appraisal; DE403 Entrepreneurial Innovation Studio; DE404 Organisational Change; DE405 Applied Research Seminar; DE406 Technology Policy and Professional Ethics; DE407 Capstone: Applied Research and Enterprise Design	6 × 15 + 30 = 120	Integrated judgement, research independence, professionally defensible recommendations and sustained capstone work
Total	**30 ordinary modules + 1 capstone**	**450 + 30 = 480**	**Qualification-level progression subject to validation and regulatory approval**

Note. All titles, codes, year allocations and educational claims are hypothetical. The 2021 RQF provides the Level 8 and general credit reference; it does not approve this constructed award (Republic of Rwanda, 2021c).

The 31 records reconcile numerically, but a complete set of 31 authorised module descriptors and actual staff, facility and assessment records would still have to be prepared by the institution. Module titles cannot establish disciplinary breadth, assessment demand or adequate contact with scholarship. Before formal consideration, the curriculum team should test whether economic theory, accounting, business law, quantitative methods, information systems, entrepreneurship and ethical practice each receive sufficient coverage for a defensible Level 8 award. Its currently illustrative module list is an architectural hypothesis, not proof of academically validated content.

4.14.5 Prerequisites and academic progression

The architecture assumes DE104 precedes DE201 and DE301, DE108 precedes DE205 and DE402, DE202 supports DE301 and DE402, and DE207 precedes DE405 and the capstone. DE303 and DE305 contribute to the ethical assessment expected in DE401 and DE406. Workplace learning in DE307 should be preceded by appropriate safety, research ethics and professional induction. These dependencies should be explicitly listed in each module descriptor and reconciled with progression rules. A student arriving through RPL or transfer would need to demonstrate the relevant equivalent knowledge before entering advanced modules; the institution must not infer that previous credit volume necessarily establishes every prerequisite.

The provisional model assumes two teaching semesters, not because the RQF mandates this particular scheduling structure, but to make feasibility testable. In each of Years 1 to 3, four 15-credit modules are assigned to each illustrative semester. The final year would assign DE401 to DE404 to Semester 1, and DE405, DE406 and the 30-credit DE407 capstone to Semester 2. This configuration creates a potential feasibility concern: completing a rigorous capstone within the same semester as two taught modules may require preliminary topic selection, early ethics planning and tightly resourced supervision. If capstone preparatory activity

begins before Semester 2, that planning must not obscure the authorised credit and assessment allocation. The institution should therefore document the permissible calendar, timing of proposal approval, and opportunities for revision, rather than equating equal semester credits with equal weekly learning demands.

A prerequisite register should include more than a list of modules taken earlier. It should record the exact competence assumed, the module or authorised alternative that develops it, and the assessment evidence showing that the competence has been achieved. DE301, for example, should identify the statistical and data-handling expectations inherited from DE104, DE201 and DE202. Admission through an alternative pathway should trigger the same capability test rather than an automatic waiver based on the number of transferred credits. Such transparency would reduce avoidable failure in advanced modules while retaining legitimate recognition of earlier learning.

4.14.6 Notional learning and delivery feasibility

In DE301, a proposed 15-credit workload could allocate 36 hours to structured teaching and supervised practice, 54 to guided analysis and reading, 36 to independent datasets and inquiry, and 24 to assessment and revision, totalling 150 hours. The hours are a transparent planning assumption, not a national prescription of contact-hour percentages. For DE307, workplace hours would depend on the official attachment framework, academic learning outcomes and actual host arrangements. For DE407, the illustrative 300 hours would include supervised proposal refinement, evidence collection or ethically appropriate analysis, synthesis, writing and defence. Before approval, the programme team must test whether an actual student can undertake these activities alongside concurrent modules and whether the university can supervise the necessary work.

The semester arithmetic has a second interpretation that cannot be ignored. A hypothetical 600 notional hours spread across a 15-week semester equates to 40 hours per week, while the same volume across 12 teaching weeks equates to 50 hours per week. Neither calculation is a prescription for contact time; each is a feasibility signal that becomes decisive only after the institution states its actual calendar, break periods, structured learning, independent work, placement scheduling and learner population. Programme teams should therefore document the assumptions underlying the weekly demand, including travel, access to computing resources and the distribution of assessment deadlines.

4.14.7 Assessing progressive attainment

Consider P2, critical inquiry and evidence. DE101 introduces source evaluation; DE201 and DE202 develop quantitative reasoning and data provenance; DE207 assesses research design and ethical justification; DE301 tests modelling and interpretation; DE405 requires a defensible research proposal; and DE407 provides a supervised final inquiry with an oral defence. The exit standard should require appropriate question formulation, method selection, documented data integrity, critical engagement with conflicting explanations, transparent limitations and

an evidence-based conclusion. A map asserting that DE407 assesses P2 is insufficient unless a real assessment brief, marking rubric, supervision framework and verification plan demonstrate how it will do so.

For P4, responsible digital governance, DE204 introduces legal and regulatory reasoning; DE303 addresses privacy and security; DE305 examines AI errors, bias and oversight; DE401 integrates risk analysis; and DE406 requires students to justify a technology-policy recommendation under competing stakeholder interests. An assessment might present a synthetic case involving an enterprise's proposed use of customer data in an automated decision system. Students would identify relevant risks, argue for feasible controls, explain remaining uncertainty and recommend an accountable decision. This is stronger evidence than asking students to name ethical principles without applying them. The legal accuracy of specific compliance questions would need to be checked against current Rwandan law and applicable sectoral rules before real delivery.

P3, P5 and P6 also need authentic assessment pathways. P3 could culminate in a documented prototype or enterprise intervention whose feasibility is tested against operational and financial constraints, with the student required to defend design choices. P5 should be assessed not simply by the grammatical fluency of a presentation but by the accuracy, audience suitability and responsiveness of an explanation under questioning. P6 could be tested through a proportionate impact analysis identifying sustainability trade-offs and a reflective plan showing how critical feedback affected the student's judgement. These are proposed assessments only; the institution would still need to issue rubrics, specify academic standards and verify that students are given sufficient opportunities to prepare.

4.14.8 Example of a module and assessment blueprint

DE402, *Advanced Analytics and Evidence Appraisal*, is provisionally a Year 4, 15-credit module. Its educational purpose is to enable independent evaluation of quantitative claims used to inform enterprise decisions, rather than training students merely to operate a software dashboard. Illustrative MLOs would require students to evaluate modelling assumptions and limitations; select and defend appropriate methods for a bounded business question; interpret uncertainty and possible bias; and present a defensible recommendation to a non-specialist decision-maker. Learning activities could combine reproducible analytic notebooks, critique of published empirical findings, supervised methodological clinics and discussion of ethically constructed datasets. An assessment blueprint might allocate 40% to a documented technical analysis, 40% to a critical decision memorandum and 20% to a moderated oral explanation, provided that the institution's approved rules permit this structure. The assessment-specific AI guidance would distinguish permitted support from impermissible substitution for independent reasoning. Students with relevant access needs would require equivalent opportunities to demonstrate achievement, and the university would need to confirm suitable software, devices, data governance and academic staffing before delivery.

For DE402, the programme-to-module assessment argument should go beyond the total of 40%, 40% and 20%. The technical analysis should require a reproducible method, defensible handling of missing or biased data, and accurate interpretation of uncertainty. The decision memorandum should test whether students can translate the same findings into proportionate professional advice, and the oral element should check their independent explanation of consequential analytical choices. A common rubric could distinguish conceptual accuracy, methodological suitability, evidential transparency, ethical appraisal and quality of justified recommendation. Markers would need shared standards and a moderation procedure; the weighting alone provides no evidence of valid or reliable assessment.

4.14.9 Institutional conditions and readiness evidence

A compelling programme register cannot establish whether the host institution has the capability to offer it. The programme team would need a verified staff deployment schedule showing disciplinary qualifications, contracts, module assignments and workload, including provision for supervision and absence. The library would need current and appropriately licensed resources across business, statistics, information systems, ethics and methods. Computing arrangements would have to support students' actual devices and access conditions; DE307 would need credible placement agreements and mentor capacity; DE407 would require suitably qualified project supervisors, research oversight and moderation arrangements. The institution would also need accessible learning materials, academic advising, effective assessment appeals, financial provision for the full cohort lifecycle and continuity plans for technology or partner failure. None of this implementation evidence has been produced in the hypothetical case, so readiness remains unestablished.

Evidence for readiness should be matched to the actual proposed cohort and operating model. If the institution anticipates several parallel groups, capacity must be calculated against their combined demand for computing facilities, assessment feedback, library licences and academic consultation. For DE307, the number of suitable placement positions should be compared with students eligible for the placement in the same period, and alternative approved pathways should be specified if hosts withdraw. For the capstone, the programme should model supervision assignments, faculty research specialisms, staff absences and moderation loads before concluding that the programme can sustain its advertised graduate standards.

4.14.10 Conditional internal judgement and corrective action

A hypothetical faculty review could make a conditional academic recommendation after examining programme relevance, PLO quality, code uniqueness, prerequisite logic and credit arithmetic. Conditions could include independent disciplinary scrutiny of DE402's methodological level; demonstration of sufficient placement hosts; completion of the DE407 supervision and assessment blueprint; confirmation of the current regulatory requirements for the award name and delivery mode; and a full timetable and cost review. The academic

authority would record who must discharge each condition and what evidence constitutes closure. Only after the competent internal approvals and any legally required HEC actions, and only after a separate launch-readiness verification, could the institution accurately describe the programme as approved and ready. In this example, no such approvals have occurred, and there is no factual basis to recommend or claim regulatory accreditation.

At the end of the design exercise, the hypothetical internal panel should not issue an unqualified declaration of readiness. The most defensible illustrative disposition is that the concept and credit arithmetic merit further detailed evaluation, while programme level, assessment implementation, placement provision and operational capacity remain subject to evidence. A genuine institutional review could reach a different conclusion after inspecting the complete programme record and the applicable current rules. Thus the constructed example demonstrates a decision method rather than a model finding that can be reproduced irrespective of context.

A condition-closure record should be sufficiently precise that a reviewer can determine whether a response resolves the original deficiency. A requirement to establish placement capacity, for example, should not be marked complete merely because the university has initiated discussions with employers; it should identify suitable host commitments, available places, supervision arrangements, insurance or safety provisions where applicable, and procedures for resolving a failed placement. The corrective-action owner should supply the relevant dated evidence, a distinct reviewer should verify adequacy when feasible, and the governing academic authority should record the resulting disposition. The example makes these verification standards explicit while leaving any eventual accreditation recommendation undecided.

4.14.11 Accreditation dossier and evidence traceability

An appropriate submission pack would connect the authorised proposal and current programme specification with the complete set of 31 controlled module descriptors; a six-PLO curriculum and assessment map; the 480-credit reconciliation; a realistic delivery calendar; staff and supervision records; library, infrastructure and ICT evidence; workplace-learning arrangements; student support and accessibility plans; financial and risk analysis; the internal validation report; and a register of unresolved questions. Each record should carry an owner, version, source and applicable normative reference. Reviewers must be able to distinguish supporting evidence from promises and proposed improvements. Table 4.9 illustrates how a few consequential claims could be analysed without pretending to have verified them.

Table 4.9. Evidence-traceable review of the hypothetical programme

Claim to be evaluated	Required documentary or operational evidence	Appropriate current disposition in this example
The award meets the intended RQF level and credit volume.	2021 RQF, 31-module master register, level descriptors, academic calendar, assessment complexity	Arithmetic reconciles; level and applicable approval still require expert/regulatory scrutiny.
Graduates will demonstrate independent evidence-based judgement.	P2 mapping, DE207/DE405/DE407 briefs and rubrics, qualified supervision, moderation plan	Plausible design; actual assessment and supervision evidence not yet verified.
Students will gain adequate practical experience.	DE307 outcomes, host agreements, mentor numbers, safety, monitoring and assessment arrangements	Not established; cannot be asserted from the module title alone.
The programme is institutionally ready to launch.	Staff appointments, resources, tested teaching and assessment environment, learner services and budget	Not established; must remain a separate pre-launch condition.

Note. Original constructed illustration. Descriptors express the limits of available hypothetical information, not findings about a real institution.

The tentative year-level register also needs a programme calendar. Table 4.10 provides a provisional semester arrangement, with all semester calculations explicit, so that a reviewer can interrogate scheduling rather than infer a viable timetable from annual totals. Its function is diagnostic: a legitimate programme would still need actual teaching weeks, holiday periods, reassessment windows, staff assignments and placement availability.

Table 4.10. Provisional semester-by-semester allocation of the hypothetical Level 8 programme

Year	Provisional semester 1: 60 credits	Provisional semester 2: 60 credits	Principal dependency to verify
Year 1	DE101, DE102, DE103, DE104	DE105, DE106, DE107, DE108	Quantitative and digital foundations occur early enough for subsequent work.
Year 2	DE201, DE202, DE203, DE204	DE205, DE206, DE207, DE208	Coding, data and inquiry prerequisites are sequenced for third-year work.
Year 3	DE301, DE302, DE303, DE304	DE305, DE306, DE307, DE308	Placement follows academic and professional preparation; host capacity is confirmed.
Year 4	DE401, DE402, DE403, DE404	DE405, DE406, DE407 (30 credits)	Capstone preparation, supervision and concurrent learning are feasible.

Note. Original illustration. Each semester totals 60 credits (600 notional hours); the Year 4 second semester combines two 15-credit modules and one 30-credit capstone. This scheduling is not verified against an academic calendar or endorsed by HEC.

A further readiness register should translate each unresolved condition into a verification requirement. Table 4.11 illustrates how an internal panel might differentiate correctable design work from institutional promises. The gate cannot be closed through verbal assurance or a

future recruitment plan; it should be closed only when the specified evidence is produced, reviewed and recorded by the competent institutional officer.

Table 4.11. Illustrative programme launch-readiness and condition-closure register

Readiness claim	Minimum evidence before closure	Interpretation in the constructed example
Academic award integrity	Applicable RQF and current programme rules; reviewed level descriptors; full module descriptors and PLO/MLO assessments	Credit arithmetic plausible; substantive academic-level review outstanding.
Teaching and supervision capacity	Named available and qualified staff; signed commitments; timetable and workload; capstone supervision plan	Not established by hypothetical module titles.
Placement provision	Documented host capacity, safe induction, supervision, accessibility and assessment arrangements for DE307	Not established; a critical dependency for compulsory work-integrated learning.
Student and digital provision	Usable library licences, accessible course material, functional assessment workflow, student support and remedies	Not established; capability must be checked for the planned cohort.
Financial and continuity capability	Whole-programme costing, realistic enrolment scenarios, partner risk and teach-out protections	Not established; institutional sustainability requires independent review.
Lawful authorisation and launch	Current written internal decisions and any competent external approval, followed by programme-specific readiness verification	No authorisation or launch clearance is represented as having occurred.

Note. Proposed professional review instrument, not an official HEC form; all dispositions are hypothetical and no actual evidence was inspected.

This worked programme demonstrates why validation should be evidence-gated. An academically attractive design may advance through concept approval while still requiring correction to content, prerequisites, assessment or resources. A programme should not be delayed for purely cosmetic perfection when it satisfies genuine requirements, but neither should it be allowed to enrol students on the strength of a plausible plan where foundational conditions of academic delivery remain unverified. The strongest curriculum review therefore distinguishes a remediable documentary omission, a substantive design weakness, an implementation shortfall and a legally disqualifying deficiency. The classification determines the responsible action, verification burden and permissible decision route; it does not predetermine the competent regulator's judgement.

4.15 Curriculum evaluation, renewal, programme modification, and academic closure

A curriculum that is sound at initial approval is not thereby guaranteed to remain educationally appropriate. Disciplinary knowledge develops, professional requirements change, emerging technology alters established tasks, students bring different preparation and

institutional resources fluctuate. Curriculum governance must therefore continue across the programme lifecycle, moving from design review and launch monitoring to module evaluation, annual programme analysis, periodic external scrutiny and authorised renewal. Continuous enhancement is not a requirement that every module change each year. It is a responsibility to investigate evidence, preserve what works, correct what fails and justify material changes before implementing them.

Evaluation should distinguish *inputs*, *enactment*, *achievement* and *consequences*. Inputs include staffing and resources; enactment includes timetables, teaching, access, assessment and support actually received; achievement includes moderated student work and defensible progression; consequences include graduate transitions, research capabilities, community value and longer-term professional development where these can be meaningfully assessed. Student satisfaction is valuable evidence of experience but cannot establish academic mastery. Pass rates can signal problems, yet their interpretation requires awareness of admissions profiles, assessment integrity and grading standards. Graduate employment may be relevant while remaining dependent on economic conditions beyond the university. A strong review therefore triangulates quantitative indicators with disciplinary scrutiny, samples of assessed work, student experience, external examiner reports, stakeholder evidence and systematic follow-up (Lattuca & Stark, 2009; Sangwa, 2026a).

A renewal decision should begin by asking what the institution has learned rather than how many policy documents it has rewritten. A programme may reveal that entrants repeatedly struggle with a prerequisite, that a mid-programme placement arrives before students have sufficient preparation, or that assessed work meets technical criteria but lacks ethical reasoning. The committee should identify the cause it considers plausible, the competing explanation it has examined, the redesign it proposes and the evidence that would count as improvement. Where cohorts or assessment methods change, raw before-and-after differences should not be attributed automatically to the curriculum revision. A disciplined institutional review can be educationally valuable without claiming experimental proof.

Curriculum modification should be proportionate to its academic and regulatory consequences. A revised reading list, corrected typographical error or newly adopted teaching exercise may be managed through ordinary module enhancement when current rules permit. Changing the award title, total credits, required learning outcomes, delivery mode, compulsory placement, duration or substantial assessment architecture may require a higher level of internal authorisation and possibly notification or approval from HEC or another competent body. The institution should maintain a classification procedure that records the proposed change, educational rationale, affected cohorts, risks, student communications, authority consulted and effective version. Continuing students should not be subjected to retrospective alterations that unlawfully undermine the basis of their enrolment.

Renewal should examine the coherence of the entire award, not just the popularity of individual modules. A periodic panel can ask whether its educational justification still stands,

the graduate profile remains defensible, foundational content is current, assessment measures the advertised outcomes, students can progress through the actual timetable and the institution still possesses suitable capability. Where emerging AI makes particular routine tasks inexpensive, the curriculum might strengthen conceptual reasoning, accountable verification and advanced application rather than delete foundational knowledge. Responsible renewal must be evidence-led rather than reactive to each new platform or employer fashion.

Suspension or closure is a curriculum responsibility as well as a financial or regulatory decision. A university proposing to discontinue an award must protect enrolled students' ability to complete or transfer appropriately, preserve valid assessment and award records, maintain necessary staff and services, and communicate clearly about the implications for recognition and professional pathways. Teach-out arrangements should identify module availability, alternatives, supervision, practical provision, support, completion times and responsibilities if a partner or technology supplier withdraws. Closure cannot be judged successful solely because future recruitment has stopped. Its quality must be assessed by what happens to students whose educational commitments remain outstanding.

The life-cycle perspective also exposes the boundary of this chapter's proposed instruments. A carefully designed programme map is evidence of planning, not proof that the taught curriculum corresponds to it or that graduates attain the claimed outcomes. A future empirical validation agenda would test whether users can apply the diagnostic consistently, whether identified problems predict material implementation difficulties, and whether the approach supports better educational decisions without excessive administrative cost. Until such research is completed, the toolkit should be regarded as a transparent, adaptable professional proposal. Its warrant is conceptual and practical, not a measured causal effect or a formal regulatory endorsement.

4.16 Conclusion: Curriculum quality as a traceable educational commitment

The central question in curriculum development is not how many modules a degree contains, but what coherent educational achievement their sequence makes possible and how that achievement can be justifiably recognised. A programme should begin with a credible account of educational and public need, develop a graduate profile worthy of its qualification level, protect disciplinary knowledge while integrating professional and ethical capability, and translate those commitments into sequenced opportunities, valid assessment and credible evidence. Rwandan qualification requirements and authoritative approval processes establish necessary constraints; institutional mission, scholarly judgement and contextual evidence determine how responsible educational choices are made within them.

The chapter has shown that four levels of judgement must remain separate: educational justification, design coherence, implementation readiness and enacted effectiveness. This distinction prevents curriculum documents from being mistaken for learning and prevents

institutional assets from being mistaken for programme-specific capability. The proposed toolkit offers a practicable means to preserve the connections among needs evidence, graduate competencies, module sequence, assessment, resources and internal validation. Its hypothetical 480-credit programme illustrates both what a complete curriculum architecture can reveal and what cannot yet be concluded without actual institutional records and authoritative approval.

In the wider IETQG conception, curriculum development is the educational hinge between institutional capability and accountable programme delivery. The next analytical task is therefore not simply to move the approved documents onto an LMS. It is to show how the curriculum becomes a viable learning experience across online, blended and flexible environments, with appropriate interaction, accessibility, assessment, academic support and technological reliability. Those implementation conditions determine whether a well-justified programme can begin to fulfil its promise in the lives and work of actual students.

CHAPTER 5

Designing and Quality-Assuring Online, Blended, and Flexible Higher Education

Digital Pedagogy, Learning Environments, and Evidence of Implementation Readiness

Abstract

Digitally mediated higher education is often judged through the existence of a learning-management system, the volume of uploaded content or the proportion of teaching conducted remotely. None establishes that a programme offers academically equivalent, accessible and sustainable opportunities for learning. Building upon an integrated account of educational purpose, institutional capability and curriculum coherence, this chapter develops a context-sensitive approach to designing and quality-assuring online, blended and flexible provision. A critical, purposive documentary synthesis brings established digital-learning scholarship into dialogue with Rwanda's Higher Education Council guidelines, continental quality principles and international accessibility and course-design benchmarks. Four theoretical perspectives, Community of Inquiry, transactional distance, self-regulated learning and constructive alignment, explain complementary design problems without being treated as predictive laws. The analysis examines delivery-mode selection, learning pathways, synchronous and asynchronous participation, learning-platform architecture, multimedia and open resources, practical learning, interaction, low-bandwidth provision, faculty development, assessment, monitoring and accreditation readiness. Its distinctive contribution is an evidence-traceable model connecting educational design decisions with demonstrated technical functioning, staff and learner capability, assessment validity and continuing improvement. Six complementary practical instruments and a worked hypothetical programme review illustrate how proposed quality criteria can be translated into verifiable questions and corrective decisions. Official requirements, professional benchmarks and author-developed recommendations remain explicitly distinguished. The proposed instruments have not been regulator-approved or independently validated; their value lies in transparent, adaptable professional reasoning rather than a claim of universal effectiveness.

Keywords: online higher education; blended learning; flexible delivery; digital pedagogy; learning management systems; programme quality assurance; Rwanda

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5.1 Introduction: The evolution of open, distance, blended, online, and flexible learning

An impressive digital campus can contain an educationally empty course. A student may log into a sophisticated platform, download polished slides, watch recorded lectures and obtain an automatically generated completion certificate without being asked to articulate a sustained argument, solve an unfamiliar problem, receive useful feedback or demonstrate competence at the appropriate qualification level. Equally, a modest learning environment based on carefully organised texts, short audio explanations, purposeful discussion and well-moderated assignments can enable demanding study. The difference is not a simple preference for low or high technology. It is whether the educational architecture creates a credible route from intended learning to demonstrated achievement under conditions that real students can reasonably meet (Means et al., 2014; UNESCO, 2023a).

The preceding analysis of curriculum development established that an academic programme is an integrated commitment linking graduate outcomes, disciplinary knowledge, progression, assessment and resources. Digitally mediated provision makes the circumstances of that commitment especially visible. A coherent programme specification may cease to be coherent when online modules contain inaccessible materials, laboratories cannot be reproduced safely, synchronous classes routinely exclude employed students, or a virtual examination relies on an insecure identity process. Conversely, an intentionally designed blend of campus practice and online study may expand the time available for inquiry, feedback and supervised application. The question is therefore not whether online education is intrinsically inferior or superior to campus-based education, but which educational functions are performed where, by whom, through what media and with what evidence of effectiveness.

Distance education predates the internet. Correspondence teaching, printed study packs, educational broadcasting, regional tutorial centres and open universities expanded opportunities for adults and geographically dispersed learners. Networked platforms subsequently combined content distribution with asynchronous discussion, synchronous communication, remote library access, electronic submission and digitally supported assessment. Contemporary provision adds mobile access, open educational resources (OER), cloud services, simulations, learning analytics and artificial intelligence. Yet technical change has not eliminated the educational challenges of remoteness, motivation, adequate feedback, equitable access and trustworthy examination. Historical accounts should not imply a simple linear progression from supposedly primitive correspondence to uniformly better digital delivery. Different media remain educationally appropriate under different infrastructural, financial and learner circumstances (Garrison & Kanuka, 2004; Means et al., 2014).

Terminological precision matters. *Distance education* identifies physical separation between at least some teachers, learners or learning activities. *Online learning* identifies significant delivery and interaction through internet-connected systems, whether synchronous or

asynchronous. *Blended learning* intentionally combines meaningful face-to-face and online elements within an integrated design. *Flexible learning* describes controlled variation in time, place, pace, sequence or route; it does not necessarily mean distance delivery or the absence of common deadlines. *Open education* concerns reduced barriers to participation, materials or pathways, but an online programme can retain selective admission and fixed progression, and an open-access resource does not itself constitute an accredited qualification. *HyFlex* and related multi-modal models offer students choices among participation modes, but these choices become credible only when the alternatives are designed to provide sufficiently comparable opportunities to achieve intended outcomes.

Such definitions are not wholly universal. Importantly, HEC Rwanda's *Guidelines and Assessment Tools for Distance Learning in Rwanda's Higher Learning Institutions*, dated March 2026, operationalise blended, fully online and distance learning in terms pertinent to national institutional review, and include specific requirements concerning systems, content, staff preparation, assessment and examination arrangements (Higher Education Council [HEC], 2026a). Their definitions and requirements must be applied according to the authoritative current document, not overridden by informal international usage. For example, the document describes synchronous requirements for fully online programmes while elsewhere explaining the flexibility and optional synchronous activities associated with forms of distance learning. Institutions should reconcile the approved delivery classification, their public promises and the operative HEC criteria rather than assuming that a programme marketed as 'self-paced' is thereby exempt from all scheduled academic activity.

Rwanda is the principal regulatory setting here, but the educational analysis reaches beyond one jurisdiction. The African Standards and Guidelines for Quality Assurance in Higher Education (ASG-QA) supply regional principles for programme design, student-centred learning, support and internal review; they do not supersede domestic law (HAQAA Initiative, 2018). CAST's Universal Design for Learning Guidelines 3.0, the World Wide Web Consortium's accessibility standards and Quality Matters' course-design framework are professional benchmarks, not Rwanda-specific statutory mandates (CAST, 2024; Quality Matters, 2026; World Wide Web Consortium [W3C], 2024b). Used judiciously, they sharpen institutional questioning rather than introduce unexamined foreign compliance obligations.

Methodologically, this chapter is a critical integrative synthesis of selected scholarly works, the doctoral thesis informing this volume, previously completed chapters and identifiable official documents. Sources have been selected purposively for explanatory relevance, methodological or normative authority, and ability to test counterarguments. There has been no new institutional audit, interview, primary learner study, systematic database retrieval, PRISMA screening exercise or effectiveness trial for this chapter. Official instruments are evidence of published requirements and guidance, not evidence that institutions have implemented them successfully. Hypothetical examples below are constructed to demonstrate evaluative reasoning. The resulting framework is intended for scholarly scrutiny and practical

adaptation, with no claim of HEC endorsement, independent psychometric validation or proven causal effects.

The terminology also carries distinct ethical commitments. Openness may concern admissions, the availability of resources, recognition of prior learning or an institution's willingness to provide pathways for learners whose prior educational opportunities were restricted. These forms of openness can coexist, but one does not imply another. A university can release genuinely open resources while limiting entry to an accredited qualification; it can admit adult learners through flexible pathways while using entirely copyright-protected materials. Similarly, asynchronous access does not make a programme self-paced when students must satisfy fixed assessment windows, cohort-dependent group tasks or supervised practical milestones. Institutions should define each promised flexibility dimension in their prospectuses, learning agreements and assessment rules, so that students can make informed decisions before incurring costs (HEC, 2026a; UNESCO, 2019b).

Digital education also spans several units of analysis that must not be conflated. A digitally supported lecture is a teaching activity; a well-designed online course is a module-level provision; an online degree is a programme-level undertaking requiring progression, student services and award governance; and an institution's distance-learning capability is an enduring organisational capacity. Successful performance at one level supplies useful but incomplete evidence for another. A single excellent pilot module cannot establish that an entire degree can provide academic supervision, practical learning, accessible assessment and reliable student support over successive years. This multilevel distinction provides the organising principle for the ensuing review of pedagogy, delivery infrastructure and readiness evidence (Sangwa, 2026a).

5.2 Distinguishing emergency remote teaching from intentionally designed online education

The COVID-19 disruptions exposed a persistent category error in discussions of online education: the emergency preservation of contact with learners was often treated as a test of the inherent quality of an established educational modality. Hodges et al. (2020) distinguished emergency remote teaching, a temporary crisis-driven change in delivery, from intentionally planned online learning supported by course development, trained personnel, learner services and appropriate assessment. Under emergency conditions, the primary objective may be maintaining basic access to education. In ordinary provision, universities have an opportunity and an obligation to design a complete educational experience and to verify its feasibility before recruitment.

The distinction does not condemn emergency improvisation. When a campus becomes unavailable because of a pandemic, conflict, major weather event or cyber incident, a carefully triaged temporary response may be the most responsible means of protecting students. The ethical error arises when short-term arrangements are normalised indefinitely without

adequate redesign, resourcing or review. A lecture recording rapidly uploaded during a closure can preserve essential content. It should not later be represented as a fully designed digital module unless students can navigate a clear learning sequence, interact purposefully, receive feedback, access materials and undertake valid assessment. Continuity and quality are related, but they are not identical evaluative objects.

Online provision requires visible design work before student entry. Programme and module teams should specify the learning outcomes and cognitive demands, intended cohort characteristics, permissible routes of participation, expected study time, interaction patterns, assessment evidence, accessibility accommodations and contingency arrangements. The digital learning environment should then be populated and tested with representative user roles, not judged from a screenshot of an administrator's dashboard. Competence in face-to-face lecturing does not automatically establish competence in writing asynchronous instructions, facilitating a dispersed seminar, building accessible media, or identifying students whose engagement has become fragile (F. Martin et al., 2020).

The quality of an emergency response should be evaluated using criteria appropriate to the event, followed by an explicit transition plan. During the emergency, reviewers may prioritise continued communication, essential instruction, reasonable adjustments, assessment integrity, student safety and records of exceptions. During stabilisation, they should examine how provisional solutions have affected learning outcomes, practical requirements, progression and student welfare. Before establishing permanent online provision, the university should undertake the same prospective academic, technical, resource and regulatory review it would apply to a newly proposed modality, including formal approval when required. This staged reasoning avoids both retrospective unfairness to crisis-affected teachers and the dangerous assumption that mere survival proves durable capability.

A further lesson concerns inequity hidden beneath participation statistics. An institution might report that virtually all students accessed a learning platform at least once while some were sharing devices, buying expensive data bundles, travelling for connectivity or submitting work under unstable electricity supply. Similarly, aggregate pass rates may obscure deferred laboratory competencies, unmoderated assessment substitutions or learners unable to attend synchronous sessions. Sound post-emergency inquiry separates evidence of service availability from evidence of educational access, enacted teaching, attainment and unresolved harm. The distinction becomes central to institutional resilience, addressed later in the volume, but it first belongs in the ordinary design of online programmes.

The boundary between emergency continuity and permanent provision should be recorded institutionally. A temporary teaching change ought to specify the event prompting it, the affected learning outcomes, the period of exception, the authority approving it, the minimum safety and integrity controls, and the conditions for reverting or seeking formal modification. Such a record protects learners against invisible reductions in practical experience and helps an external reviewer distinguish justified contingency from unauthorised programme

redesign. A university that replaces a clinical placement with case discussions may preserve conceptual progress, but must identify which supervised competencies remain outstanding and how, when and under whose authority they will be completed.

Evaluation after a disruption requires more than comparing pass rates before and after the event. Cohorts may differ in preparation and circumstances; assessment tasks may have changed; absent learners may not appear in the dataset; and emergency grading concessions can obscure deficiencies in achievement. Institutions should therefore review assessment equivalence, moderation records, outstanding learning, deferrals and withdrawal experiences together. The proper conclusion may be that continuity was responsibly maintained under severe constraint while some educational claims still require supplementary verification. Such an account is more credible than either condemning all emergency delivery or presenting the absence of complete institutional collapse as proof of high-quality online education (Hodges et al., 2020; UNESCO, 2023a).

5.3 Theoretical foundations of digital pedagogy: Community of Inquiry, transactional distance, self-regulated learning, and constructive alignment

The educational design of digital provision benefits from theories that illuminate different elements of the learning relationship. No single model can infer quality directly from the number of videos, student logins or discussion posts. Four complementary perspectives are especially useful: the Community of Inquiry (CoI), transactional distance, self-regulated learning and constructive alignment. Each carries different assumptions and limitations. Together they help explain why meaningful digital education depends upon disciplinary reasoning, interpersonal and instructional relations, learner agency, coherent tasks and enabling institutional conditions (Biggs, 1996; Garrison et al., 2000; Moore, 1993; Zimmerman, 2002).

The CoI framework identifies teaching presence, social presence and cognitive presence within a potentially meaningful online educational experience (Garrison et al., 2000). Teaching presence involves design, organisation, facilitation and purposeful intellectual direction. Social presence concerns the possibility of participants being recognised as people in a trusted scholarly environment. Cognitive presence addresses the sustained inquiry through which learners move from recognising a problem to exploring explanations, integrating ideas and applying reasoned conclusions. The practical contribution is not an obligation to add a discussion forum to every module. Rather, educators should identify what meaningful enquiry students undertake, how the educator supports it and what patterns of interaction help learners challenge and extend their understanding.

CoI has interpretive limits. The model arose from research into computer-mediated conferencing, and its indicators should not be treated as a universal causal metric. A doctoral candidate pursuing specialised archival work may need sustained solitary inquiry and

intermittent demanding supervision rather than frequent group interaction. A mathematically rigorous asynchronous module can foster cognitive engagement through carefully structured worked problems, proof construction and tutor response without high volumes of conversational postings. Conversely, a very active online chat may create warmth without developing difficult disciplinary understanding. An evaluator should therefore test the quality and purpose of the learning encounters instead of rewarding activity counts as proxies for intellectual formation.

Transactional distance concerns the educational and communicative separation that can arise between learners and teachers, and is shaped by the relationship among dialogue, instructional structure and learner autonomy (Moore, 1993). It is not equivalent to kilometres separating a student from campus. A student living near a lecturer may experience considerable transactional distance in a confusing course with little feedback; a geographically remote learner may experience close academic guidance through precise instructions, thoughtful discussion and timely responses. High structure is not inherently undesirable, particularly for beginners; the relevant question is whether structure and dialogue are appropriately balanced with learner competence, disciplinary demand and opportunities for independent judgement.

Self-regulated learning introduces an important corrective to institutional assumptions about flexibility. Learners must plan, monitor and adapt study, but these capabilities develop unequally and depend partly on opportunities and support. Zimmerman (2002) describes processes of forethought, performance control and self-reflection; Broadbent and Poon's (2015) systematic review associates time management, metacognition, effort regulation and critical thinking with performance in online higher education, while warning against assuming the same effects across contexts. 'Self-paced' should not be an institutional euphemism for 'unsupported'. A credible flexible course offers pacing guidance, realistic milestones, examples of acceptable work, formative feedback, revision opportunities and clear routes for obtaining assistance while retaining legitimate student discretion.

Constructive alignment connects programme and module outcomes, learning activities and assessment (Biggs, 1996). Its relevance intensifies when courses are distributed across separate digital spaces. If a programme promises to develop critical policy analysis, the course cannot establish that outcome merely by supplying documents and a multiple-choice recall quiz. Learners need guided practice in identifying assumptions, interpreting contested evidence and justifying recommendations; assessment must require the corresponding judgement. Alignment protects coherence, but it cannot alone validate the educational worth of the intended outcomes. Institutions must also examine their qualification level, public relevance and disciplinary standards, as established in the preceding curriculum chapter.

These lenses are most powerful when their boundaries are made explicit. CoI directs attention to the character of inquiry and educational presence; transactional distance interrogates communicative and structural separation; self-regulation explains individual agency and its

development; constructive alignment examines the logic of learning and assessment. None provides a substitute for reliable internet access, accessible resources, adequate staffing, lawful student-data handling or competent institutional governance. These are socio-technical and regulatory conditions without which well-formulated pedagogy may remain an unrealised promise. Table 5.1 translates the theoretical approaches into complementary review questions rather than an additive score.

Table 5.1. Four theoretical lenses and the questions they contribute to digital programme evaluation

Lens	Core educational concern	Illustrative evidence	Distinct caution
Community of Inquiry	Teaching, social and cognitive presence in meaningful enquiry	Tutor directions, facilitated dialogue, integrative tasks, reflective work	Posting frequency cannot establish learning depth.
Transactional distance	Structure, dialogue and learner autonomy	Orientation, response arrangements, consultation, navigation trials	Physical distance is not the same as educational separation.
Self-regulated learning	Planning, monitoring, help-seeking and adjustment	Milestones, formative checks, study plans, feedback use	Flexibility must not transfer all support obligations to students.
Constructive alignment	Coherence between outcomes, activities and assessment	Outcome map, assessment blueprint, moderated samples	Alignment cannot rescue trivial or inappropriate outcomes.

Note. Author's analytical synthesis of Biggs (1996), Garrison et al. (2000), Moore (1993), Zimmerman (2002) and Broadbent and Poon (2015). The indicators are proposed review examples, not validated measures.

These theories also resist mechanical translation into universal participation rules. A requirement that every student post twice weekly may establish a predictable administrative routine, but it is not derived automatically from CoI; an insistence on unrestricted learner choice may undermine the scaffolding needed by novices; and a perfectly aligned assessment may fail when an inaccessible interface prevents students from completing it. The designer's responsibility is to construct and defend a theory of learning for the particular discipline and cohort, then specify which observable features would count against the design. For example, persistent failure to explain statistical assumptions after repeated video lectures should prompt reconsideration of worked examples, interactive practice, response time and assessment criteria, rather than an automatic increase in video production.

The four perspectives gain explanatory depth when placed alongside a socio-technical analysis of educational work. Student autonomy depends partly on prior learning and available study time, but also on reliable access to devices, readable course documents and an intelligible calendar. Teaching presence requires disciplinary competence and time to respond, yet institutional workload rules may make the published feedback promise impossible. Cognitive presence may be encouraged by a difficult case, but the associated peer discussion

can be undermined by bandwidth costs or by an unsafe online climate. Consequently, course review should examine the relationship between pedagogical intentions and organisational arrangements, not merely ask whether a framework's terminology appears in the syllabus (Garrison et al., 2000; Moore, 1993; Sangwa, 2026a).

5.4 Selecting suitable delivery modalities for different disciplines, qualification levels, and learner groups

Choosing a delivery modality is a curriculum and regulatory decision before it is a software decision. Selection should start with the graduate capabilities that must be demonstrated, the nature of evidence needed to judge them, the learning conditions of the intended students and the minimum requirements of the competent authorities. An undergraduate literature programme, a postgraduate research methods module, a civil-engineering laboratory, a clinical practicum and an executive management programme may use common digital services while requiring substantially different forms of direct observation, professional supervision, equipment access and interpersonal practice. Modality labels cannot remove these disciplinary differences.

A defensible selection process identifies activities whose location or timing is educationally essential, activities that can be conducted through multiple media without compromising standards, and activities for which equivalent alternatives require explicit validation. The necessity of presence should be defended by the outcome. Practical examination may require supervised handling of equipment; clinical formation may require placement in appropriately controlled settings; fieldwork may require local observation and verified evidence collection. Conversely, introductory readings, asynchronous debates, research consultations and some analytical assessments may be delivered remotely without sacrificing academic seriousness. Treating all physical presence as inherently valuable is no more defensible than assuming all practice can be simulated.

The relationship between modality and qualification level also needs attention. Advanced research study frequently requires individualised supervision, access to specialised literature, rigorous methods training and defensible original work; it need not reproduce a weekly undergraduate lecture timetable. However, remote postgraduate programmes may encounter heightened risks of isolation, delayed supervisory response, research-data insecurity and inadequate laboratory or archive access. Professional degrees may have external practice, examination or licensure requirements independently of the university’s pedagogical preference. Programme designers must ascertain these obligations before advertising a remotely completed award as equivalent to an on-campus programme.

Learner characteristics introduce further considerations. Working adults may benefit from asynchronous study and predictable consultation windows, but may also experience cumulative workload pressure and limited time for group work. First-year students may need more explicit scaffolding, social connection and structured routines. Learners with unreliable

connectivity may require locally cached or downloadable resources and multiple opportunities to submit work; students who use assistive technologies require accessible content and testing of the full activity, not merely a platform-level accessibility statement. A decision made only from the institution's convenience can unintentionally exclude precisely the groups that flexible education is intended to serve (CAST, 2024; UNESCO, 2023a).

Financial and operational feasibility must be considered over the entire cohort lifecycle. A fully online route can reduce travel and space constraints while introducing recurring costs for course redevelopment, authentication, technical support, security, accessibility remediation, staff facilitation, licences, simulation tools and backup arrangements. Blended provision can require duplication of infrastructure rather than simple cost substitution. A HyFlex offering may be particularly demanding because a genuinely equivalent learning activity may need simultaneous support for classroom, real-time remote and asynchronous participants. Mode selection should therefore be approved with an explicit total-cost, workload and risk analysis rather than inferred from perceived digital efficiency (OECD, 2023).

For Rwanda, HEC's March 2026 guidance must be read in full, including its modality-specific sections and Appendix II evaluation forms. The text references minimum conditions for blended and fully online programmes, such as LMS functionality, resource access, learner orientation, staff preparedness, examination centres or proctoring provisions, continuity and technical assistance (HEC, 2026a). The guidance also characterises one-to-one computer access for relevant activities as an *ideal recommended* ratio in its detailed blended section, even though its executive summary uses stronger language. Such internal differences reinforce the need to examine operative provisions carefully and seek authoritative clarification where consequential. An institution should never turn the author's professional matrix into a substitute for the actual HEC assessment instrument.

Table 5.2. Illustrative modality decision matrix for prospective programme design

Decision factor	Primarily campus with digital support	Intentionally blended	Fully online or distance-intensive	Evidence that must settle the choice
Conceptual and analytical learning	Often feasible	Often feasible	Often feasible	Level-appropriate tasks, feedback and assessment
Laboratory or clinical performance	Direct supervised access may be essential	Structured campus/placement blocks often suitable	Only if equivalent practical demonstration is credible and permitted	Equipment, safety, supervisor qualifications and observed competence
Geographic reach	More restrictive	Depends on scheduled attendance	Potentially broad, subject to assessment and legal conditions	Learner access analysis, site requirements and truthful recruitment information

Decision factor	Primarily campus with digital support	Intentionally blended	Fully online or distance-intensive	Evidence that must settle the choice
Participation flexibility	Timetable-dependent	Mixed	Potentially extensive, but may retain required live sessions	Published calendar, accessible alternatives and progress rules
Support and infrastructure	Campus services remain central	Dual-site arrangements required	Remote orientation, support, reliable systems and contingency central	End-to-end student journey tests and service evidence
Regulatory compatibility	Verify programme and site approval	Verify blended-mode conditions	Verify current HEC and professional conditions, including examination arrangements	Source register and competent authority's decision

Note. Original professional decision aid by the author, interpreted in light of HEC (2026a), Means et al. (2014) and OECD (2023). Cells describe tendencies, not categorical approvals or equivalence findings.

The matrix is deliberately non-compensatory. A favourable score on geographical access cannot offset a critical failure of clinical competence; sophisticated virtual teaching cannot replace a mandatory examination arrangement without lawful authorisation. Programme teams should record their modality decision as a justified claim with documented alternatives, rejected options, resource assumptions and conditions for reconsideration. This makes delivery design reviewable and prevents 'digital first' from becoming an excuse for unexamined substitution.

An explicit modality decision should document both educational gains and displaced burdens. A proposal to move a teacher-education module online, for example, might free campus time for supervised microteaching and facilitate access to scholarly materials. It may simultaneously create new demands for recorded performance, secure submission of student images, remote coaching and placement coordination. The programme team should show how each change affects assessment validity, staff hours, student cost and confidentiality, and should compare at least one feasible alternative. This prevents a delivery decision from being presented as inevitable merely because a particular platform has already been purchased.

Hybrid and multi-route programmes require an additional equivalence test. Equal academic standards do not necessarily require identical learning activities: one student may defend a case during a campus workshop while another undertakes a synchronous remote defence, provided the assessors can elicit and judge the same relevant reasoning under fair conditions. Equivalence breaks down when the remote route omits a required demonstration, offers materially less feedback or applies systematically different grading rules. Where outcomes involve physical action or professional licensure, programme teams should obtain the appropriate specialist and regulatory determination before asserting equivalence. A documented route-by-route map of outcomes, learning opportunities, assessment conditions

and accommodations is therefore preferable to a generic declaration that modes are interchangeable (HEC, 2026a).

5.5 Designing coherent online and blended learning pathways

A digital learning pathway is the ordered set of experiences through which a learner moves from orientation and initial understanding to practice, feedback, integration and valid demonstration. It encompasses the relationship among modules as well as the organisation of learning within a module. In a campus timetable, physical routines and informal peer communication often help students infer what happens next. Online provision makes such hidden coordination unreliable. The pathway therefore needs an explicit architecture: what students should do first, why each activity matters, where they can locate resources, how they know whether they are progressing, how help is obtained and what constitutes successful completion.

The design should begin with a small number of demanding, assessable module outcomes whose contribution to programme outcomes is already clear. For each outcome the team identifies requisite knowledge, practice opportunities, likely misconceptions, interaction appropriate to the subject, evidence of achievement and the way feedback will inform subsequent work. The course is then structured into consistent learning units or weeks, each with a short orientation, core material, guided practice, interaction where educationally valuable, formative checking and transition. This sequence is not a universal template for every discipline, but it is a defensible starting point for preventing digital courses from becoming disorganised repositories.

A useful design test follows a learner's actual journey rather than the lecturer's content-upload workflow. Suppose the learner enters a module on public-sector policy analysis. The first unit frames a decision question and provides a manageable selection of readings; a short annotated worked example demonstrates evidence appraisal; a discussion or local case exercise challenges interpretation; formative feedback identifies weak warrants and unsupported causal claims; and a later assessment requires a well-supported policy recommendation. Each activity performs a visible function. By contrast, placing twelve slide decks and a final examination online does not show how learners are supported to develop the intervening reasoning. The difference is one of educational sequence and feedback, not file format.

Learning workload must be budgeted as carefully as curriculum credits. Rwanda's Qualifications Framework uses a reference of ten notional learning hours per credit and 120 credits for a minimum academic-year reference (Republic of Rwanda, 2021c). The total includes independent reading, interaction, practice, assignments, assessment and other required learning, not only scheduled meetings. In online provision, teams should estimate time to read, watch, participate, troubleshoot, practise and submit, recognising variation by student preparation, accessibility need and language. A module cannot reasonably promise

flexibility while requiring the same cohort to attend multiple compulsory daytime webinars, complete prolonged readings and contribute to several overlapping collaborative tasks without considering cumulative workload.

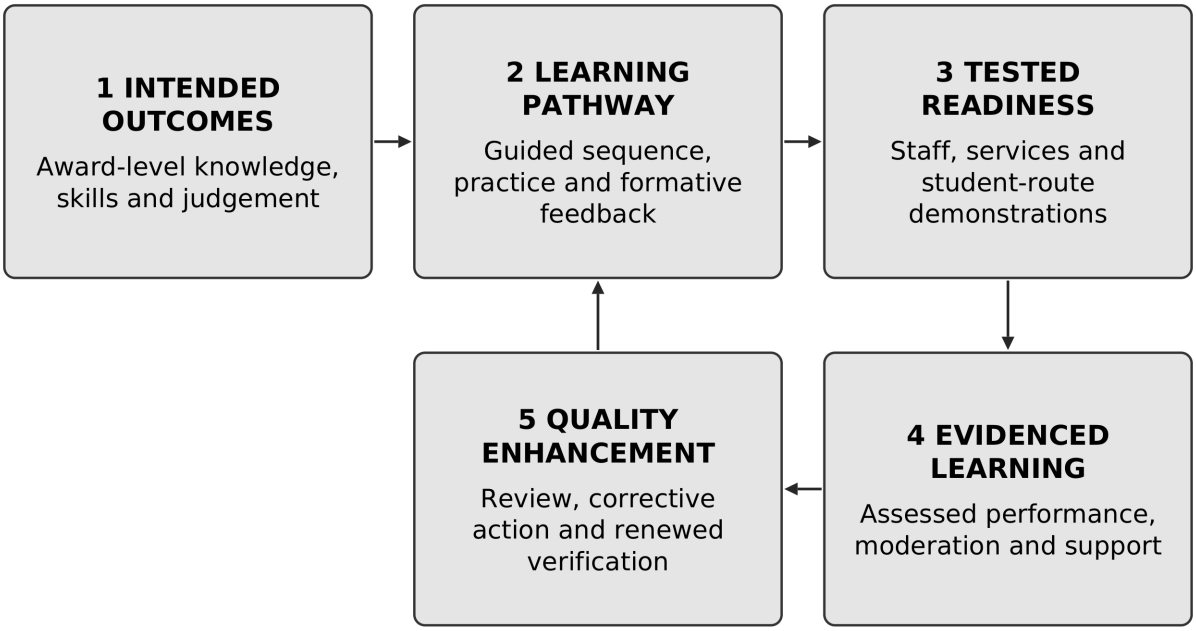
Blending demands purposeful integration rather than the addition of a digital appendix to unchanged classroom teaching. A campus workshop may introduce a practical technique, while online preparation supplies foundational concepts and later asynchronous reflection supports transfer. Alternatively, students may first work individually through an online case and then use face-to-face time for defended decisions, demonstrations or supervised practice. Garrison and Kanuka (2004) argued for blended learning's transformative potential when the educational experience is reconsidered, rather than merely divided between modes. The claim is one of design possibility, not proof that any nominally blended programme improves outcomes.

At the programme level, pathway design must also address the relationships among parallel modules. A student taking four online modules should not discover that all four demand live group presentations at the same hour or that successive modules assume different meanings for basic research terms. Programme committees should maintain a common assessment calendar, identify prerequisites and cumulative learning demands, and review whether reading, laboratory access, group work and feedback can realistically fit within the approved notional workload. Consistency in course navigation is helpful, but programme coherence depends more fundamentally upon intellectual progression, predictable service arrangements and the absence of avoidable contradictions between module requirements.

An especially demanding test concerns re-entry after interrupted study. The returning learner may have completed a predecessor version of a module, lost access to a required proprietary tool or missed a newly introduced prerequisite. Institutions should have controlled decisions for credit recognition, curricular equivalence, supplementary learning and assessment eligibility. Those decisions must be documented without requiring the student to begin an otherwise valid qualification again unnecessarily. Flexibility is educationally defensible when it widens feasible routes to the same legitimate graduate standard while making any additional work, costs or time requirements transparent in advance (Republic of Rwanda, 2021c; Sangwa, 2026a).

Flexible pathways introduce governance questions concerning prerequisites, sequencing and continuity. A student who accesses a final project early may lack foundational methodological knowledge; one who pauses study may return to a revised module; another may accumulate recognised short-form learning without completing an integrative assessment. Institutions should preserve authoritative curriculum versions, document pathways and entry decisions, specify the competencies necessary before advanced study and ensure that the qualification remains coherent across legitimate variations. Flexibility should enable informed agency without making award standards dependent on which route an individual happened to choose. Figure 5.1 presents a traceable design logic for planning and review.

Figure 5.1. Evidence-traceable design and delivery pathway



An iterative design and verification sequence, not a tested causal pathway.

Note. Original conceptual figure by the author. The arrows describe a proposed evaluation sequence and the return path represents iterative redesign; neither indicates an empirically established causal effect.

Table 5.3. Reusable course-design blueprint: A six-unit online research-methods sequence (illustrative)

Learning unit	Academic purpose and activity	Interaction and formative feedback	Verifiable output and access consideration
1. Orientation and researchable problem	Diagnostic exercise; distinguish topic from research question	Tutor response to a short problem formulation	Accessible course guide, learner route test and revised question
2. Evidence and literature	Evaluate a small contrasting source set	Asynchronous comparison and annotated feedback	Evidence appraisal with source traceability; downloadable texts
3. Design and ethics	Choose and defend a secondary-data strategy	Supervised seminar or equivalent structured dialogue	Ethics and method rationale; low-bandwidth alternative
4. Analysis and interpretation	Apply a documented analytical protocol	Peer critique of claims and alternative explanations	Analytical memo; accessible sample files
5. Limitations and argument	Integrate findings, uncertainty and conclusions	Draft review with criteria-referenced lecturer feedback	Revised argument; explicit individual contribution

Learning unit	Academic purpose and activity	Interaction and formative feedback	Verifiable output and access consideration
6. Synthesis and assessment	Submit defensible research-design portfolio	Oral clarification or supervised evidence check where warranted	Moderated final portfolio; verified gradebook and feedback

Note. Original course blueprint proposed by the author; the six units are illustrative, not a prescribed timeframe or an actual HEC-approved curriculum. Before use, designers must adapt credit workload, qualification level, programme outcomes, learner access and applicable assessment rules. A reusable institutional blueprint should also record each unit's owner, authorised course version, notional hours, resource licences, assessment weighting, approval status and review date.

The blueprint demonstrates what a completed course template should make visible without prescribing a uniform pedagogy. The academic progression moves from question formulation through evidence appraisal and justified design to a final scholarly claim. Individual units differ in interaction and medium because their learning purposes differ. The final portfolio is not educationally defensible simply because the student reaches the final page; its rubric must test the advertised outcomes, its marking must be moderated and the student must have had reasonable opportunities to practise with feedback. The most useful template is therefore a structured explanation of how teaching choices serve academic standards, not a decorative institutional interface.

5.6 Synchronous and asynchronous instruction: Educational purposes, scheduling, interaction, and flexibility

Synchronous and asynchronous participation are alternative temporal arrangements, not competing theories of educational quality. Synchronous interaction can support rapid clarification, closely coordinated group activity, interpersonal negotiation and supervised performances. Asynchronous work can provide reflection time, opportunities to revisit explanations, flexible participation across locations, and a durable record of reasoned contributions. Both can produce superficial engagement. A live lecture is not intrinsically interactive, and an asynchronous discussion board is not automatically deliberative. The educational choice depends on what students need to learn, what kind of feedback or coordination the activity requires and what participation costs arise (Hrastinski, 2008).

Synchronous teaching is strongest when the opportunity for immediate exchange contributes to the outcome. A graduate research seminar may profit from a live challenge to methodological assumptions; a language class may require conversational practice; a design studio may need real-time critique; a supervised calculation or demonstration may require timely correction. The session should specify a purpose beyond attendance, communicate preparation tasks and provide an opportunity for learners to produce relevant evidence of understanding. Long sessions dominated by uninterrupted presentation can impose a substantial connectivity and scheduling burden without making corresponding use of the medium's distinctive educational advantages.

Asynchronous learning should be actively designed, not merely permitted. Well-structured reading prompts, annotated examples, short recordings, self-checks, moderated discussions, problem-solving sequences, simulations and iterative portfolios can support serious intellectual work. The critical issue is the loop between task, learner response and feedback. Students should be able to determine which activities are essential, their expected duration, the submission route, when human feedback can be expected and how the feedback should be used. If asynchronous forums are prescribed, contributions ought to require analysis, comparison, evidence or constructive response rather than a routine statement of agreement.

Temporal design becomes especially important where students work full time, cross time zones, observe different calendars or live with uncertain connectivity. Scheduled participation has distributive effects: a compulsory 14:00 live session may be routine for a campus-based student and unworkable for a nurse on duty or an employed adult. Recording a session can improve access to explanations but is not necessarily an educational equivalent of taking part in its collaborative work. Designers should distinguish content access from the intended learning function and consider an accessible alternative assignment, parallel session or approved participation mechanism. When a regulatory guideline or professional standard requires particular synchronous engagement, flexibility must be designed within the legitimate parameters of that requirement.

A practical scheduling protocol should differentiate compulsory activities, genuinely optional enrichment and activities for which equivalent alternatives are permitted. It should publish dates and time zones, state reasonable expectations of camera and microphone use, identify low-data participation options and explain what happens during system failure or approved absence. Recording practices also need privacy safeguards, consent or other lawful grounds as applicable, clear retention schedules and protection against exposing students' personal environments. The technical possibility of recording everyone does not establish that recording everyone is necessary or proportionate.

The appropriate balance can be assessed through a small set of counterfactual questions. If a live session were replaced by carefully designed asynchronous work, what particular educational function would be lost? If a recorded explanation were replaced by a concise accessible text and worked example, what would students be unable to achieve? If participation is mandatory, what evidence justifies the requirement for the intended cohort and qualification? These questions protect synchronous and asynchronous learning from habitual use and direct scarce staff time and connectivity resources towards activities that add genuine educational value. Whatever blend is chosen, lecturers remain responsible for presence through visible organisation, responsive support, disciplined feedback and fair academic judgement.

Design teams should distinguish four functions often compressed into the phrase 'live class': exposition of concepts, diagnostic questioning, dialogic inquiry and authenticated demonstration. Exposition may sometimes be more accessible through a concise recording or

annotated text; diagnosis may work through low-data formative checks; dialogic inquiry may benefit from real-time challenge where students can attend; and authenticated performance may legitimately require supervised scheduling. A modality decision is strongest when it preserves the required educational function even if the medium must change. Such analysis is particularly valuable where an institution has adopted fixed weekly video meetings as an administrative proxy for course quality (Hrastinski, 2008).

Scheduling practices also create obligations concerning the reliability and fairness of academic records. Lecturers should not infer non-participation from a learner's absence in a video attendance log when an approved asynchronous route was available. Nor should attendance in a live room be treated as evidence of competent performance if the learning outcome demands analysis or demonstration. Institutions need consistent rules for collecting participation evidence, granting reasonable alternatives and resolving disputed records. When synchronous activity is compulsory under an operative programme condition, the institution should explain this clearly before enrolment and arrange support or approved contingencies, rather than market the degree as entirely free from fixed time commitments (HEC, 2026a).

5.7 Learning-management-system architecture: Course shells, navigation, gradebooks, interaction, and learning analytics

A learning-management system is an academic environment with administrative, pedagogical and evidentiary functions, not a neutral electronic filing cabinet. It mediates enrolment, identity, course access, learning sequences, communication, assessment, feedback, grade calculation and activity records. Its configuration can make an excellent curriculum comprehensible or nearly unusable. The relevant assurance question is therefore whether the platform’s actual operation supports the approved programme, protects learners and generates interpretable evidence. OECD (2023) identifies the importance of coherent digital-education ecosystems in which learning platforms, information systems, assessment tools and people work together instead of merely coexisting.

Information architecture begins at the programme level. Each approved module should have a controlled course identifier, authorised title, current syllabus, assigned staff, cohort or academic-year version and a reliable relationship to the registry record. Within a course, navigation should make orientation, learning units, assessment, feedback and support consistently discoverable. Labels must correspond to the programme’s actual sequence; hidden or orphaned pages, duplicated assignments and inconsistent module codes undermine student confidence and registry reconciliation. A template can reduce avoidable variation, provided that academics retain discretion to design subject-specific learning and do not confuse identical appearance with equivalent educational quality.

A functioning course shell should be tested through multiple roles. A student should be able to enter using normal credentials, identify required introductory activities, access materials on a realistic device, submit an assignment and view feedback without undue friction. A lecturer

should be able to publish content, release grades appropriately, communicate with the correct cohort and recover from common errors. An academic quality reviewer should be able to inspect the authorised version and relevant evidence without receiving unnecessary access to confidential personal records. Administrative access should follow least-privilege principles, and role changes should be controlled when staff leave or duties change.

Gradebook configuration merits a distinct audit because its errors can damage academic standards even when teaching materials are excellent. Assessment groups, weights, deadline rules, late penalties, resubmission settings, grade boundaries and moderation procedures must correspond to approved module descriptions and institutional regulations. Automated grades can contain formula errors, incorrectly hidden tasks, accidental double-counting and inappropriate rounding. Universities should use constructed test students and known expected outcomes to verify calculations before real assessment results are processed. End-to-end grade reconciliation should extend from LMS submission to moderated results and the authoritative student record, with documented responsibility for correcting discrepancies.

Learning-platform integrations introduce institutional dependencies that cannot be resolved by the course designer alone. Single sign-on, library authentication, plagiarism services, video conferencing, examination systems, laboratory services and analytics tools exchange data through interfaces that may fail or change. Institutions need data-flow maps, vendor contracts, controlled authentication, backup arrangements and a tested approach to preserving grades and submissions if a service is discontinued. A cloud provider may own infrastructure while the university retains responsibility for educational continuity, accurate awards and appropriate handling of student data. Outsourcing storage is not outsourcing accountability (OECD, 2023; Republic of Rwanda, 2021b).

Learning analytics require interpretive restraint. Time logged in, number of page views and length of video playback may indicate service use but do not establish attention, intellectual effort, consent, mastery or misconduct. A learner may download material once and study it offline; another may remain connected while disengaged; a third may use a screen reader or accessibility tool that generates atypical activity patterns. Analytics are most defensible as prompts for proportionate human inquiry, interpreted alongside submission evidence, assessment, student circumstances and direct communication. The ethical decision to intervene should account for data minimisation, lawful processing, bias and the possibility that a student has chosen not to disclose a personal difficulty.

Table 5.4. Proposed LMS readiness audit: Controls, demonstrations and common false assurances

Audit domain	Required verification demonstration	Weak or misleading substitute	Proposed corrective action
Authorised course structure	Trace published module and version to approved register	Attractive homepage screenshot	Reconcile identifiers, owners, cohort and approvals.

Audit domain	Required verification demonstration	Weak or misleading substitute	Proposed corrective action
Student navigation	Complete orientation-to-submission task as student on desktop and mobile	Administrator's assurance of usability	Repair broken links, labels and instructions; retest.
Assessment and grades	Submit test work, apply feedback, recalculate weighted final result	Default gradebook screenshot	Configure institutional rules and reconcile registry export.
Interaction and support	Test announcements, moderated discussions and help request	Presence of a discussion icon	Assign facilitators and response ownership.
Accessibility	Keyboard, screen-reader and caption checks on representative activities	Vendor's generic accessibility claim	Remediate content and repeat end-to-end testing.
Security and continuity	Test roles, MFA where adopted, recovery, export and restore	Written ICT policy alone	Close vulnerabilities and document recovery tests.
Privacy and analytics	Inspect lawful purpose, minimisation, access and retention	Available dashboard data	Restrict unjustified processing and establish review controls.

Note. Original audit instrument proposed by the author. Its categories draw on HEC (2026a), OECD (2023), Quality Matters (2026), W3C (2024b) and the NIST Privacy Framework (National Institute of Standards and Technology [NIST], 2020). It is not the HEC Appendix II instrument.

This audit should be performed in a safe staging environment where possible and repeated after significant platform, integration or programme changes. Screenshots can preserve a limited record, but stronger assurance includes time-stamped test logs, role-specific demonstrations, configuration extracts, exception registers and authorised sign-off. The institution should also test the weakest plausible access scenario, not only a high-speed connection from the ICT office. Audit findings need severity classification: a misspelt navigation label may be an improvement action, whereas a gradebook that awards credits incorrectly or exposes personal data can justify a launch hold until corrected.

A further technical distinction separates availability from recoverability. A provider's advertised uptime may indicate that a service was reachable for much of a reporting period, but the relevant institutional question is whether students could complete the specific learning activities and retrieve essential records when the service failed. Continuity planning should identify recovery-time objectives for teaching communication, assessment submission and grade records, and recovery-point objectives reflecting tolerable data loss. These targets are institutionally proposed, risk-based service commitments, not universal HEC-prescribed figures. Institutions should rehearse an interruption near a high-stakes submission deadline and verify a fair alternative for students whose work was already in progress. A disaster-

recovery document that has never been tested is weak evidence of an actionable recovery capability (OECD, 2023).

Platform interoperability is likewise a quality and governance issue. When learning materials, feedback histories, rubrics and grades are locked into one supplier's proprietary formats, replacing a service can impose costs or interrupt access. Before purchasing or renewing a platform, the institution should test export of representative courses and student records, review access and deletion arrangements, and document which evidence must be preserved for complaints, reassessment and academic appeals. Data minimisation remains essential: a valid audit trail does not justify unrestricted permanent storage of recordings, biometric identifiers or behavioural telemetry. The approved retention schedule should reflect applicable law and the precise academic purpose of each record (NIST, 2020; Republic of Rwanda, 2021b).

5.8 Digital resources, multimedia, open educational resources, copyright, and accessible learning content

Learning resources are valuable when they enable appropriate disciplinary understanding and responsible independent study. The abundance of digital materials complicates selection rather than eliminating academic curation. A bibliography of one hundred inaccessible links is not necessarily superior to a carefully selected collection of current, authoritative readings accompanied by meaningful questions and guidance. Programme teams should review accuracy, provenance, disciplinary relevance, reading level, currency, accessibility, licensing and the contribution of each resource to the learning pathway. This is especially important where AI-generated explanations, commercial video tutorials and materials copied from other curricula circulate without adequate verification.

Multimedia should serve particular cognitive and practical functions. A short narrated demonstration may clarify a procedure difficult to convey through static prose; an animation may make a dynamic scientific relationship visible; a recording of a debate may convey disciplinary disagreement and the process of argument. Yet length, resolution and production polish are unreliable proxies for effectiveness. Dense slide narration can overload working memory, and an elaborate video can conceal a simpler accessible route to the same outcome. Institutions should favour coherent segmentation, useful signalling, captions or transcripts, meaningful control over playback and suitable alternatives where a visual or auditory medium creates barriers. Design should take seriously the learner’s available data, device capacity and study environment (CAST, 2024; UNESCO, 2023a).

Open educational resources offer both intellectual and financial opportunities, but the term *open* carries a specific licensing significance. UNESCO’s 2019 Recommendation describes OER as teaching, learning and research materials in the public domain or released under an open licence permitting no-cost access and forms of reuse, adaptation and redistribution (UNESCO, 2019b). A publicly viewable webpage or free-to-watch video may remain subject to restrictions

that prohibit copying, remixing or institutional redistribution. Course teams must therefore distinguish open licences from ordinary copyright, check licence conditions such as attribution and share-alike, and document permissions for figures, datasets, videos, readings and software. An institution cannot demonstrate lawful access simply by storing commercial textbooks in a shared file directory.

African contextual relevance requires more than replacing examples in imported course notes with local names. Resources should include scholarship, practice and problems pertinent to the communities learners will serve, while preserving disciplinary standards and exposure to competing intellectual positions. A public-health course should engage locally relevant epidemiological questions as well as internationally recognised methods; a business programme should consider informal enterprises, regional markets and national regulatory realities without treating African contexts as exceptions to general scholarship. Students should learn to evaluate the provenance of all material, including locally popular claims, imported textbook assumptions and generated content. Epistemic plurality does not oblige a university to regard evidence of unequal strength as equivalent.

Digital accessibility is an academic design duty rather than a last-minute technical edit. CAST (2024) encourages multiple means of engagement, representation, and action and expression, while WCAG 2.2 provides testable web-content accessibility success criteria (W3C, 2024b). Practical work includes meaningful heading structure, sufficient contrast, keyboard operation, text alternatives to informative images, captioned video, descriptive links, accessible tables and forms, and usable alternatives to inaccessible interactive activities. A PDF that looks attractive on a desktop may be extremely difficult to navigate with assistive technologies; scanned images of text are particularly problematic. Design review should examine whole learning tasks, including third-party quizzes and submission routes, not just the institutional website.

Learning-resource governance should establish an approved content inventory recording location, owner, version, review date, licensing terms, accessibility status, offline availability and replacement mechanism. A broken licence or withdrawn resource midway through a cohort can create inequity and assessment uncertainty. Libraries can assist with authentication, database training, copyright interpretation, accessible formats, persistent identifiers and preservation. Their role is not peripheral support: the inability to obtain the required research article may prevent a learner from achieving the very outcome against which the programme will be assessed. Consequently, digital-library adequacy should be judged by programme-specific access tests from outside campus rather than by aggregate subscription counts.

Resource selection should also be evaluated for intellectual accessibility, not solely technical accessibility. A document can satisfy a file-format test yet remain incomprehensible to students because its terminology is unexplained, its argument assumes unavailable prerequisite knowledge or it provides no guidance on distinguishing core from

supplementary reading. Good digital scholarship makes the path into difficult disciplinary knowledge explicit without simplifying that knowledge beyond the qualification's demands. An annotated reading guide can identify the argument to examine, methodological limitations to scrutinise and connections to later assignments. In this way, accessibility and intellectual rigour support rather than displace one another (CAST, 2024).

Media decisions need a documented alternative when a chosen tool fails or becomes unaffordable. For example, an institution relying on a commercial interactive simulation should identify the licence term, permitted number of users, compatibility with required devices, arrangements for reasonable accommodations and a defensible alternative if the vendor withdraws access. The academic lead should verify that the alternative still permits learners to practise and demonstrate the intended competence. The digital resource register consequently belongs within curriculum version control and institutional continuity planning, rather than being treated as a list of optional enhancements.

5.9 Digital laboratories, virtual simulations, practical learning, and discipline-specific limitations

Practical competence raises the most consequential question about modality substitution: what performance does the qualification promise, and which environment can provide trustworthy evidence that students can perform it? Virtual laboratories, remote instrumentation, digital twins, simulation software and recorded demonstrations can help learners prepare for practice, rehearse decisions and encounter scenarios unavailable during routine teaching. They can also reduce certain safety and equipment constraints. However, a realistic simulation does not automatically replace the sensory, interpersonal, ethical and procedural dimensions of actual professional performance. The inference must be evaluated outcome by outcome, not made from the marketing category of the technology.

Simulation research supports this differentiated approach. Cook et al. (2011), in a systematic review and meta-analysis of technology-enhanced simulation in health-professions education, found benefits relative to no intervention across several outcomes, while the usefulness of specific applications depended on design and the performance being measured. Such findings cannot justify the assertion that clinical practice can be completed exclusively through virtual simulations, nor can results from medical education automatically be generalised to all forms of engineering, chemistry or teacher education. Simulation is often a powerful complement, preparatory environment or partial assessment context; its sufficiency for high-stakes competence requires separate professional, empirical and regulatory justification.

Different disciplines encounter different irreducible requirements. In nursing or medicine, clinical judgement includes communication, physical examination, appropriate procedural technique, patient safety and supervised decision-making. In civil engineering, software modelling cannot by itself guarantee proficiency in site inspection, material testing or real-world safety procedures. In chemistry, simulation may teach reaction principles while leaving

untested the handling of substances, calibration and laboratory safety. Teacher education requires consideration of supervised classroom practice and the relational complexity of teaching. A well-designed digital programme may integrate preparatory virtual work with planned physical blocks, placements or approved examination sites, without diminishing its status as a serious blended pathway.

Practical activities therefore need an explicit equivalence analysis. The team should define the competence in observable terms, identify the necessary physical and cognitive elements, choose the learning environment, specify supervision and feedback, and defend the assessment conditions. If an outcome requires manual handling, interpersonal response, instrument calibration or professional judgement under genuine constraints, designers must state how those elements will be elicited. When simulation is used, the programme should identify fidelity relevant to the outcome, rather than assuming that high visual realism establishes educational validity. Transfer of learning to workplace settings is an empirical question and should be monitored using appropriate assessment and supervisor evidence.

Placement partnerships are part of programme readiness. A signed memorandum of understanding may establish a formal intention but not necessarily the number of places, hours, accessible facilities, trained supervisors, insurance, safety protocols or appropriate student assessment. Institutions should document capacity against the anticipated cohort and verify the terms of access before enrolment. Where learning centres are planned, their operational status, geographic accessibility, technical and supervisory conditions and lawful assessment role should be clear to students. HEC (2026a) includes requirements addressing examination centres and infrastructure for distance and fully online provision; professional education may entail additional obligations imposed by the competent sectoral authority.

A programme can use digital technology to improve practical readiness without promising substitution. In a hypothetical laboratory-based environmental science module, students might study safety procedures asynchronously, manipulate a virtual dataset, observe a live instrument demonstration and then complete a scheduled practical session with authenticated observation and a reflective analysis of measurement error. The assessment would distinguish conceptual interpretation from hands-on competence; both contribute to the award but are not identical. The institution would retain laboratory logs, supervisor records, rubrics, equipment maintenance evidence and student work. Such triangulation is more persuasive than a screenshot of simulation software or a statement that the university ‘uses virtual laboratories’.

An equivalence claim should distinguish three forms of evidence: evidence that students encountered an environment, evidence that they performed relevant actions within it, and evidence that performance transfers to the conditions contemplated by the qualification. Completing a virtual chemistry activity may document conceptual decisions but not safe manual practice; participating in an online clinical case may demonstrate reasoning but not patient communication under observed conditions. Each claim requires a fit-for-purpose assessment. Where workplace or laboratory experience is required, partners and assessors

need clear responsibilities for supervision, feedback, authentication, reporting of incidents and handling failed or interrupted placements (Cook et al., 2011).

Practical provision is also vulnerable to insufficient capacity concealed by aspirational partnership documents. The institution should reconcile the number of students requiring a placement with the number of supervised places, dates, required equipment, accessibility arrangements and the availability of appropriately qualified assessors. A contingency should address partner withdrawal, shortage of consumables, travel restrictions and delayed certification of competence. These are not peripheral administrative questions. Where a programme cannot provide a required route to achievement for the admitted cohort, the intellectual soundness of its virtual curriculum does not establish implementation readiness (HEC, 2026a; Sangwa, 2026a).

5.10 Teaching presence, student interaction, collaborative learning, feedback, and engagement

Digital learning can become socially and intellectually isolating when lecturers are visible only at assessment deadlines. Teaching presence requires more than occasional motivational messages. Students need evidence that a competent academic is organising the field of inquiry, clarifying difficult ideas, recognising misconceptions, facilitating proportionate interaction and making accountable decisions about their work. Course announcements, embedded comments, audio feedback, online consultations and moderated dialogue are different ways to express this presence; their value depends upon timeliness, substance and accessibility (Garrison et al., 2000).

Interaction should be designed according to what learning requires. Learner-content engagement can involve active reading, model testing, annotation and problem solving. Learner-lecturer dialogue can provide expert correction, critique and intellectual challenge. Learner-learner interaction can support collaborative interpretation, argument, teamwork and disciplinary socialisation. None should be prescribed mechanically in equal proportions. A mathematically technical module may allocate substantial time to independent problem solving followed by targeted tutorial dialogue. A professional ethics module may need structured peer disagreement and defensible decisions under contested constraints. The task, not the digital tool, determines what interaction is educationally necessary.

Collaborative learning presents both opportunities and risks. Group projects can expose learners to alternative evidence, negotiated responsibilities and authentic collective decisions, but they can also hide unequal contributions, exclude learners with restrictive schedules or make individual competence difficult to verify. Credible design specifies how groups are formed, what shared product is required, how individual accountability is demonstrated and which mechanisms address conflict or non-participation. A facilitator should intervene when discourse becomes disrespectful or intellectually stagnant while avoiding a design that

rewards volume of posting or conformity to a dominant viewpoint. Collaboration is not achieved by assigning several names to one file.

Feedback is most valuable when it helps close a specified learning gap. General praise or unexplained grades provide weak guidance for improvement. High-quality responses identify the pertinent standard, illuminate strengths and deficiencies, show why the reasoning or performance matters and indicate a feasible next action. Feedback timing is also consequential: comments returned after all relevant subsequent tasks have closed may satisfy an administrative turnaround target while offering little formative benefit. Institutions should specify published response expectations, monitor actual delivery and provide additional support for complex work without assuming every feedback interaction can be automated (Kahu & Nelson, 2018).

Online engagement is multidimensional. Behavioural participation, emotional connection and cognitive investment can differ markedly. A highly visible student may contribute frequent superficial posts, while a quieter learner may produce excellent independent analyses. Kahu and Nelson (2018) emphasise the interaction between learners and educational environments in shaping engagement and success. This cautions against attributing disengagement solely to student motivation, especially where unclear instructions, inaccessible material, financial pressures or slow academic response contribute to difficulty. Evaluation should combine task completion, student work, qualitative experience, feedback records and credible contextual explanation, not rank students by raw platform activity.

Academic community also develops through trust and procedural justice. Learners are more likely to seek help when expectations are clear, mistakes in formative work can be discussed, and legitimate disagreement does not provoke retaliation. Nonetheless, community should not erase boundaries. Lecturers need sustainable workloads, staff-student communications should use appropriate institutional channels, and confidential or sensitive matters require suitable professional referral. An online programme should specify routes for scholarly advice, academic complaints, accessibility adjustments and psychosocial support. These service arrangements are foundational to inclusion and student success, examined more extensively in the subsequent dedicated chapter; here they establish that engagement is designed and supported rather than presumed from connectivity.

Feedback quality also requires calibration among markers. Two lecturers may both supply extensive comments while applying materially different standards to the same work. Online programmes should provide common rubrics, annotated examples, moderation of borderline scripts and a documented process for resolving grading disagreements. These practices do not demand identical prose comments or suppress disciplinary judgement; they ensure that the academic basis of a mark is sufficiently stable to support progression and appeal. Where feedback is supplied through audio or video, equivalent access to the substantive advice should be available to learners who cannot use that format (Biggs, 1996; CAST, 2024).

Student interaction should be monitored for genuine intellectual inclusiveness. Dominant participants can appear to increase forum engagement while discouraging contributions from learners with different language backgrounds, professional experience or limited connectivity. Instructors can mitigate this through purposeful questions, sufficient response windows, accessible alternative participation and explicit norms for disagreement supported by evidence. An online academic community is strong when its members can examine difficult claims, challenge reasoning and receive professional correction without disproportionate social or technological costs. The resulting assessment should recognise intellectual contribution rather than reward speed, visibility or conformity (Kahu & Nelson, 2018).

5.11 Low-bandwidth education, mobile learning, offline access, and affordable participation

Digital accessibility is not exhausted by disability access, nor is it established by a campus-wide internet subscription. Learners may differ in the cost and reliability of data, electricity access, devices, study space, shared family responsibilities and the places from which they connect. Such variability is especially consequential when a programme recruits students across urban and rural settings or claims to accommodate working professionals. A designer who tests every activity using high-speed broadband and a modern laptop may unknowingly design an inaccessible programme. UNESCO (2023a) urges education systems to judge technology by appropriateness, equity, evidence and sustainability, rather than treating its adoption as a sufficient good.

Low-bandwidth design begins with the learning outcome. Text, compressed images, short audio, downloadable documents, accessible presentations and optimised web pages often permit serious scholarly work with much lower data demands than lengthy high-definition video. Where video adds genuine educational value, institutions can provide smaller versions, downloadable formats, captions and a textual equivalent of essential information, subject to intellectual-property constraints. Content should remain usable on modest smartphones where feasible, but mobile responsiveness should not conceal tasks that genuinely require a keyboard, larger display, specialised software or laboratory equipment. Those requirements must be disclosed, and practical access options should be arranged.

Offline learning requires more than the option to download a single PDF. Students may need an ordered package of resources, instructions, exercises, timestamps, clear submission mechanisms and ways to obtain help before re-connecting. A printed workbook, local learning centre, secure removable storage or approved offline-capable application can be appropriate in specific circumstances. Yet offline alternatives introduce version-control, data-security and timeliness risks. Teams should specify how corrections and revised deadlines are communicated, how work is authenticated, and what happens when a student reconnects after a course update. A low-bandwidth alternative must not become an academically inferior route that omits core interaction or assessed competencies.

Affordability should be measured from the student's perspective as well as from the university's budget. Tuition may be lower while connectivity, device replacement, printing, travel to assessment centres, paid proprietary applications and lost work time accumulate. Before enrolment, institutions should publish the foreseeable participation requirements in a comprehensible format, including mandatory on-site attendance, practical sessions and examination arrangements. Scholarships, device loans, negotiated connectivity access and learning centres may reduce exclusion, but their actual capacity and continuity should be evidenced rather than announced aspirationally. The cost of access is a quality consideration when it determines whether admitted students can participate on fair terms.

Equity-sensitive review requires disaggregated and ethically collected evidence. Programme staff might compare submission timeliness, support requests, persistence and assessment performance across approved study routes or geographic categories where the data are lawful, reliable and sufficiently protected. Such differences should prompt investigation, not automatic attribution to student deficiency. Institutions should also solicit feedback from students who withdrew or rarely access the platform, because satisfaction surveys distributed solely through the LMS systematically miss those who have been disconnected. Corrective measures should address identified barriers without lowering assessment standards or disclosing sensitive personal circumstances unnecessarily.

A low-bandwidth assurance test should be reproducible. Institutions can define representative device profiles, constrained connection conditions, expected data consumption and realistic scenarios such as a temporary disconnection during assessment submission. The test should document whether essential texts open, navigation remains understandable, a learner can resume work without data loss and alternative support can be reached. Successful testing does not establish universal access, but it is stronger evidence than a general statement that a site is mobile-friendly. When specific requirements for a computer or internet access are indispensable, those requirements should be proportionate to programme tasks and clearly disclosed before admission (HEC, 2026a).

Equity cannot be inferred solely from the existence of an alternative resource. A student receiving a low-data version of a practical activity should retain access to the same underlying concepts, reasonable feedback and a valid way to demonstrate the relevant outcome. If an alternative route requires extra travel, printing or unpaid work time, the programme should consider whether costs are being transferred disproportionately to disadvantaged students. Institutional review ought to ask who can complete the journey, under which access conditions, and whether any predictable group bears an unjustified additional burden. This is a quality and learner-protection judgement, not merely a technology procurement consideration (CAST, 2024; UNESCO, 2023a).

5.12 Faculty development, instructional-design support, and online teaching competencies

The effectiveness of online education cannot be assigned to lecturers alone, although academic ownership remains indispensable. Course design, accessibility, media production, information literacy, technology support, assessment moderation, digital security and student advising require differentiated expertise. Institutions need a service architecture that enables lecturers to exercise disciplinary judgement with informed support. A small university need not maintain a separate department for every specialism, but it must demonstrate that the necessary functions are performed competently, with continuity and accountability. This extends the distinction established earlier in the book between possession of human resources and enacted institutional capability.

Digital teaching competence includes the ability to design an intelligible learning pathway, facilitate interaction appropriate to the discipline, evaluate student work, give timely feedback, support self-regulation, apply relevant accessibility principles and recognise when technical problems undermine learning. It also requires familiarity with the institution's academic regulations, learner-protection processes and current delivery requirements. A lecturer may be an outstanding researcher yet unfamiliar with online course architecture or accessible assessment. The correct response is supported professional learning, not an assumption that disciplinary status automatically confers mastery of digital pedagogy (F. Martin et al., 2020).

Professional development should be staged across actual responsibilities. Initial induction should establish platform and policy competence; supported course development should translate outcomes into resources, interaction and assessment; a peer review should identify design and accessibility weaknesses; early delivery should include mentoring and observation; and annual evaluation should consider evidence of student experience and achievement. Workshop attendance is weak evidence of improved capability. More persuasive records include revised assessment blueprints, before-and-after navigation tests, observed feedback practices, moderated student work and documented changes following student reports. Competence must also be sustained as platforms, legal expectations and the uses of AI change.

Faculty workload deserves explicit estimation. Online teaching can shift work from scheduled lectures towards repeated communication, written feedback, forum moderation, digital content maintenance and individual support. A staffing model that counts only contact hours will conceal this work and may produce delayed response or superficial assessment as enrolments grow. Institutions should project the time required for facilitation, feedback and academic advice across anticipated cohort sizes and assessment cycles. They should establish when trained assistants can contribute and which decisions, including final academic grading and progression, remain with appropriately authorised academics. Scaling a programme

without increasing facilitation and support capacity can weaken the educational experience even if the LMS can accommodate more accounts.

AI creates additional competency demands but does not eliminate professional responsibility. Lecturers need to understand where AI-generated content may introduce error or bias, when disclosure is appropriate, which student information must not be transferred to external services, and why automated text-detection claims require caution. Where tools support drafting, feedback or learning analytics, a competent person must verify accuracy, disciplinary appropriateness and fairness. UNESCO's guidance for generative AI argues for human-centred validation, privacy safeguards and appropriate educational use (Miao & Holmes, 2023). The larger curricular and integrity implications belong to the next chapter; here the emphasis is on demonstrable staff readiness to use or reject tools responsibly.

Table 5.5. Digital teaching evaluation instrument for professional development and quality enhancement

Competency	Observable professional practice	Stronger evidence than attendance at training	Development response if weak
Digital curriculum alignment	Tasks and assessments develop specified outcomes	Peer-reviewed module map and student work	Co-design with curriculum specialist
Facilitation and academic presence	Purposeful dialogue, clear instructions and expert intervention	Sample feedback, moderated activities and student accounts	Guided peer observation and mentoring
Inclusive and low-bandwidth design	Course usable through plausible learner access routes	Device and accessibility tests; alternate materials	Accessibility and mobile-first redesign
Assessment and feedback	Valid tasks, defensible marking and improvement guidance	Moderated rubric use and turnaround records	Assessment calibration and workload adjustment
Integrity, privacy and AI judgement	Proportionate safeguards and authorised information handling	Scenario-based decision review and tool risk check	Targeted policy, ethics and AI development
Reflective enhancement	Teaching changes follow credible evidence	Completed action register and subsequent review	Supported teaching inquiry and follow-up

Note. Original developmental instrument by the author informed by Garrison et al. (2000), F. Martin et al. (2020), CAST (2024) and Miao and Holmes (2023). It is not a performance appraisal mandate or validated scale.

A sound development framework should be improvement-oriented and fair. Teaching evaluation must distinguish material within the lecturer's control from failures of platform infrastructure, excessive workload or unresolved institutional policy. Learner surveys provide important experience evidence, but dissatisfaction with a difficult assessment is not proof of poor teaching, and a popular course may still lack academic rigour. Peer judgement, design review, actual assessment evidence and student voice should be interpreted together.

Critically, staff should receive the time, tools and technical support needed to act upon findings; otherwise professional development becomes a record of institutional expectations rather than an enabling system.

Professional development programmes should be subject to the same evidence discipline expected of the courses they support. A certificate of attendance confirms exposure to an event; a reviewed course redesign, observed facilitation and accurate moderated marking provide stronger evidence of changed professional practice. Institutions should formulate role-specific development outcomes, allocate time for implementation, organise peer feedback and revisit observed weaknesses after teaching begins. This is especially important for staff delivering postgraduate research supervision, specialised simulations or large-enrolment asynchronous courses, because the relevant competence extends beyond operating the platform interface (F. Martin et al., 2020).

Academic leadership must also address the risk of dependence upon individual digital champions. If a well-configured programme can be delivered only while one technically adept lecturer remains in post, its capability is fragile. Institutions should preserve accessible design documentation, assign deputies, manage passwords through authorised controls and establish change procedures for module transfer between staff. Cross-functional support should be organised so that course ownership remains academically accountable even when specialist work is supplied through shared services or external contractors. Such arrangements allow modest institutions to build durable provision without imitating the departmental structures of much larger universities (Sangwa, 2026a).

5.13 Online programme monitoring, evidence of learning, learner support, and quality enhancement

Quality assurance cannot stop at programme authorisation or the opening of an LMS. Once teaching begins, institutional responsibilities shift from the credibility of promises to the interpretation of educational practice and student achievement. A programme may have a complete course shell at launch but gradually accumulate broken links, outdated readings, late feedback, over-enrolment, inaccessible revisions or changes in professional requirements. Effective internal review therefore examines both continuing conformance with approved arrangements and evidence of educational consequences. HEC's internal quality-assurance guidance and the ASG-QA provide relevant official and regional reference points for monitoring and enhancement, although the author's instruments below do not replace either (HAQAA Initiative, 2018; HEC, 2021a).

Monitoring should occur at several levels. The module team needs to know whether intended activities were delivered, assessments operated correctly, students obtained support and learning outcomes were credibly demonstrated. The programme team needs to identify cross-module workload collisions, progression anomalies, curricular gaps and inconsistent expectations. Institution-wide services must review platform reliability, privacy incidents,

library access, disability accommodations and sustainability. Governing academic bodies should then interpret patterns across cohorts and decide whether actions require additional resources, revised assessment, curricular modification or notification to an external authority. Fragmented dashboards without accountable decision rights provide information but not quality governance.

An evidence register makes the monitoring process examinable. Each important claim should have an identifier, source of the applicable requirement or academic commitment, expected evidence, responsible owner, reporting period, verification method, known limitation and action status. A report that 'student engagement increased' should explain the definition of engagement, the cohort, the data source and plausible rival interpretations. A claim that 'learning outcomes were met' should be supported by assessment blueprints, moderated examples, judgement standards and an understanding of the student population. Documentary completeness is often necessary, but it must not be mistaken for educational attainment or sustained service reliability.

Direct and indirect evidence have complementary uses. Moderated examination scripts, portfolios, observed practice, dissertations and assessed projects can illuminate what learners know and can do, subject to validity and sampling limits. Completion, attendance, enrolment, progression and student satisfaction help identify conditions and patterns but are less direct evidence of competence. Complaint records can reveal hidden implementation failures; student accounts can identify inaccessible tasks and delayed assistance; employer or placement-supervisor evidence may illuminate transfer of skills but requires care regarding sampling and interests. Neither one metric nor one testimonial should determine an institution-wide conclusion.

Monitoring must also address academic integrity without reducing quality to surveillance. Online assessment can use meaningful tasks, sequential drafts, oral defence, supervised demonstrations, individualised datasets, process evidence and appropriate identity checks. No method is infallible, and disproportionate surveillance can threaten privacy, accessibility and fair treatment. The legality and technical reliability of any proctoring arrangement must be tested under current HEC and other applicable requirements. The existence of a plagiarism checker cannot prove that every student produced authentic work; similarly, suspicion based on AI-detection output cannot by itself establish misconduct. Decisions should rely on appropriate evidence, transparent rules and procedural fairness (HEC, 2026a; Miao & Holmes, 2023).

Table 5.6. Evidence-to-improvement register for continuing digital programme quality assurance

Claim or risk	Strong evidence to examine	Review cadence proposed	Accountable decision and closure test
Learners can enter and navigate modules	Realistic student-role journey, defects log, accessibility tests	Before opening and after major releases	Programme and ICT owners; close after successful retest

Claim or risk	Strong evidence to examine	Review cadence proposed	Accountable decision and closure test
Assessment represents approved outcomes	Moderated scripts, rubric calibration, assessment-to-outcome map	Each assessment cycle	Academic board; close when validity issue resolved
Feedback is usable and timely	Time-stamped records, feedback samples, student experience	During teaching and at module close	Programme leader; verify next cycle, not merely new policy
Learner support is functioning	Ticket cases, referral records, response-time analysis, resolved cases	Monthly and at annual review	Student services; inspect unresolved high-risk cases
Digital participation is equitable	Device/route tests, lawful disaggregated evidence, withdrawal feedback	Each cohort and after major design change	Inclusion and programme teams; verify barrier reduction
Infrastructure and data remain protected	Incident tests, recovery records, access audits, vendor review	Risk-based and after incidents	ICT/data protection; close through tested controls

Note. Original programme-monitoring register proposed by the author. Cadences are examples for institutional adaptation, not claimed HEC deadlines. Operational logs must be handled according to applicable privacy rules.

Quality enhancement requires the last link in the chain: evidence must alter decisions. A university may discover delayed marking and respond by issuing a new turnaround policy; meaningful closure comes only when workload, staffing or process changes produce timely feedback in a subsequent assessment cycle. A programme may detect that mobile users cannot complete a simulation; distributing an alternative format is an initial remedy, but closure requires a student-role retest and evidence that the affected competence remains assessable. The cycle therefore proceeds through identification, interpretation, decision, implementation, verification and renewed monitoring. Open issues should remain visible until their educational consequences have been addressed, not removed from an action log because a meeting has approved a response.

The proposed Integrated Evidence-Traceable Quality Governance (IETQG) architecture places this loop in a wider institutional setting: enduring capability supplies the means, curriculum and course design specify the academic undertaking, enactment produces evidence, quality assurance interprets that evidence, and authorised judgements lead to monitoring and improvement. Its related Evidence-Traceable Accreditation Judgement (ETAJ) logic adds explicit connections among requirement, claim, source, verification, evaluative warrant, uncertainty and conclusion (Sangwa, 2026a). These are conceptual structures developed from secondary analysis, not empirical proof that particular institutional interventions will succeed. Their professional value lies in making reasoning contestable, documented and correctable.

A useful quality dashboard must separate indicators from the questions they can legitimately answer. Platform availability speaks to service functioning; an accessible-course audit speaks

to usability; submission patterns speak to participation; moderated student work speaks more directly to attainment; and documented curriculum decisions reveal how governance has responded. Placing all five measures in one dashboard does not make them interchangeable, and arbitrary aggregation can conceal serious failures. A consistently high completion rate should not cancel evidence of invalid examinations, nor can attractive student satisfaction statistics cure a data-protection breach. Institution-wide conclusions require justified interpretation across domains and explicit treatment of contrary evidence (Sangwa, 2026a; UNESCO, 2023a).

Review intervals should correspond to the risk and the pace at which the relevant process can change. Gradebook logic merits testing before assessment opens and after a configuration change; service incidents require immediate assessment; accessibility should be checked before launch and when learning materials are revised; graduate outcomes may require longer follow-up. The institution should state who can authorise urgent changes, how students are informed, which records must be retained and who verifies closure. A quality-assurance meeting held every term is not itself evidence that an error discovered midway through a high-stakes examination will be corrected in time (HEC, 2021a, 2026a).

5.14 Virtual-learning accreditation, programme readiness, and digital quality-assurance review

Prospective approval of digitally mediated provision requires a disciplined judgement about a specific programme at a specific time. Institutional capability is relatively enduring; implementation readiness is narrower. A university may operate a reliable LMS across established degrees while a newly proposed online programme has not completed accessible course materials or arranged its mandatory practical examinations. Conversely, a convincingly configured pilot module does not establish the institution's ability to maintain delivery across all modules, cohorts and years. Evaluation should therefore test the approved programme's particular teaching, assessment, staffing, support, infrastructure, sustainability and risk arrangements without relying on institutional reputation alone.

The first decision is normative: which authority and requirements apply? In Rwanda, Presidential Order No. 044/01 of 24 July 2026, published in the Official Gazette on 30 July 2026, governs the Council's mandate, including matters relevant to programme and online provision (Republic of Rwanda, 2026). The 2021 Qualifications Framework supplies qualification-level and credit principles; HEC's 2025 virtual-learning and AI guidance and March 2026 distance-learning guidelines add operational reference points (HEC, 2025b, 2026a; Republic of Rwanda, 2021c). These sources differ in legal form, date and subject matter. A reviewer must check whether a document is legally binding, officially issued guidance, an assessment criterion adopted by the authority or a professional benchmark, and must resolve any material overlap through competent channels. The existence of successive guidelines does not authorise an individual reviewer to invent a repeal or a hierarchy.

The second decision is educational: are learning outcomes, activities and assessment credible in the proposed mode? Reviewers should examine whether the programme specification defines participation accurately; whether module guides distinguish synchronous, asynchronous and location-dependent work; whether practical outcomes are appropriately supported; and whether assessment requires student performance at the awarded level. Regulatory compatibility cannot rescue a badly designed course, just as pedagogical sophistication cannot waive a mandatory approval. The reviewer needs to separate deficiencies in the programme's concept from deficiencies in execution readiness and deficiencies in the evidence submitted. Each leads to a potentially different corrective response.

The third decision is demonstrative: does the institution possess credible evidence that the intended learning environment actually functions? The appropriate review may involve a guided student-role walkthrough, representative staff interviews where authorised, examination of completed course units, tests of accessibility and mobile access, demonstration of assessment and gradebook workflow, inspection of placement or examination arrangements, and verification of recovery and support. At pre-launch stage, such testing demonstrates *plausible readiness*, not students' eventual learning outcomes. During delivery, independent samples of student work, feedback and performance provide stronger enactment evidence. A signed policy is relevant to institutional intentions; a tested process is more relevant to operational capacity; repeated credible performance across cohorts may support, but never exhaust, the claim of sustained effectiveness.

The regulator's published 2026 distance-learning framework merits precise treatment because it includes its own inspection method and rating terminology. Appendix I describes a four-point criterion scale: 3, 'Always'; 2, 'Meets'; 1, 'Sometimes'; and 0, 'Never'. Appendix II supplies differentiated evaluation forms for delivery arrangements and identifies demonstrable sources such as LMS audits, evidence of staff and student support, records of materials development and verification of assessment functions. The guidance discusses documentary review, demonstrations and engagement with relevant academic and administrative personnel. These descriptions must not be recast as the author's five-stage evidence ladder or as an independently invented HEC pass mark. In any actual review the competent authority's current evaluation instrument, instructions and lawful decision procedure take precedence (HEC, 2026a, pp. 21–23).

The evidence ladder used here differentiates five illustrative stages: (1) assertion without adequate documentation; (2) authorised and internally consistent design; (3) committed resources and configured systems; (4) independently demonstrated functioning under realistic scenarios; and (5) monitored enactment with corrective learning. The stages are not a scientific maturity scale and are not a reproduction of HEC's official scoring categories. A programme awaiting first enrolment cannot demonstrate stage-five student outcomes; its appropriate decision concerns the sufficiency of prospective evidence. Nor should higher scores in

peripheral areas compensate for failures that threaten safety, lawful approval, assessment validity or essential student access.

Table 5.7. Proposed digital programme implementation-readiness rubric (non-official)

Domain	Design-only indication	Stronger readiness demonstration	Non-compensatory concern
Delivery and curriculum	Approved programme text names modality	All sampled modules show aligned, testable pathways	Modality misrepresented or incompatible with approval
Staff and facilitation	Staff names and workshop certificates	Assigned staff demonstrate module delivery and sustainable workload	Missing disciplinary or legally required professional expertise
LMS and information systems	LMS licence or screenshots	Student-role, gradebook and recovery tests completed	Inaccurate grades, unsafe access or failed critical services
Assessment and identity	Generic exam and integrity policy	Authentic tasks, moderation and permitted verification actually tested	Unverifiable or invalid award-critical assessment
Library, practical and learner support	Catalogues, agreements and referral charts	Remote access, placement/simulation and support arrangements verified	Essential practical experience or support unavailable
Inclusion and affordability	General equity pledge	Device, accessibility and cost scenarios tested, remedies resourced	Material exclusion or inaccessible core activity
Governance, data and continuity	Policy statements and risk register	Authority trail, data controls, incident rehearsal and response owners	Unlawful processing, no recovery or unavailable authorised decision

Note. Original professional rubric proposed by the author, informed by HEC (2025b, 2026a), Quality Matters (2026), CAST (2024) and Sangwa (2026a). It is deliberately qualitative and is not a substitute for the official HEC evaluation form, scoring thresholds, inspection or regulatory decision.

A proposed review protocol can then operate in five phases. Scoping establishes programme identity, award, cohort, delivery geography and operative standards. Documentary screening checks the approved baseline, curriculum map, staffing evidence, service agreements, risk and finance commitments. Live verification tests representative student journeys and high-risk controls. Evaluative synthesis records the criteria, accepted and disputed evidence, reasoning, material gaps and appropriate actions. Follow-up verifies closure before an institutional launch decision or regulatory recommendation is represented as final. Responsibility for legal approval remains with the competent authority; the reviewer presents reasoned findings, not an independent grant of accreditation.

The reviewer should also specify a sampling rationale. Inspecting a single outstanding demonstration module may establish what the institution is capable of producing, but it cannot show that every compulsory first-year course is delivery-ready. A proportionate

sample should include compulsory and elective offerings as applicable, different year levels and disciplinary demands, and any modules with high assessment, practical or accessibility risk. When material deficiencies emerge, the sample may need to expand. Findings should identify exactly which modules or controls were examined, when they were tested, which role was used and which conclusions cannot safely be generalised beyond the sample. This discipline protects both institutions and reviewers against false certainty.

A worked, explicitly hypothetical case demonstrates the protocol. Imagine a private Rwandan university seeking to introduce a blended bachelor's programme in environmental data and community planning. The academic submission contains coherent programme outcomes and a well-reconciled module register. Staff qualifications are appropriate, and the institution has an established LMS. In a student-role walkthrough, however, three of eight launch modules contain only slide files without instructions or assessment tasks; a mobile user cannot submit one important exercise; the final-project gradebook miscalculates the approved weighting; and a required two-week fieldwork arrangement is supported by an unsigned partner letter. The institution also announces 'fully flexible' participation while requiring weekday sessions without documented alternatives.

The appropriate finding is neither blanket educational failure nor automatic approval because the programme document is impressive. The strengths support the programme's academic potential. The incomplete modules indicate a gap between design and implementation; the gradebook defect is an assessment-integrity risk; the mobile defect may deny equitable participation; the fieldwork letter is insufficient proof of placement capacity; and misleading scheduling information raises student-protection concerns. The reviewer should identify each applicable criterion, demonstrate the observed problem and recommend proportionate action: complete and retest the initial modules, correct and independently recalculate grading, provide an accessible submission route, secure verifiable fieldwork provision and reconcile the advertised flexibility with actual approved obligations. Depending on severity and the regulator's procedures, unresolved critical matters could justify withholding a favourable readiness recommendation pending verification.

Table 5.8. Evidence-traceable findings in a hypothetical blended-programme review

Claim and finding	Evidence reviewed	Evaluative warrant	Proportionate verification action
Launch modules are delivery-ready: not yet substantiated	Three of eight sampled shells lack guided tasks	A module title and slides do not enact an approved learning pathway	Complete shells; test student journey and outcome mapping
Assessment operates accurately: contradicted	Known test marks produce incorrect final result	Credit and progression decisions depend upon faithful grade calculation	Fix rules; independent test and approval before release

Claim and finding	Evidence reviewed	Evaluative warrant	Proportionate verification action
Students can participate on mobile: qualified	Required task fails on common mobile configuration	Published delivery conditions must be realistically usable	Provide equivalent accessible route and retest
Field learning is assured: not yet substantiated	Unsigned partner letter without places or supervisors	Intent does not establish operational placement capacity	Verify binding access, supervision and capacity
Advertised flexibility is accurate: contradicted	Compulsory weekday sessions omitted in public information	Student choice depends on truthful participation requirements	Correct documentation and obtain appropriate approvals

Note. Entirely hypothetical author-constructed example. No real institution or accreditation decision is described. This table illustrates ETAJ-style reasoning without asserting official adoption of ETAJ.

The exercise shows why findings should distinguish *failure*, *absence of evidence* and *permissible enhancement*. Where a legally mandated control is absent, non-compliance may be established if the underlying facts and applicable authority are clear. Where the institution has not supplied an inspectable record, the cautious finding may be 'not demonstrated', not an assertion that the activity never occurs. Where the process is defensible but could be improved, the response may be developmental rather than punitive. In each instance, due process, opportunity to respond, reviewer independence and a transparent evidence trail strengthen the credibility of the resulting recommendation.

Digital readiness review is not a substitute for institutional responsibility after approval. Conditions of launch should connect each unresolved critical issue to an accountable officer, an observable remedy, a verification date and a clear rule on whether affected students may enrol or proceed. Once delivery begins, oversight should shift towards real assessment scripts, supervision and feedback, student complaints, accessibility incidents and the actual closure of corrective actions. Where a deficiency concerns lawful authority, student safety or invalid academic awards, it must not be traded off against unrelated strengths in course aesthetics or enrolment demand. This non-compensatory principle follows from the nature of the obligation rather than from the numerical convenience of a scoring system (Sangwa, 2026a).

5.15 Critical synthesis, professional implications, and conclusion

The analysis has advanced a central proposition: high-quality online, blended and flexible education is a design-and-governance achievement, not a technical condition conferred by internet access. Its academic validity depends upon worthwhile outcomes, coherent learning sequences, appropriate interaction, assessable competence, usable resources and staff capable of sustained facilitation. Its institutional credibility depends upon accessible student pathways, dependable information systems, financial and human-resource continuity, protection of personal data and the ability to identify and correct delivery failures. Its regulatory legitimacy depends upon accurate classification of provision and compliance with

the competent authority's operative requirements. These are interdependent but analytically distinct claims.

The literature warrants neither a presumption that digital delivery necessarily degrades education nor a presumption that it necessarily improves achievement. Research on online and blended learning indicates potential benefits and important contextual variation, while UNESCO's assessment of educational technology warns that available evidence is uneven and technology adoption often moves faster than careful evaluation (Bernard et al., 2014; Means et al., 2014; UNESCO, 2023a). This uncertainty is not an argument for inactivity. It requires disciplined implementation, monitoring and willingness to alter costly choices when evidence of educational value is weak. African universities should neither accept imported platform models uncritically nor exempt local provision from demanding educational standards because of infrastructure constraints.

The chapter's practical contribution is an interlocking toolkit rather than a new accreditation scheme. The modality matrix establishes the educational and regulatory case for a delivery route; the learning-pathway model helps translate programme outcomes into accessible study; the LMS audit tests the functionality on which students actually depend; the digital-teaching instrument supports faculty capability; the programme-monitoring register connects experience and attainment to corrective action; and the readiness rubric organises prospective evidence for professional judgement. Together these tools provide one possible application of IETQG and ETAJ to digital education. They must be adapted to current HEC and professional requirements, validated locally before high-stakes use and kept open to justified challenge.

For academic leaders, the priority is to resource educational functions across the entire student journey instead of financing platforms while leaving teaching and support underdeveloped. For lecturers and designers, the obligation is to explain why each activity and medium advances a demanding outcome. For quality-assurance offices, the task is to investigate evidence of learning and service functioning, not to reward the volume of uploaded files. For reviewers, the responsibility is to distinguish statutory authority, operational evidence, professional inference and uncertainty. For students, transparent modality information, lawful data protection, meaningful support and fair assessment are essential features of the promised qualification, not optional extras.

The limitations of the argument remain substantial. The chapter uses selected sources and constructed instruments rather than new comparative field evidence; it cannot establish average implementation quality in Rwanda, estimate the causal effects of its toolkit, demonstrate improved inter-rater agreement or forecast which technology choices will succeed. Evaluative thresholds and acceptable evidence must be determined in their real institutional, disciplinary and regulatory contexts. Nonetheless, an institution can already ask a demanding and practical question of each digitally delivered programme: can an appropriately supported learner follow the intended route, undertake legitimate academic work and demonstrate the advertised graduate competence under verifiable, sustainable and

lawful conditions? A credible answer must rest upon enacted practice and justified evidence. The succeeding analysis of artificial intelligence and assessment integrity extends this test to technologies that increasingly affect how student work is produced, authenticated and judged.

A further implication concerns how universities evaluate innovation. Pilot projects should state their intended educational benefit, the minimum safeguarding arrangements and a credible alternative against which their contribution can be considered. A technologically novel feature warrants continuation when its academic use is justified and the institution can sustain it without unacceptable exclusion, privacy intrusion or loss of professional oversight. If a low-cost text-based alternative enables equally demanding learning for the intended cohort, choosing it may express more mature institutional judgement than purchasing an impressive but fragile virtual environment. Quality governance rewards warranted educational decisions, not technological novelty as such (OECD, 2023; UNESCO, 2023a).

The strongest professional contribution of the chapter is its insistence that readiness, enacted learning and accreditation reasoning be kept distinct while connected. Before the first cohort, the institution can demonstrate coherent design, committed resources and tested essential workflows; after delivery, it can examine achievement and educational experience; and an evaluator can explain how the evidence warrants a specific finding under current authority. The proposed instruments are useful only when their limitations remain visible, when institutions are able to challenge and refine their criteria, and when a serious deficiency cannot be concealed by a favourable overall narrative. In this sense quality assurance is an accountable process of educational learning rather than a one-time digital inspection.

CHAPTER 6

Artificial Intelligence, Assessment Integrity, and the Future of Curriculum and Teaching

Governing Educational Innovation Without Compromising Academic Standards

Abstract

Artificial intelligence (AI) changes the conditions under which universities generate knowledge, organise teaching, evaluate individual achievement and justify academic awards. Its significance is not exhausted by the efficiency of automated tools or the detection of misconduct: AI unsettles the relationship among intended competence, performed intellectual work, submitted evidence and accountable educational judgement. This chapter develops a Rwanda-anchored, critically evidence-based account of responsible AI integration across curriculum, pedagogy, assessment, institutional management and external review. A purposive documentary and conceptual synthesis combines foundational scholarship, recent experimental research syntheses on learning outcomes and assessment validity with UNESCO guidance, the National AI Policy, Rwanda's data-protection law, Higher Education Council instruments and international risk-management benchmarks. It differentiates generative, predictive, adaptive and increasingly agentic applications; examines disciplinary and role-specific AI literacy; and analyses authorship, academic integrity, accessibility, bias, privacy, procurement, academic labour and technological dependence. The chapter's distinctive contribution is an evidence-traceable governance model connecting educational purpose, legitimate authority, bounded AI use, independently interpretable assessment evidence, learner protection and reviewable decisions. Practical instruments include an institutional AI governance and academic assessment integrity framework, task-level disclosure template, assessment-redesign matrix, risk-based tool appraisal and worked hypothetical evaluation. These are original professional proposals, not regulator-approved or independently validated instruments. The chapter concludes that trustworthy AI-enabled higher education requires greater, rather than diminished, human responsibility for what is taught, learned, assessed and certified.

Keywords: artificial intelligence in higher education; assessment validity; academic integrity; AI literacy; Rwanda; institutional AI governance; evidence-traceable quality assurance

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6.1 Introduction: AI as an educational, epistemological, institutional, and governance challenge

A student submits a persuasive policy analysis with accurate formatting, fluent transitions and citations that appear scholarly. A lecturer has never seen the student reason through the underlying evidence, and several references are nonexistent. Elsewhere, a student employs the same family of technologies to challenge assumptions, debug code and rehearse a difficult explanation, then independently defends the resulting work. Treating both cases as equivalent instances of "AI use" obscures the fundamental educational distinction. The first may provide unreliable evidence of learning and knowledge; the second may represent intellectually demanding, properly acknowledged assistance. The central question is therefore not whether a university should welcome or reject a technology in the abstract, but whether its practices preserve justified claims about knowledge, authorship, competence and educational responsibility (Kane, 2013; Miao & Holmes, 2023).

The first five chapters of this volume established educational purpose as the reference point for quality, regulatory authority as a necessary constraint, institutional capability as the basis for sustainable delivery, constructive alignment as the architecture of curriculum, and pedagogical design as the condition of credible online and blended learning. AI adds a problem that cuts across these domains. It can participate in the production of teaching materials, explanations, student submissions, feedback, grades and evaluative reports. Once the same tool influences both the preparation of evidence and the judgement made from that evidence, the university must examine not merely accuracy but the independence, accountability and limits of the entire evidentiary chain (Sangwa, 2026a; Zawacki-Richter et al., 2019).

The problem has four dimensions. Educationally, AI may change which competencies matter and which activities cultivate them. Epistemologically, plausible machine-generated language and synthetic evidence can be mistaken for warranted knowledge, especially where verification is weak. Institutionally, software contracts, staff expertise, student access and information flows alter who exercises practical control over teaching and assessment. Normatively, a university has to reconcile academic freedom, learner rights, qualified human judgement, domestic law, official HEC guidance and appropriate international benchmarks. These dimensions interact but cannot be collapsed into a general instruction to "use AI responsibly."

Rwanda provides a particularly instructive policy setting. The Ministry of ICT and Innovation's National AI Policy articulates a national development direction, while the Higher Education Council's November 2025 Guidelines and Assessment Tools for the Virtual Learning and the Use of Artificial Intelligence in Rwanda's Higher Learning Institutions address AI-specific curriculum, staff readiness, student literacy, assessment rules, disclosure, institutional oversight and an evaluation instrument. HEC's March 2026 distance-learning

guidance adds modality-specific educational expectations, and Presidential Order No. 044/01 of 24 July 2026 sets out the contemporary mandate of the Council. The HEC document presents its provisions as official guidelines and assessment standards and states that implementation follows official publication and dissemination, while also encouraging institutional alignment. Its specific applicability and relationship to superior legal instruments require source-sensitive interpretation; these sources must be distinguished by legal status, date, scope and competent authority; a professional framework in this chapter cannot amend any of them (HEC, 2025b, 2026a; Republic of Rwanda, 2026).

This chapter adopts a purposive, critical documentary synthesis rather than claiming a systematic review or field study. The source base comprises the author's doctoral analytical architecture, the completed preceding chapters, selected foundational and contemporary peer-reviewed scholarship, official Rwandan legal and regulatory material, UNESCO's human-centred AI guidance, and the US National Institute of Standards and Technology's voluntary risk-management guidance. Sources were selected for conceptual explanatory value, direct normative relevance and their capacity to test optimistic and restrictive positions. No new searches with a preregistered protocol, exhaustive screening counts, primary interviews, student data, field audits or effectiveness trials are claimed. References support individual propositions; the practical instruments and integrative model are the author's reasoned proposals, and all cases expressly identified as hypothetical are constructed illustrations.

An appropriate balance requires rejecting both technological inevitability and technological exceptionalism. A university need not deploy a particular commercial system merely because its competitors do so. Neither can it preserve educational standards by assuming that forbidding an embedded technology will make it absent. Good governance asks which educational functions warrant AI assistance, which require unaided individual performance, which risks cannot be accepted, and what evidence would allow an independent reviewer to decide whether the arrangements actually work. The answer must remain revisable as models, scholarship, costs and regulatory provisions change.

A further distinction concerns the status of the knowledge claims being made. A fluent answer is an observable linguistic performance, whereas a graduate's understanding is a capacity inferred from appropriately chosen evidence. A university cannot move directly from the former to the latter without examining authorship, task conditions, independent reasoning and the possibility of alternative explanations. The critical realist orientation developed earlier in the volume reinforces this difference among an observed artefact, the educational practices that generated it and the underlying capabilities that a programme claims to develop. AI makes the distinction harder to ignore, but the problem also applies to traditional ghostwriting, unacknowledged collaboration and examinations that reward memorised responses. The chapter therefore treats AI governance as part of ordinary academic quality governance, albeit with newly demanding technical and institutional manifestations (Kane, 2013; Sangwa, 2026a).

6.2 Historical evolution and educational applications of artificial intelligence

AI in education did not begin with publicly accessible conversational systems. Earlier research explored symbolic reasoning, rule-based expert systems, programmed tutoring and models of how learners solve problems. Later systems used statistical learning to identify patterns in student answers, recommend exercises, classify submissions and forecast disengagement. Educational institutions also used algorithms in administration, information retrieval and institutional research long before generative interfaces made AI conspicuous to ordinary users. This history matters because different AI applications pose different questions about validity, bias and accountability; a plagiarism classifier, adaptive tutor and language model should not be evaluated as though they are interchangeable technologies (Zawacki-Richter et al., 2019).

The growth of machine learning shifted emphasis from explicit rules written for narrow tasks toward systems whose behaviour depends substantially on patterns inferred from data. Developments in natural-language processing and large-scale neural networks expanded the capacity to generate language, software, images and other artefacts. Foundation models and multimodal interfaces now make assistance available through ordinary learning platforms, office suites and search tools. Their usefulness is significant, but the appearance of fluent dialogue should not be confused with human understanding, reliably grounded reasoning or a guarantee of factual accuracy. A generated answer may be correct, incorrect, incomplete or misleading, often without signalling which condition obtains (Bender et al., 2021; Kasneci et al., 2023).

An important analytical distinction separates prediction, generation and action. A predictive system produces an estimate, such as the likelihood that a student may miss a progression milestone. A generative system produces an artefact, such as a worked example or draft paragraph. An agentic system can pursue a multi-step objective through tool use, retrieval, external applications or delegated actions. Each increases the potential distance between an initial human intention and the resulting institutional consequence. Prediction raises questions about statistical validity and the ethics of intervention; generation raises questions about truth, attribution and the assessment construct; action raises questions about authorisation, security, limits and rollback. The risks accumulate when an agent can access records, communicate externally or modify academic systems.

Earlier systematic scholarship already identified an imbalance between technical innovation and educational involvement. Zawacki-Richter et al. (2019), reviewing the pre-generative-AI literature, found substantial attention to profiling and prediction, assessment and evaluation, adaptive systems and intelligent tutoring, while raising questions about the relative marginality of educators in some research. The result should not be extrapolated to a measured 2026 adoption rate. Rather, it supplies a historically situated warning: an education

system can acquire increasingly powerful analytical tools without adequately resolving who frames the educational question or evaluates the learner's experience.

For curriculum teams, historical perspective prevents two recurrent errors. The first is assuming that novelty establishes educational merit; many supposed innovations revive longstanding ambitions for personalisation, automation or reduced teaching cost. The second is applying a single AI rule to dissimilar applications. A speech-to-text accommodation, a simulated clinical conversation, a source-retrieval system, an automated essay scorer and an autonomous admissions workflow differ in data requirements, pedagogical purposes, failure consequences and appropriate oversight. Each should be evaluated as a specific socio-technical use case rather than approved under a generic institutional declaration that the university “uses AI.”

The intellectual history also contains competing conceptions of what it means to individualise teaching. Rule-based tutoring sought to represent domain knowledge and learner error explicitly; data-driven recommendation increasingly estimates patterns from previous interactions; contemporary language-model assistance can simulate an explanatory conversation without possessing a validated representation of the learner's conceptual state. These approaches may coexist within the same university. The difference matters when a lecturer interprets a system's statement that a student has achieved mastery. A diagnostic label might derive from a relatively interpretable exercise bank, an opaque prediction model, or a conversational response that is only loosely connected to assessment standards. Before making decisions about progression, an institution should determine which kind of inference the technology actually supports and which corroborating human assessment is necessary. Historical innovation does not dissolve the need to identify the source of a learning claim.

6.3 Generative AI, agentic systems, adaptive learning, automated feedback, and intelligent tutoring

Generative systems may support brainstorming, explanation, translation, code drafting, formative questioning, scenario creation and accessibility, particularly when students can challenge and verify outputs. Their principal educational value is conditional: an explanation becomes useful when the learner interrogates it against disciplinary concepts and credible sources; feedback becomes useful when it accurately addresses the student's work and prompts subsequent revision. The technology can also invite cognitive substitution, whereby a plausible completed artefact replaces the very reasoning the activity was intended to develop. Because these outcomes can arise from the same interface, evaluations should focus on the learning task and evidence of student action rather than the marketing category of the tool (Kasneci et al., 2023; Miao & Holmes, 2023).

Adaptive learning systems typically adjust material, pace or suggested practice based on learner information. Such adjustment can help novices encounter suitably challenging exercises and receive additional practice. Yet a system's inferred “mastery” is only as

defensible as the instrument, learning model and data on which it depends. Repeated correct answers to narrow questions may establish local procedural fluency without demonstrating transfer, disciplinary explanation or professional judgement. Institutions should ask how the system estimates progress, what it does for learners whose profiles depart from training data, and whether staff can see and correct inappropriate recommendations. Personalisation should not become a quiet mechanism for assigning students to different intellectual ceilings.

Intelligent tutoring can provide guided dialogue or stepwise practice that would otherwise be scarce. A well-designed use may require students to state a preliminary answer, expose assumptions, compare alternatives and reflect on errors before receiving further explanation. Conversely, an unstructured tutor that supplies complete solutions immediately can reduce productive struggle. Universities should therefore distinguish assistance that scaffolds thinking from assistance that bypasses it. The available research supports plausible opportunities and documented limitations, not a general conclusion that conversational tutoring consistently outperforms expert human teaching across disciplines and populations (Kasneci et al., 2023; Zawacki-Richter et al., 2019).

Automated feedback similarly requires disaggregation. Spelling correction, detection of missing submission elements, rubric-aligned comments and the evaluation of a complex legal or ethical argument have different evidentiary demands. Machine assistance can help lecturers produce an initial set of comments or identify patterns, but an apparent explanation may misunderstand a student's purpose, penalise unconventional but defensible thinking, or cite nonexistent evidence. The lecturer remains responsible for the fitness of feedback in relation to the stated criteria. Where AI materially contributes to high-stakes grading, the institution should require evidence of suitability, consistency, contestability and actual human review rather than merely naming a supervisor.

Agentic AI enlarges the stakes. A system instructed to “prepare the week's feedback” might retrieve assignments, rank students, draft individual responses and post them automatically. Such a sequence creates compound risks: incorrect access permissions, exposure of confidential records, biased ranking, misleading feedback and irreversible publication. Effective controls include limited permissions, approved destinations, separated approval steps, transaction logs, testing in nonproduction environments, prompt-injection resistance, and a named human who can halt or reverse actions. “Human in the loop” has little meaning when the operator cannot inspect what the agent did or lacks time and authority to intervene (Autio et al., 2024; Tabassi, 2023).

Institutional adoption should proceed from a use-case record specifying the intended educational benefit, required data, affected learners, failure modes, independent evidence of accuracy, accessibility, cost, residual risk, oversight and exit plan. Table 6.1 makes these distinctions operational. It is not a ranking of technologies. A relatively simple classifier may be high risk when it shapes admission or disciplinary outcomes; a sophisticated generative tutor may be lower risk when used voluntarily for reversible, supervised practice.

Table 6.1. Illustrative AI applications and the appropriate locus of educational control

Application	Potential contribution	Principal evidentiary question	Appropriate control
Predictive analytics	Identify learners who may need support	Is the prediction valid, fair and useful for this cohort?	Human review, consent/legal basis and support safeguards
Generative study aid	Provide explanations and examples	Can learners verify outputs and still demonstrate understanding?	Task instructions, source checking and accessible alternatives
Adaptive tutor	Provide differentiated practice	Does suggested practice support the intended mastery?	Educator oversight and performance checks
Automated feedback	Accelerate formative response	Are comments accurate, actionable and consistent with standards?	Sampling, staff moderation and correction route
Agentic workflow	Execute multi-step administrative tasks	Can every material action be authorised, inspected and reversed?	Least privilege, approval gates, logging and rollback

Note. Original analytical classification by the author, informed by Zawacki-Richter et al. (2019), Miao and Holmes (2023), and Tabassi (2023) and Autio et al. (2024). Controls are proposed, not official risk designations.

Contemporary intervention evidence warrants more explicit attention than an unqualified narrative of either improvement or intellectual decline. Deng et al. (2025) synthesised 69 experimental studies of ChatGPT-supported learning and reported favourable results for several measured outcomes, while cautioning that small samples, limited statistical power, outcome-selection practices and testing under conditions of continued AI access complicate interpretation. Chen and Cheung (2025), in a meta-analysis of 57 studies of generative AI in university learning, reported positive average results across several outcome categories but did not find a statistically significant metacognitive effect. Their findings are not interchangeable estimates of one universal educational benefit: the research questions, populations, intervention conditions, outcomes and pooling decisions differ. Nor do improvements on intervention-aligned tests necessarily demonstrate durable independent capability. These syntheses provide an evidence-based reason to pilot well-designed AI support, not a warrant to replace disciplinary instruction or assessment verification across the board.

A particularly informative, though not peer-reviewed, working paper by Contractor and Reyes (2026) reports a randomised undergraduate experiment using immediate and delayed unaided assessments. It distinguishes students who sought explanations from those who primarily automated text production, observing that the former tended to retain more of the subsequent unaided writing benefit. The experiment is limited to its specified tasks, participants and follow-up period, and the authors' proposed mechanisms should not be treated as universally established. Nonetheless, the design illustrates an important

methodological standard: evaluation of an educational AI intervention should test learning after assistance is withdrawn when independent performance is part of the stated outcome. A university introducing AI tutoring should therefore monitor what students can explain or perform later, not merely whether the system helped them submit a stronger immediate product (Contractor & Reyes, 2026).

6.4 AI and curriculum transformation: Graduate competencies, disciplinary knowledge, and professional readiness

AI makes curriculum review more urgent but does not justify replacing an intellectually demanding degree with a collection of application tutorials. Professional tools change more quickly than foundational concepts, and graduates need the means to evaluate technologies they did not encounter during their studies. Curriculum therefore has to differentiate enduring knowledge, general AI literacy, discipline-specific applications, professional judgement and capabilities that remain indispensable when technological services fail. A marketing student may use generative systems to draft options, but still needs to understand evidence quality, consumer behaviour, research design, competition and ethical representation. A health student may use decision support but must distinguish a suggestion from clinically accountable judgement. A historian can explore machine-transcribed archives yet must retain source criticism and interpretive responsibility (Biggs, 1996; Miao et al., 2024).

The appropriate unit of change is the graduate profile and programme learning outcomes, not the isolated addition of a fashionable module title. A programme should identify which graduates must understand AI as an object of study, which must use AI as a tool, which will design or govern AI systems, and which must recognise when AI is inappropriate. These roles overlap but require different levels of mathematics, computing, disciplinary knowledge and professional accountability. An introductory AI-literacy component can establish common foundations; repeated situated learning must then show how those foundations operate in research, teaching, law, business, engineering or community service. Without disciplinary application, a cross-cutting module risks producing generic vocabulary with little durable competence.

Curricular mapping should track at least five capabilities: understanding the purposes and limits of relevant AI systems; formulating meaningful problems and prompts; evaluating accuracy, provenance and uncertainty; managing privacy, bias, attribution and safety; and deciding when to reject, escalate or override an output. For programmes creating AI, additional mathematics, data engineering, validation, security and system-design outcomes are indispensable. Graduates should encounter counterexamples and real failure modes. Assessment of AI literacy cannot rest only on a student's ability to obtain an attractive response because high-quality prompting may coexist with poor verification or shallow conceptual understanding (Miao & Cukurova, 2024; Miao et al., 2024).

Curriculum redesign also raises a question of opportunity cost. Every new learning outcome consumes time, assessment capacity and sometimes specialised equipment. Academic boards should examine whether redundant content can be removed without weakening knowledge progression; whether AI can be integrated into existing cases; whether faculty can deliver the revised material; and whether any profession imposes distinct practice requirements. Curriculum committees should resist a practice of placing "AI" in many module descriptions while leaving no assessed evidence of independent professional judgement. Such symbolic alignment is particularly dangerous where the institution advertises AI-ready graduates before building corresponding teaching and validation capacity.

A useful three-stage developmental structure distinguishes *foundations*, *critical application* and *accountable independent performance*. Early learners explain how an output may be produced, identify uncertainty and apply simple data-protection rules. Intermediate learners compare AI and non-AI approaches, document verification and explain bias or failure. Graduating learners exercise contextual judgement in a consequential task, defend choices without depending upon the original system, and show that the final product meets disciplinary standards. Progression should be assessed across modules through an outcome map that also records the tasks students must complete without assistance. This preserves the meaning of the qualification rather than equating technological fluency with competence.

Rwanda's HEC 2025 guidance specifically calls for review of module outcomes, learning activities and resources and for a cross-cutting AI-literacy module reviewed at least annually, together with staff and student preparation. The National AI Policy provides developmental context but does not by itself prescribe a particular degree structure. Institutions should therefore verify the presently applicable HEC instrument, map its provisions to approved programmes, and then defend their discipline-specific curriculum choices through academic governance. The professional challenge is to move from apparent compliance to evidence that each graduate has acquired the knowledge and judgement described in the revised award (HEC, 2025b; Ministry of ICT and Innovation, 2023).

Graduate preparedness also requires a distinction between professional competence with AI and dependence on a specific vendor's interface. Consider a hypothetical public-health programme. Graduates may need to inspect the provenance of epidemiological data, recognise selection bias, critically examine an automated risk summary and communicate uncertainty. They need not all develop foundation models. Conversely, a computer-science programme that promises AI engineering capability must go beyond prompt formulation to mathematics, model development, evaluation, software testing, security and reproducibility. Law, humanities, business and education programmes make different legitimate choices. The graduate profile should justify these choices against disciplinary standards and foreseeable practice, indicating which competences are foundational, where AI creates new professional responsibilities, and which essential capabilities must remain demonstrable without AI.

Curriculum revision becomes rigorous when it names both what will be added and which existing learning will be protected.

Programme approval should also consider how the curriculum represents ethical conflict rather than simply endorsing a set of desirable behaviours. Students may encounter a system that saves staff time but has uneven error rates; a helpful translator whose use exposes confidential research data; or an automated recommendation inconsistent with a client's stated priorities. A demanding programme asks students to identify the competing obligations, evaluate alternative methods, justify an appropriate decision and explain residual uncertainty. Generic instruction to 'use AI ethically' cannot replace assessed opportunities to make these judgements. It is particularly important to distinguish the correct operation of a tool from professional accountability for its consequences (Miao et al., 2024; UNESCO, 2021).

6.5 AI literacy and competency development for students, lecturers, academic leaders, and reviewers

AI literacy is not a single digital skill and should not be measured solely by confidence or frequency of use. Early conceptual research differentiated understanding, use, evaluation and ethical engagement rather than equating literacy with software operation (Ng et al., 2021). Students must know what relevant tools can and cannot establish, practise independent verification, recognise ethically consequential data, and explain the intellectual contribution they make when assisted. UNESCO's 2024 competency framework for students identifies a human-centred mindset, ethics, AI techniques and applications, and AI-system design, with progressive stages of understanding, application and creation. Although designed as a curricular resource rather than a Rwanda-specific regulation, it provides a useful basis for differentiating elementary user awareness from genuinely critical and creative agency (Miao et al., 2024).

Lecturers require an additional pedagogical layer. They need to distinguish constructive assistance from substitution, redesign outcomes and assessment tasks, verify machine-generated examples, detect fabricated references, evaluate learner accessibility and understand disciplinary limits. UNESCO's teacher framework presents human-centred orientation, AI ethics, foundations and applications, AI pedagogy, and professional learning as related dimensions. It recognises that the lecturer is not simply a consumer of educational software but an accountable professional whose decisions shape student agency. Training in writing prompts is insufficient if lecturers cannot establish whether a proposed use improves or compromises learning (Miao & Cukurova, 2024).

Academic leaders, programme chairs and regulators face different competence requirements. A dean must understand governance authority, procurement risks, academic workload, appeal rights and the evidentiary limitations of automated reports. A registrar must protect award records and student information. A research leader must address confidential datasets, attribution and publication ethics. An HEC programme evaluator needs enough literacy to

interrogate claims of AI integration, recognise false proxies for readiness and request appropriate demonstrations without pretending to be an expert in every model architecture. The central professional skill for reviewers is the ability to connect a specific educational claim to an applicable rule, a relevant evidence source, an adequate verification test and a bounded evaluative conclusion.

Professional development should therefore be role-based, iterative and assessed through authentic performance. Staff might be asked to revise an assignment brief with task-specific permissions, identify fabricated citations in a generated literature summary, assess an accessibility failure, or document why a proposed predictive system should not be procured. Participation certificates show that learning opportunities were offered; they do not establish competence. More persuasive evidence includes moderated artefacts, trained reviewers' performance in realistic scenarios, improvement in assessment instructions and verified changes to institutional procedures. Continuing updates are required because platforms, institutional policies and misuse patterns change, but training frequency alone is not a meaningful educational outcome.

Equitable development requires attention to language, disability, connectivity, cost and discipline. An employee with unreliable access should not be judged deficient because the institution has imposed a subscription-based tool without alternatives. Students should not need to expose sensitive personal circumstances to obtain an AI-enabled accommodation. Training materials should demonstrate tool use and non-use, include low-bandwidth routes and offer assessment methods that do not reward only those with premium subscriptions. In multilingual contexts, institutions should investigate whether examples and outputs reflect the language varieties, disciplinary sources and local practices of their learners rather than treating English-dominant results as neutral (Liang et al., 2023; UNESCO, 2021).

Evidence of literacy must ultimately be visible in work. A credible learner can explain why a response is misleading, identify an unsupported premise, find an authoritative contrary source and decide whether the tool ought to be used at all. A credible lecturer can defend the assessment inference after permitted AI assistance. A credible reviewer can distinguish HEC's stated requirements from professional recommendations and explain the limits of an inspection result. This conception of literacy connects technological skill to epistemic responsibility and prevents the institution from measuring success by adoption figures alone.

A practical way to assess competence is to examine comparable work under three conditions: without AI for indispensable foundational tasks, with bounded AI for supervised application, and with a deliberately flawed or uncertain AI output requiring independent evaluation. A postgraduate research student, for example, should identify an appropriate design without relying on generated methodological language, use an approved assistant to compare alternative analytical plans, and finally detect ungrounded causal claims in a synthetic interpretation. The evidence should be moderated against transparent criteria rather than scored according to the sophistication of the prompts alone. This approach avoids treating AI

literacy as a ceremonial induction certificate and enables institutions to distinguish tool proficiency from conceptual mastery.

The same principle applies to staff and reviewer competence. Academic developers should use observed work, including a corrected assessment brief, an independently checked reference list and a documented response to an AI security or fairness failure, rather than infer capability from workshop attendance. A reviewer evaluating an institution's AI training programme should ask for a sample of staff-produced artefacts, the methods used to judge them and corrective actions where misconceptions persisted. Limited sampling cannot prove the competence of every employee, but it is stronger evidence of enacted practice than a schedule or attendance record alone. Review sampling should be risk-sensitive and should protect confidential academic materials (Miao & Cukurova, 2024; Sangwa, 2026a).

6.6 AI-assisted curriculum design, lesson planning, resource development, teaching, and academic research

AI can accelerate preliminary curriculum work by suggesting an inventory of knowledge domains, comparing phrasing of intended learning outcomes, drafting formative cases and checking whether a module description contains obvious gaps. The efficiency is real in the limited sense that text can be produced rapidly. Educational quality, however, depends on whether these suggestions survive disciplinary scrutiny, qualification-level evaluation, stakeholder evidence, workload testing and regulatory review. A generic system asked to create a bachelor's curriculum may reproduce fashionable module labels, inappropriate prerequisites or imaginary professional regulations. The academic team must therefore treat output as a proposal whose provenance and suitability remain to be established, not as a validated academic specification (Biggs, 1996; Miao & Holmes, 2023).

Responsible curriculum assistance begins with authoritative input and clear task limits. A committee may supply approved programme learning outcomes, the relevant national qualifications descriptors, an institution's academic regulations and a structured list of existing modules, provided that no protected information is exposed to an unauthorised service. The AI system can be asked to identify candidate inconsistencies or generate alternative sequencing scenarios. Staff then manually verify credit calculations, curricular dependencies, qualification demand and cited provisions against the originals. The final decision record should identify which suggestions were accepted, rejected or revised and why. Such a procedure preserves a defensible human academic rationale while using automation for preliminary comparison and drafting.

Lesson planning offers similar opportunities and hazards. A lecturer may use AI to produce multiple explanations of an abstract concept, generate a contrasting case, suggest accessible alternatives for a complex diagram or create questions for formative practice. These resources require verification for factual correctness, linguistic suitability, alignment with intended learning and accessibility. In a quantitative discipline, a generated worked solution should be

solved independently; in law, every legal proposition should be checked against current authority; in theology or history, quotations and bibliographic claims should be located in genuine texts; in health education, scenarios must be clinically reviewed and de-identified before use. The appearance of a plausible teaching resource is not evidence that it can safely be released to learners.

The research environment raises particular concerns. AI may help construct search expressions, organise permissible notes, explain statistical code or suggest manuscript structure. It cannot be assumed to have searched an identified database merely because it reports studies or produces citations. References, quotations, datasets, calculations and analytical claims must be independently verified. A researcher may not invent search or screening records, fabricate an interview transcript, misrepresent machine-produced summaries as direct reading, or transfer confidential peer-review documents into a public service without permission. Research authors retain responsibility for methodological transparency, scholarly originality and publication ethics, whether or not AI materially assisted a stage of their work (Miao & Holmes, 2023; UNESCO, 2021).

There is also a danger of epistemic homogenisation. If academics increasingly rely on similar systems to nominate readings, generate examples and draft assessment prompts, curricula may converge around highly represented material while neglecting African scholarship, local languages, community knowledge and disciplinary dissent. This is not a claim that all AI systems systematically omit African sources. It is a risk requiring active testing and the deliberate inclusion of locally relevant material. Programme teams should compare suggested sources against scholarly databases, African repositories, specialised professional literature and relevant regulatory instruments. Intellectual diversity depends upon informed curation, not the volume of automatically generated resources.

Institutional quality assurance should examine how AI-assisted content is checked before release and after student feedback. A feasible workflow separates generation, academic verification, copyright and privacy review, accessibility testing, approval, publication and periodic correction. The verifier should be competent in the subject and able to identify plausible errors; the reviewer should retain a record of the material actually approved. For continuously generated student-facing explanations, a different approach may be needed: boundary prompts, curated knowledge bases, clearly identified uncertainty, reporting routes, transcript sampling where lawful, and escalation to a qualified human. Such controls should be proportionate to consequence rather than imposed identically on a low-stakes study quiz and high-stakes clinical instruction.

For curriculum committees, it is helpful to organise AI-assisted design as a controlled academic-production process. The initiating lecturer specifies the intended learning, audience, relevant authoritative resources, confidentiality classification and the exact function delegated to the tool. The generated candidate material is then checked by a competent subject specialist against original sources, tested for cognitive demand and accessibility, and examined for

assessment conflicts. The module coordinator records the adopted version and a date for review; where the material is used in summative assessment, appropriate moderation and security controls apply. Each stage needs a named owner because distributed use of a tool can otherwise make a factual or pedagogical defect nobody's responsibility. The evidentiary record should be concise enough to maintain in ordinary departmental work yet sufficient to reconstruct consequential decisions.

AI-supported research also raises a conflict between the convenience of synthetic material and the integrity of evidentiary provenance. A generated bibliography is not the result of a database search, an invented dataset is not a field observation, and a confident summary does not demonstrate that the cited source was examined. Similarly, software-generated coding suggestions or statistical interpretations must not be presented as independently verified analysis until the researcher has checked inputs, assumptions and results. When confidential manuscripts, institutional records or student research are processed, privacy and contractual authorisation are prior conditions rather than formalities to address after publication. Editors, supervisors and examination boards should expect proportionate disclosure of material assistance while retaining ordinary criteria for originality, validity and research ethics (Miao & Holmes, 2023; UNESCO, 2021).

6.7 Assessment validity, authentic assessment, higher-order reasoning, and evidence of individual learning

The fundamental question of assessment is inferential: what may the university legitimately conclude about a learner from the performance it observes? An essay grade might support a claim about source-based reasoning if the student conducted that reasoning, the task elicited it and the scoring criteria reflected it. When an AI system supplies the literature synthesis, structure, argument or final answer, the identical grade may support a different and narrower claim. AI does not automatically invalidate an assessment; it changes the assumptions that connect a submitted artefact to an interpretation of individual competence. Kane's (2013) argument-based account of validity is particularly useful because it requires scrutiny of the evidence and inferential steps supporting the intended interpretation and use of scores.

Constructive alignment remains necessary but is insufficient when the learner's contribution is unobserved. A module may align the stated outcome “critically evaluate competing explanations” with an essay called “Critical evaluation,” yet the assignment may be completed largely through unexamined machine synthesis. Assessment designers must establish what quality of individual reasoning needs to be demonstrated, whether permitted AI assistance threatens that evidence, and what complementary task would make it visible. The solution may be a short oral defence, a supervised analysis of unfamiliar material, a staged decision log, a live debugging exercise or triangulation of several performances. The choice follows the construct, not a universal rule that every student must sit an additional examination (Biggs, 1996; Kane, 2013).

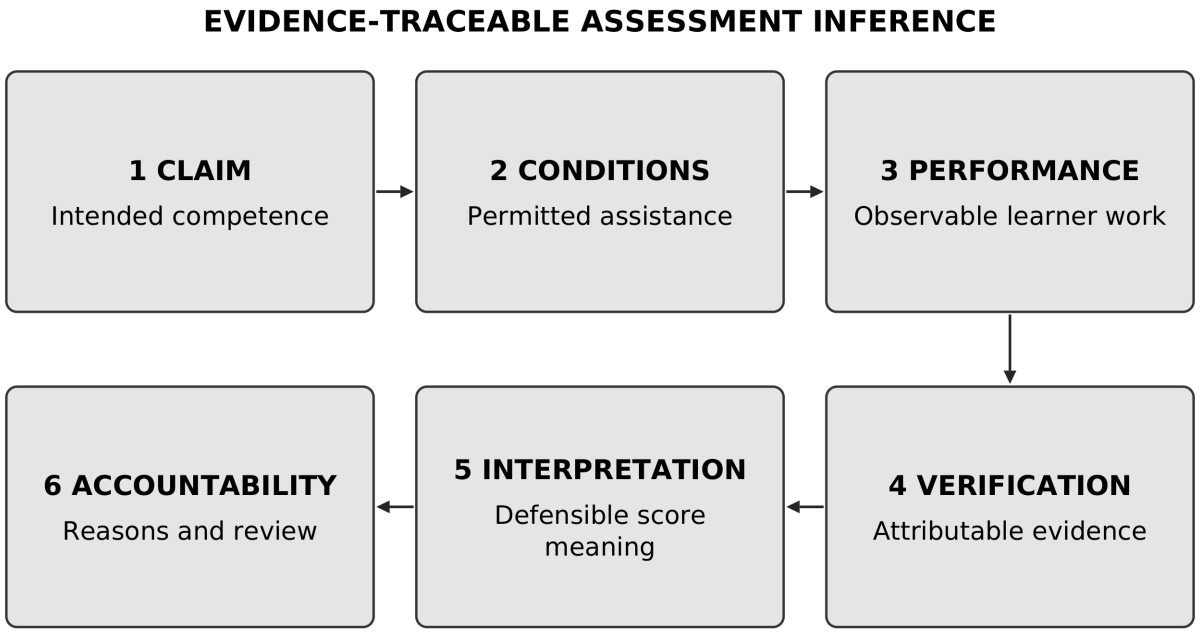
The distinction between product and process is consequential. A polished final artefact may be valuable in professional practice, especially where responsible use of tools forms part of real work. Yet it can conceal the origin of judgements, the handling of uncertainty and the student's ability to transfer knowledge to a new situation. Process evidence should make relevant thinking inspectable through research notes, interim decisions, revised assumptions, selective draft histories, code commits, laboratory notebooks or reflective explanations. Such evidence is not infallible: logs can be fabricated, oral defences can privilege confident speakers and controlled examinations can create disability or language disadvantages. A valid design uses several appropriate sources without equating procedural inconvenience with academic rigour.

Authenticity likewise requires conceptual precision. A “real-world” task is not inherently valid because it resembles a workplace; the task must represent the competence being claimed, and the scoring must distinguish essential performance from irrelevant circumstances. A simulated procurement decision can test reasoning about supplier evidence, risk and public accountability if those dimensions are carefully represented. An unsupervised group project may be authentic to teamwork but provide weak evidence of each member's individual statistical competence. Conversely, a conventional written examination can be appropriate when independent explanation or foundational calculation is indispensable. Authenticity is an alignment claim about meaningful performance, not a decorative attribute attached to case studies.

Assessment in an AI-rich environment must differentiate tasks where AI is prohibited because unaided competence is the construct, tasks where bounded assistance is permitted, and tasks where critical use of AI is itself assessed. These categories require compatible marking criteria. If AI is encouraged to generate preliminary options, students should be evaluated on verification, selection, explanation and accountability, not merely on the fluency of the resulting output. If the assessment concerns foundational statistical reasoning, the student must demonstrate the relevant operations or interpretation independently. This is particularly important in professional and safety-critical programmes where a correct machine-assisted answer does not necessarily show that a graduate can recognise a dangerous error.

Programme-level assurance should test the distribution of assessment evidence across an entire award. A single high-stakes capstone cannot automatically compensate for three years of unclear authorship, while a large number of low-level quizzes may fail to demonstrate graduate-level synthesis. Curriculum committees need an assessment blueprint indicating which outcomes are assessed, at which developmental stage, with what AI conditions, how individual learning is authenticated, and where moderation occurs. The record should distinguish intended design from actual assessed work and the academic decisions made from it. The essential result is credible graduate certification rather than maximal surveillance or the accumulation of detector scores.

Figure 6.1. From student performance to a defensible qualification claim



Note. Original conceptual diagram. A submitted artefact is evidence only through a chain of explicit claims, authorised assistance conditions, verification, scoring, interpretation and review; it is not direct proof of independent achievement.

An assessment argument can be decomposed into several propositions that require different controls. Scoring asks whether the observed response has been evaluated consistently against the intended criteria. Generalisation asks whether performance would remain defensible across appropriate tasks or examiners. Extrapolation asks whether the result supports a claim about capability outside the immediate task. Consequential use asks whether a grade, progression decision or professional credential is justified in light of that evidence and its limitations. AI can disturb any of these connections: an automated marker may mis-score an original answer; an assisted essay may inflate apparent individual performance; a polished simulation may fail to predict authentic practice; or a detector-driven misconduct action may generate serious harm from weak evidence. Argument-based validation helps institutions select targeted safeguards rather than accumulate generic restrictions (Kane, 2013).

Assessment policies should consequently differentiate permitted support during learning from the conditions under which certification evidence is collected. A lecturer may quite properly encourage students to practise explanations with an AI tutor, while requiring an independent assessment of core reasoning. Conversely, a professional task may deliberately demand the responsible use of an AI system, in which case prohibiting all assistance would misrepresent the practice being assessed. Neither approach should be assumed superior

without considering qualification level, construct relevance, accessibility, moderation and the claims eventually made to employers or professional bodies. Programmes need a documented balance between unaided and tool-mediated achievements, with independent demonstrations located where mistakes could affect public safety or the meaning of the award.

6.8 Academic integrity, authorship, AI disclosure, plagiarism, and limitations of detection systems

Academic integrity concerns honest participation in a scholarly community whose assessments, research and qualifications depend upon truthful representation. Synthetic audio, video and images can also impersonate participants or fabricate apparent practical evidence, so authorship checks cannot be confined to machine-written prose. AI alters the means by which assistance can be obtained but does not abolish the need to distinguish students' contributions from those of other people and systems. Traditional plagiarism, unauthorised collaboration, contract cheating, fabrication and misrepresentation remain relevant, while new cases arise when students present generated analysis as independent thought or conceal an AI-assisted procedure that assessment rules expressly prohibit. Yet the use of AI is not automatically plagiarism in the ordinary sense of unattributed human-source copying. Misconduct should be defined against the relevant rule, intellectual claim and evidence, rather than through imprecise labels (Miao & Holmes, 2023; Weber-Wulff et al., 2023).

The distinction matters for fair teaching and disciplinary decisions. AI-based grammar correction may be compatible with an assignment evaluating historical argument but inappropriate for an examination of unaided translation, depending on the announced criteria. Generating research questions may be permissible, while inventing interview data or sources is not. Use of a model to refactor working code may be legitimate in a software engineering task whose outcome includes tool evaluation; it could invalidate an introductory programming exercise assessing whether a learner can write and explain elementary logic. Students require prospective, task-specific instructions because general institutional statements cannot resolve such distinctions. HEC's 2025 guidance expressly addresses prohibited, permitted-with-attribution and encouraged uses, and recommends clear module assessment instructions rather than an unqualified blanket permission (HEC, 2025b).

Authorship should be understood as accountable intellectual contribution, not the manual typing of every word. In academic research, the author is responsible for the truthfulness of representations, choice and interpretation of sources, analytical decisions and the final claims advanced. In student work, the exact expected contribution depends on the outcome being assessed. A student may legitimately use an aid while still performing the core reasoning, or may supply minimal direction to obtain a complete artefact that conveys little evidence of their competence. Institutions should require clear statements of the nature and extent of assistance, attribution where relevant, and a capacity to explain or defend the submitted work.

An AI system should not be treated as a scholarly author capable of accepting responsibility, consent or institutional accountability (Miao & Holmes, 2023; UNESCO, 2021).

A proportionate disclosure record identifies the tool and, where relevant, version, the stages at which it was used, the purpose of assistance, any substantive content retained and the human verification conducted. Demanding complete transcripts for every incidental grammar suggestion would create excessive data collection and burden; accepting "AI used" without identifying material contributions may disclose too little. Institutions can set graduated expectations based on stakes, subject matter and privacy. HEC's Appendix IV provides an official AI-use declaration form covering categories of assistance and accountability. The original model in Table 6.2 offers a concise course-level supplement and should not replace the official form where that form applies (HEC, 2025b).

Automated AI-text detection does not provide a defensible shortcut to authorship. Weber-Wulff et al. (2023) tested multiple detection systems and found substantial limitations in accuracy, reliability and resistance to paraphrasing. Liang et al. (2023) documented serious false-positive problems for non-native English writing samples in the tools they tested. Those studies do not prove that every later detector performs identically; they establish that high-stakes use requires current independent validation under relevant language and task conditions. A detector score cannot, by itself, establish that a particular student has committed misconduct. Equating a vendor's probability or category label with proof risks both false accusation and the overlooking of actual breaches.

A procedurally fair misconduct investigation should begin with a concrete potential rule breach, preserve relevant evidence securely, examine ordinary alternative explanations, invite the student to respond and obtain a reasoned decision from an authorised person. A lecturer may discuss the student's work or request an appropriately designed demonstration where institutional rules permit, but must not improvise a punitive oral examination solely because an essay "sounds like AI." Appeals, disability accommodations, language differences, data minimisation and records retention all matter. The academic question is what was authorised and what can be established, not whether suspicion can be made to feel persuasive. Detection may at most constitute a limited investigative signal under policy, not a self-authenticating verdict.

A disclosure process should be proportionate, understandable and prospective. For example, an assessment brief may state that generative AI can be used to develop a preliminary outline and language-edit a report, but not to invent data, sources or substantive findings. The student could then declare the service used, the nature of the assistance, the passages or decisions materially affected and the checks performed, while affirming responsibility for the submitted argument. Where no AI was used, a simple declaration may be appropriate if required under the institution's rules. A department should explain that disclosure of permitted assistance is not itself an allegation and should not trigger an automatic reduction

in marks. The purpose is to make the academic contribution intelligible under the stated conditions, not to collect extensive personal activity records without educational justification.

Misconduct procedures require an especially disciplined distinction between suspicion, enquiry and finding. Unusual textual fluency, irregular draft histories, a disputed reference or a model-generated similarity flag may warrant an initial conversation, but none is intrinsically a determination of unauthorised assistance. An authorised reviewer should identify the actual rule in force when the work was completed, request only relevant evidence, provide meaningful opportunity to respond and explain the reasons for any conclusion. Accommodation and appeal procedures should be preserved. These safeguards protect academic integrity as well as students: a university that cannot distinguish a verified breach from an unexplained anomaly undermines confidence in its own decisions (Liang et al., 2023; Weber-Wulff et al., 2023).

HEC's 2025 guideline makes a notably cautious reference to a general 20–30% range for generated content, explicitly presenting it as discussion guidance rather than a strict rule and acknowledging imperfect detectors. Because “percentage of AI content” lacks a stable, reliable measurement basis across tasks and systems, institutions should not convert that passage into an automatic disciplinary threshold. A defensible policy instead specifies allowed functions and required individual contributions, which can be examined through assessment design and evidence. This interpretation respects the document's stated qualification while protecting procedural fairness and the validity of educational judgement (HEC, 2025b; Liang et al., 2023; Weber-Wulff et al., 2023).

Table 6.2. Task-level AI-use disclosure model

Declaration field	Information to record	Why the field matters
Task and AI condition	Module, assessment, announced permissions	Tests use against the actual requirement
Tool identity	Service/model and version if reasonably available	Supports traceability without implying a fixed model
Nature of assistance	Ideation, translation, editing, coding, analysis, drafting or other	Distinguishes technical help from substantive production
Verification and human contribution	Sources checked, calculations repeated, decisions retained or changed	Shows what the declarant can responsibly defend
Protected information	Confirmation that applicable data rules were followed	Identifies confidentiality and permission risks
Accountability statement	Confirmation of accuracy, permitted use and own contribution	Preserves human responsibility and due process

Note. Author's proposed condensed teaching and assessment template, intended to complement HEC's official Appendix IV AI-use declaration, not replace it. Prompts or transcripts should be collected only when justified and lawfully handled.

6.9 Assessment redesign: Oral defence, portfolios, supervised performance, process evidence, and workplace-based assessment

Assessment redesign should begin with a map of vulnerability: not merely whether a generative model can produce a plausible answer, but whether the task can still establish the intended knowledge and judgement when permitted or unauthorised AI assistance is realistically available. The design team identifies what the graduate must do independently, what tool-mediated practice is legitimate in the profession and which evidence sources can support each inference. It then chooses an appropriate combination of assessment occasions, feedback, authentication and moderation. The goal is a coherent assessment system, not an arms race between student tools and increasingly burdensome restrictions (Kane, 2013; Miao & Holmes, 2023).

Oral defence can make reasoning visible when it tests explanation, transfer and response to probing counterexamples. It is particularly useful after a dissertation, policy report, design artefact or complex project. Yet oral questioning is not automatically fair or reliable. Examiners need an assessment blueprint, agreed criteria, realistic time allocations, disability accommodations, records, moderation and preparation that does not reward verbal fluency irrelevant to the construct. A short defence should test selected material in the submitted work, not become an unstructured search for inconsistencies. For large cohorts, sampling, structured group-based procedures or targeted high-stakes defences may be more sustainable than conducting lengthy interviews for every minor assignment.

Portfolios can document progression and make feedback use visible across time. Strong examples combine initial work, substantive revisions, reflection on choices, external feedback and a final defended artefact. Their weakness is that accumulated documents are not automatically authentic or sufficiently challenging. Institutions should specify milestone verification, supervisor involvement, criteria for independent contributions and retention of appropriate audit material. In digitally mediated programmes, portfolios can be accessible and longitudinal, but they require workable systems, clear ownership of evidence and arrangements for students with limited connectivity. A portfolio is valuable when it supports a developmental inference, not because the platform can store many files.

Supervised performance remains essential where practical competence has a safety, ethical or professional dimension. Clinical observation, laboratory operation, teacher practice, interpreting an unfamiliar dataset under controlled conditions and the live defence of software behaviour can each supply evidence inaccessible from a polished take-home report alone. Supervision must be proportionate to risk, appropriately staffed and consistent with professional regulation. In some disciplines it may be useful to permit AI during one stage and prohibit it during another: a student designs an engineering solution with a permitted assistant, then independently calculates a safety-critical quantity and defends the assumptions. This differentiation permits technological literacy without replacing foundational capability.

Workplace-based assessment can situate judgement within professional complexity, but an employer's positive comment does not replace a calibrated academic standard. Placement supervisors need clear descriptors, conflict-of-interest protections, documentation and appropriate university moderation. Where AI is embedded in the workplace, the programme should distinguish the student's actions from system-generated suggestions, the organisation's final decision and other team members' contributions. Small enterprises or rural placements may lack sophisticated monitoring systems, so evidence should focus on observable decisions, supervisor testimony, verified products and reflective explanation rather than prescribing costly software as the only acceptable record.

Table 6.3 translates this principle into an assessment-redesign instrument. No modality guarantees integrity, and no universally optimal mix is implied. The matrix should be completed alongside an outcome map, accessibility review and workload appraisal. A well-designed revision may combine a brief AI-supported draft, an independently prepared analysis of unfamiliar counter-evidence and a moderated oral or written defence. The evidentiary strength emerges from convergence among performances, not from adding rituals that do not test the relevant competence.

Table 6.3. Assessment-redesign matrix for AI-rich learning environments

Learning claim and task	Permissible AI condition	Supplementary evidence	Review of validity and fairness
Explain foundational reasoning	Restricted or none during final demonstration	Supervised unfamiliar problem and explanation	Ensure accessibility and genuine conceptual demand
Develop research-informed argument	Bounded source discovery and editing with disclosure	Annotated sources, evidence checks and sampled defence	Do not mistake polished language for analysis
Make professional recommendation	Responsible AI assistance may be required	Decision record, alternatives, risk defence	Score judgement and verification, not output fluency
Demonstrate technical practice	Conditional tool use in designated stages	Observed performance, testing and error recovery	Protect safety and separate individual contribution
Produce creative or design work	Task-defined ideation or generation	Iterative portfolio, critique and process commentary	Credit original choices and contextual merit
Complete workplace placement	Rules consistent with host and programme	Supervisor observation, verified artefact and viva	Address privacy, power and consistency across sites

Note. Original proposed curriculum and assessment tool by the author. Its application requires programme-level alignment, moderation, access provisions and current regulatory verification.

A worked assessment example illustrates the necessary sequence of decisions. In a hypothetical upper-level public-policy module, the intended outcome is to appraise competing policy interventions using valid evidence and make a defensible recommendation. Students first produce a short independent interpretation of an unfamiliar official data extract

under appropriate supervised conditions. They then prepare a longer evidence-informed policy memorandum with declared, bounded AI assistance for idea generation and editing. Finally, they defend a selected inference against new counter-evidence in a structured ten-minute oral or equivalent accessible written examination. The independent interpretation tests foundational analytical capacity; the memorandum tests research synthesis and professional communication; the defence tests transfer, uncertainty and the student's ownership of consequential judgement. No single component is described as a complete measure of competence, and each requires an appropriate marking rubric and moderation.

The assessment blueprint could allocate criteria to evidence quality, analytical reasoning, treatment of alternative explanations and accountable recommendation rather than rewarding stylistic fluency. It would also indicate which evidence is individually attributable, which stages permit assistance, what accessibility routes are available, how second marking or calibration occurs, and how suspected breaches are considered separately from academic grading. An institution with limited staff capacity might replace a full oral examination of every formative task with moderated short defences focused on high-stakes outcomes, supplemented by properly recorded supervised work. The objective is not to impose a costly universal procedure but to ensure that the total assessment system supports the specific qualification claims. In professional programmes, any required practical observations or external licensing obligations remain additional constraints (Biggs, 1996; Kane, 2013).

6.10 Algorithmic bias, data protection, transparency, explainability, and learner rights

AI may perpetuate unequal treatment through biased training data, unsuitable outcome definitions, inaccessible interfaces, inappropriate proxy variables or unrepresentative testing. Bias is not exclusively a property of an algorithm: institutional practices can be discriminatory before automation, and automated systems can reproduce or amplify existing patterns. A learner-support model that relies heavily on frequent platform login might misidentify employed students who study offline, students sharing devices or those with accessibility constraints. An automated scoring system trained on dominant forms of academic English might disadvantage legitimate linguistic variation. Governance must examine purpose, data, model behaviour and the human decisions that follow, not simply whether a vendor describes its system as fair (Liang et al., 2023; UNESCO, 2021).

Fairness cannot be established through a single aggregate accuracy statistic. Performance should be tested for the populations and subgroups materially affected, using lawful and ethically appropriate data, and interpreted with awareness of sample limitations. In small cohorts, subgroup analysis can become unreliable or threaten confidentiality, so qualitative error review, stakeholder participation and conservative decision rules may be more useful than invented numerical precision. Educational equity also involves distribution of benefit: a system may function accurately for those who can afford a premium subscription while excluding other learners. Institutions should establish equivalent academic routes where AI

access is not essential to the assessed outcome and explain when access is genuinely a curricular requirement.

Rwanda's Law No. 058/2021 of 13 October 2021 relating to the protection of personal data and privacy imposes legal responsibilities relevant to processing student and staff information. The competent supervisory structure and particular duties must be interpreted from the current law and applicable implementing arrangements, not guessed from a vendor's contract. Educational use may involve names, academic results, disability accommodations, attendance, research records or disciplinary concerns. Before submitting such information to a third-party model, the university must identify the lawful basis and necessity of processing, data categories, retention, access, transfers, security and applicable rights. A lecturer's convenience does not confer independent authority to disclose confidential student work to an unapproved service (Data Protection and Privacy Office, n.d.; Republic of Rwanda, 2021b).

Purpose limitation and data minimisation should be practical design principles. A formative tutor may need to know which concept a learner is studying without knowing the learner's home address, health history or disciplinary file. A system generating a generic case can often use synthetic data rather than a real client's records. A reviewer analysing academic standards should not upload unredacted candidate lists or confidential accreditation submissions to an external system absent authorisation and adequate safeguards. Procurement agreements must address model training on institutional inputs, retention and deletion, subprocessors, cross-border data movement, incident response, audit access and meaningful contract termination. These matters are integral to educational quality because a breach can undermine learner trust and continuity.

Explainability has several levels that should not be conflated. A lecturer may explain how a tool is used in an assessment; the institution may explain why a particular system was approved; a model developer may offer information about design and limitations; and an affected student may reasonably ask why an adverse decision was made. The university does not need to provide a technically impossible complete reconstruction of every model parameter to give a clear account of its own decision. It must, however, disclose material automated involvement where required, provide intelligible reasons for consequential academic actions and ensure an authorised human can reconsider disputed evidence. An explanation that merely repeats an opaque AI output is not adequate accountability (Tabassi, 2023; UNESCO, 2021).

Student rights are especially important where systems rank applicants, infer behaviour, detect suspected misconduct or determine progression. A low-stakes tutoring recommendation may be reversible; an unjustified accusation, adverse grade or admission decision can have durable effects. Risk should reflect severity, scale, vulnerability, likelihood, reversibility and the learner's capacity to contest the action. Proportionate safeguards include advance notice, meaningful choice when feasible, human review, documented reasons, correction processes

and accessible complaint pathways. Technological innovation should never convert administrative convenience into an exemption from academic fairness.

Language and disability accessibility must be assessed at the point of actual use. A multilingual chatbot can produce a grammatically plausible answer while misunderstanding a technical concept in Kinyarwanda or omitting context from a locally relevant example. A speech-enabled tutor may improve access for some learners but fail students using screen readers, noisy shared environments or inexpensive devices. Institutions should therefore involve representative users, check real task completion, provide correction routes and retain alternative forms of participation where equivalent learning can be achieved without the tool. This is also a question of epistemic fairness: evaluation should not mistake facility in a model's dominant language or conversational style for superior disciplinary judgement. Appropriate tests should examine whether differences in performance arise from educationally relevant competence or from tool and access conditions (Liang et al., 2023; UNESCO, 2021).

Institutional information governance should account for the data life cycle rather than focus only on the moment of upload. Relevant questions include whether personal data are collected lawfully, whether identifiable inputs are used for model improvement, who can retrieve conversations, whether subprocessors or cross-border transfers are involved, how long logs persist, how deletion requests are executed and how a serious incident is escalated. A contract promising confidentiality is weak protection if staff continue to disclose identifiable coursework through unapproved personal accounts. Institutions need both technical measures and understandable staff guidance, coupled with auditing proportionate to the sensitivity and scale of use. A student's consent, where relied on, should not be treated as freely given if the only practical route to an essential course activity requires surrendering unnecessary data (Republic of Rwanda, 2021b).

6.11 Academic labour, faculty professional development, institutional procurement, and technological dependence

AI is frequently presented as a productivity instrument, but the relevant institutional question is where work is displaced, intensified or newly created. Rapid drafting can reduce some preparation time while increasing obligations for verification, assessment redesign, student consultation, disciplinary investigations and vendor oversight. Automated first-pass feedback may release time for more demanding discussion, or become a pretext for expanding cohorts without preserving lecturer availability. Economic claims about efficiency should therefore be tested against full work processes, not merely against the time a machine requires to produce a text. A university should account for academic, technical, legal, accessibility and information-security labour across the whole system.

Academic labour also carries professional and epistemic responsibilities that cannot be delegated by contract. Lecturers must choose what is educationally worth teaching, protect disciplinary standards, interpret students' reasoning and exercise judgement where values

and evidence conflict. An institution that uses AI to generate most teaching material while removing specialist verification may reduce visible labour but increase intellectual and safety risk. Conversely, blanket refusal to use suitable tools may squander opportunities for accessibility, multilingual explanations or rapid formative support. The appropriate criterion is whether the technology improves the institution's capacity to fulfil its educational commitments without displacing human accountability (Miao & Cukurova, 2024; Zawacki-Richter et al., 2019).

Procurement is a curriculum and quality-assurance decision whenever a system affects teaching, learning, assessment or academic records. A responsible approval file should contain an educational case, consideration of alternative approaches, lawful data-processing assessment, security review, accessibility test, rights and intellectual-property terms, cost analysis, evaluation of vendor claims, pilot plan, assigned system owner and an exit strategy. A free or discounted trial can create significant future costs if data, student workflows or course material become difficult to migrate. An institution should identify whether it can export records in usable forms, retain a viable non-AI route and continue teaching if service access is interrupted or prices rise.

Technological dependence has a geopolitical and economic dimension. Cloud services can be concentrated among a small number of providers, with foreign currency charges, changing national restrictions, shifting terms and outages affecting local users. Hosting a smaller model locally may improve control over some data and continuity, but it creates its own costs in hardware, energy, maintenance, security, specialised staff and model evaluation. “Local” is not synonymous with secure or unbiased; “open source” does not, without examining the actual licence and available components, establish unrestricted use or reproducibility. Decision-makers should compare feasible operating arrangements through total cost, governance rights, safety and educational performance rather than slogans about sovereignty.

Environmental consequences are also relevant to procurement and curriculum decisions. AI services use energy and computing resources, and the scale of impacts depends on infrastructure, deployment and use patterns. Precise attribution of environmental effects to a particular student prompt is often methodologically uncertain. Universities can nevertheless avoid gratuitous high-compute use, demand reasonable information from suppliers, optimise unnecessary repetition and compare alternatives without presenting unverified emissions calculations as evidence. The broader task is responsible stewardship of educational, financial and environmental resources consistent with the institution's mission and documented constraints (Tabassi, 2023; UNESCO, 2021).

Professional development cannot be an isolated induction webinar. Institutions need continuing communities of practice, disciplinary mentoring, confidential support for problematic use cases and recognition that staff require time to redesign curricula. Academic managers should establish workload allowances for assessment review and quality verification rather than expecting lecturers to absorb new governance burdens without

resources. Staff should have clear channels for refusing unsafe use, reporting system failures and requesting reconsideration of tools imposed centrally. Sustainable AI capability is a coordinated organisational function, not an accumulation of individual subscriptions.

A distinct technical risk arises when an AI system can retrieve external content or execute tools. Instructions embedded in a webpage, assignment, repository document or message may attempt to redirect the system's behaviour, including toward disclosure of information or unauthorised changes. This form of prompt injection is not resolved merely by asking the model to ignore malicious text. Universities should implement least-privilege access, separate untrusted content from authoritative instructions, require human approval for consequential actions, monitor transactions and test recovery procedures. An AI agent that can post grades or contact students should be evaluated with the same seriousness as other software holding comparable privileges, with additional attention to unpredictable output and instruction-following failure. The minimum defensible position is that no system receives more data or action authority than its approved function requires (Autio et al., 2024; Tabassi, 2023).

Financial appraisal should similarly differentiate a tool's purchase price from the total cost of reliable educational provision. This includes staff verification time, API or subscription usage, cloud storage, accessibility support, incident response, data processing, updating assessment policies, curriculum redevelopment and exit or migration costs. Institutions should examine budget scenarios for larger cohorts, currency volatility and loss of subsidised pricing, and assess whether an outage would interrupt essential instruction or regulated examinations. Low-cost experimentation may be appropriate for reversible formative functions; procurement affecting programme-level assessment or long-lived academic records requires a more durable evidence base and decision trail. Cost-effectiveness cannot be inferred merely from the number of texts generated per minute.

6.12 Governance of AI-supported programme evaluation and accreditation

External review is especially vulnerable to confident automation because accreditation dossiers contain structured claims, repeated sections, evidence registers and administrative language that appear well suited to machine summarisation. AI may help identify missing fields, compare programme specifications, flag inconsistent module codes or prepare a preliminary index of evidence. Yet the reviewer must establish that the tool correctly read the current document, distinguished versions, understood regulatory applicability and did not invent deficiencies or compliance findings. A system can produce a persuasive summary while concealing missing annexes, inappropriate reliance on obsolete rules, or incorrect inferences about readiness (HEC, 2025b; Sangwa, 2026a).

The governing distinction is between assistance with information management and authority to make a judgement. In Rwanda, the applicable legal instruments determine HEC's powers and the authorised decision route. A professional reviewer's role is to examine evidence and

make findings or recommendations within their mandate; a tool acquires no regulatory competence through its usefulness. AI-generated scores should not replace independent consideration of curriculum substance, qualification level, available staff, assessment validity, student protection or programme sustainability. A legally important deficiency must be tied to an operative norm and genuine evidence, while missing evidence should be described as an uncertainty rather than automatically as proof of substantive failure (Republic of Rwanda, 2026; Sangwa, 2026a).

The author's Evidence-Traceable Accreditation Judgement (ETAJ) model is useful as a bounded reasoning aid. For every material conclusion, an evaluator specifies the normative source, the institutional claim, the original evidence, steps taken to verify it, the evaluative warrant, counter-evidence, remaining uncertainty and proportionate finding. In an AI-assisted review, the record adds the system's identity, the exact task delegated, the documents accessed, the output checked and the human who accepted or rejected it. This extension is consistent with the overarching Integrated Evidence-Traceable Quality Governance (IETQG) framework because institutional capability, programme delivery and regulatory judgement remain connected through inspectable evidence. Neither model is an official HEC procedure, a validated predictive tool or permission to substitute private judgement for competent authority.

For an illustrative curriculum review, imagine that a model reports that the module “Research Design” is absent. The reviewer consults the actual programme register and finds that equivalent research competencies are deliberately distributed across two modules and assessed in a final project. A title-matching algorithm has identified an apparent gap, but the relevant academic question is whether the competencies are truly covered at the intended level. Conversely, an automated comparison may discover a real duplicate code or contradictory credit total that human reviewers initially overlooked. The model is then useful as a prompt for verification, not as the source of the final finding. The authoritative evidence remains the checked curriculum and applicable standard.

Confidentiality and independence require particular safeguards. Institutional submissions may contain personal records, unpublished research, assessment instruments, commercial agreements, private staff contracts and sensitive financial information. Uploading the dossier to an unapproved public system may breach confidentiality even if the evaluator's intention is to improve efficiency. Review bodies should define permitted systems, lawful access, retention, publication restrictions, conflicts of interest and records of AI assistance. Where AI is used in report drafting, the reviewer should confirm that every stated observation is supported, every cited rule applies and every recommendation reflects their own professional evaluation. The reviewer must be able to defend the result without invoking the software's authority.

HEC's 2025 Appendix III supplies a concrete official assessment tool for AI integration, with seven components and a stated 84-point total. It describes 'ready with minor corrections' at a

score of at least 67, subject to attaining at least half in every component, and 'conditional' at a score of at least 42, also subject to the component minima; failure of the stated minima can lead to 'not yet ready'. The document also describes 67/84 as 'at least 80%', although the mathematical proportion is approximately 79.76%; borderline application therefore calls for authorised interpretation of the published rule rather than an evaluator's silent numerical correction. Institutions and reviewers should consult the exact current wording and component-level decision conditions rather than substitute the author's new scoring framework. Scores cannot be interpreted independently of stated thresholds, required evidence or safety-critical deficiencies, and evidence of adopting a system does not demonstrate improved graduate outcomes. Table 6.4 therefore supplements, but does not reproduce or supersede, HEC's assessment instrument through a claim-evidence-verification record for AI-supported review (HEC, 2025b).

Table 6.4. Evidence-traceable AI-assisted evaluation record

Element	Reviewer entry	Verification standard
Applicable requirement	Authority, provision, version and scope	Norm is operative and applicable to the claim
Institutional claim	Precisely what the institution represents	Do not infer performance from policy titles
AI assistance	Approved tool, task and documents accessed	No unauthorised confidential disclosure
Source evidence	Original record, date and responsible owner	Authenticity, currency, completeness and relevance
Independent test	Human inspection, demonstration or corroboration	AI output never stands as the sole evidence
Finding and uncertainty	Warrant, counter-evidence, limitation and action	Reasonable, reviewable and proportionate conclusion

Note. Original application of ETAJ principles to AI-assisted review by the author. This worksheet is a non-regulatory supplement and has not been empirically validated.

The quality of an AI-assisted accreditation finding depends upon reviewer calibration as well as confidentiality. Two competent evaluators examining the same programme should be able to identify the same governing source and substantial evidence, even if they reasonably differ about the weight of a borderline deficiency. A review team can improve consistency by testing sample cases before a visit, recording how ambiguities were resolved and reserving unresolved statutory questions for the legally competent authority. A tool may assist document indexing or arithmetic verification, but a finding should never rest on a generated statement that cannot be traced to a page, observed demonstration or other original source. Review records should also distinguish failure to produce requested evidence from positive evidence that a programme does not possess the requisite capability. This prevents uncertainty being converted into an unjustified adverse fact.

For example, suppose a hypothetical institutional dossier contains an AI policy, a screenshot of a chatbot integrated into a learning platform and a list of staff who attended orientation. Those records might support a finding that policy and initial deployment exist, but they cannot establish safe data handling, assessment validity, lecturer competence or an effective complaints process. The evaluator would seek a lawfully accessible system demonstration, a sample of actual module rules, appropriately redacted assessment evidence, staff responses to realistic failure scenarios and proof that incidents are reviewed. The resulting judgement should describe precisely which claims are supported, which remain unverified and which require corrective action. This differentiated approach is more professionally defensible than either praising technological visibility or rejecting the programme on an unverified presumption of risk (HEC, 2025b; Sangwa, 2026a).

6.13 Institutional AI policy development, accountability, risk classification, and policy revision

Effective policy must be specific enough to guide real decisions yet adaptable enough to survive technology changes. It should state educational purposes, lawful authority, scope, roles, acceptable and prohibited practices, task-level disclosure, permitted data handling, procurement approval, research and assessment controls, student complaints, staff development, incident reporting and periodic review. A policy that merely celebrates innovation lacks practical limits; one that prohibits every form of machine assistance may be neither enforceable nor educationally defensible. The more useful approach is to classify applications by purpose and consequence, define minimum safeguards and require explicit approval for significant departures (Miao & Holmes, 2023; Tabassi, 2023).

Rwanda's 2025 HEC guidance is unusually operational on these matters. It addresses a dedicated AI function, cross-functional committee, annual monitoring, reviewed literacy module, staff development, assessment-specific AI-use instructions, governance policies, tool appraisal and declarations. The proper institutional response is to map current provisions to existing committee powers, appoint accountable staff and produce evidence that the required functions operate. A small university may implement coordination through an existing teaching-and-learning or ICT unit where consistent with HEC's instrument; naming a new centre without staff, decision rights or records would demonstrate little capability. The HEC Appendix III instrument should be used on its own terms where applicable, while this chapter's proposed risk form supports local implementation and critical review (HEC, 2025b).

A useful risk classification considers at least six dimensions: educational consequence, data sensitivity, degree of autonomous action, affected population and equity, reversibility, and external dependencies. Routine generation of fictional practice questions from public information may require ordinary teacher verification. A student-facing tutor processing identifiable responses requires privacy and pedagogical controls. Automated summative grading, admissions ranking, disciplinary screening, clinical advice or autonomous access to student records require much stronger validation and governance, and some uses may be

inappropriate regardless of proposed benefits. Risk should be reviewed at the level of the actual workflow rather than assigned forever to a brand or product category.

The NIST AI Risk Management Framework distinguishes governance, mapping, measurement and management as interdependent functions. This provides a useful voluntary benchmark for institutional procedure: establish accountable decision-making; understand the context and potential harm; test the system and relevant claims; and manage or discontinue unacceptable risks. Its generative-AI profile broadens attention to risks that arise from generative systems, but neither NIST instrument has the force of Rwanda's domestic law simply because it is technically sophisticated. International reference points should assist local judgement, not obscure the authority hierarchy (Autio et al., 2024; Tabassi, 2023).

Operational policy needs a living inventory of approved and unapproved use cases, versioned assessment rules and records of incidents or near misses. Triggers for extraordinary review might include a model replacement, substantial change to vendor terms, a security event, discriminatory outcome, new HEC instruction, altered professional standard or evidence of repeated unreliable assessment. The institution should document whether the action is to retrain staff, correct content, amend an assessment, suspend an integration or terminate a contract. Annual review, while important, is not sufficient when a serious incident requires immediate containment. Equally, frequent policy edits that are not communicated can create unfair retrospective expectations for students.

Table 6.5 translates differentiated risk review into a qualitative, non-compensatory appraisal. A defensible policy should also identify the authority to grant exceptions and the conditions for doing so. Reasonable accessibility accommodations, secure professional simulations or approved research protocols may justify departures from ordinary tool conditions; secret exceptions awarded on personal relationships would undermine fairness. Decisions should distinguish mandatory legal or HEC requirements from institutional discretion and disciplinary judgement. A published policy is evidence of intention. Capability is stronger when the university demonstrates working approvals, assessments with clear conditions, staff competence, documented objections and corrections, and improved practice after review.

Table 6.5. Risk-based AI-tool evaluation form for universities

Review domain	Evidence and test required	Decision or escalation trigger
Educational purpose	Outcome, alternatives, pedagogical rationale and success evidence	Reject if no legitimate educational function
Legal/data protection	Processing basis, retention, transfers, access, security and contracts	Do not deploy with unresolved material legal risk
Validity and reliability	Representative tests, error analysis, known limits and human fallback	Escalate consequential unreliable outputs
Equity and accessibility	Language/disability testing, cost, devices, realistic alternatives	Correct exclusion or deny deployment

Review domain	Evidence and test required	Decision or escalation trigger
Autonomy and control	Permissions, audit logs, intervention rights and rollback	Prohibit uncontrolled high-impact actions
Institutional capability	Named owner, trained staff, support, full costs and exit route	Defer if continuing operation is not credible
Review plan	Metrics, complaints, incident thresholds and reevaluation date	Suspend or reassess after significant change

Note. Original risk-based professional form proposed by the author. Entries are qualitative and deliberately non-additive: an unresolved critical legal or safety risk cannot be offset by a favourable total elsewhere.

An operational institutional AI policy should define decision rights, not merely committee membership. The governing body or delegated academic authority approves principles and tolerable institutional risk within its mandate; senate or equivalent academic leadership protects curriculum standards and academic regulations; the institutional data-protection and security functions assess lawful processing and technical risk; programme teams determine educational fitness and assessment conditions; internal quality assurance verifies evidence and corrective action; and an authorised appeals function reconsiders adverse individual decisions. These are functional responsibilities, not a universal legal organogram. Their precise allocation must be reconciled with an institution's statutes, Rwanda's current HEC instruments and relevant sector-specific requirements. Where one employee performs several roles, the institution should document independent challenge and escalation for decisions that materially affect students. Table 6.6 sets out corresponding institutional functions and the evidence by which an internal auditor could test their operation.

Policy implementation also requires an explicit sequence for exception handling. A lecturer seeking an unapproved tool for sensitive coursework should identify the instructional need and the data involved before any upload. Academic and technical reviewers should determine whether the objective can be achieved with a lower-risk service, synthetic data or an alternative learning activity. If a proposal remains appropriate, the designated authority records conditions, limits, monitoring responsibilities and the review date. Where an incident subsequently occurs, the university should preserve relevant records, contain the harm, inform affected persons where required, provide an academic remedy and determine whether the tool should remain in service. The reasoning and response should be proportionate to consequence, with student rights and programme continuity considered together. These processes turn a policy from a statement of aspiration into reviewable institutional capability (HEC, 2025b; Republic of Rwanda, 2021b).

Table 6.6. Decision rights and evidence of functioning institutional AI governance

Responsible function	Decision or verification responsibility	Record demonstrating enactment
University governing authority	Authorize institutional risk policy and resourcing within its legal competence	Approved policy, resourcing decision, risk escalation

Responsible function	Decision or verification responsibility	Record demonstrating enactment
Senate or academic board	Safeguard outcomes, award rules and academic assessment standards	Versioned regulations, assessment blueprint and moderation findings
Programme and teaching teams	Specify permissible AI use and verify educational fitness	Module instructions, learning samples and corrective revisions
AI/ICT and data-protection functions	Appraise vendors, data permissions, technical control and incident response	Tool register, impact assessment, test and incident log
Quality assurance unit	Verify implementation and follow through on identified deficiencies	Evidence register, review findings and action closure
Authorised complaints or appeals function	Provide impartial procedural review of consequential decisions	Recorded reasons, decisions and academic remedies

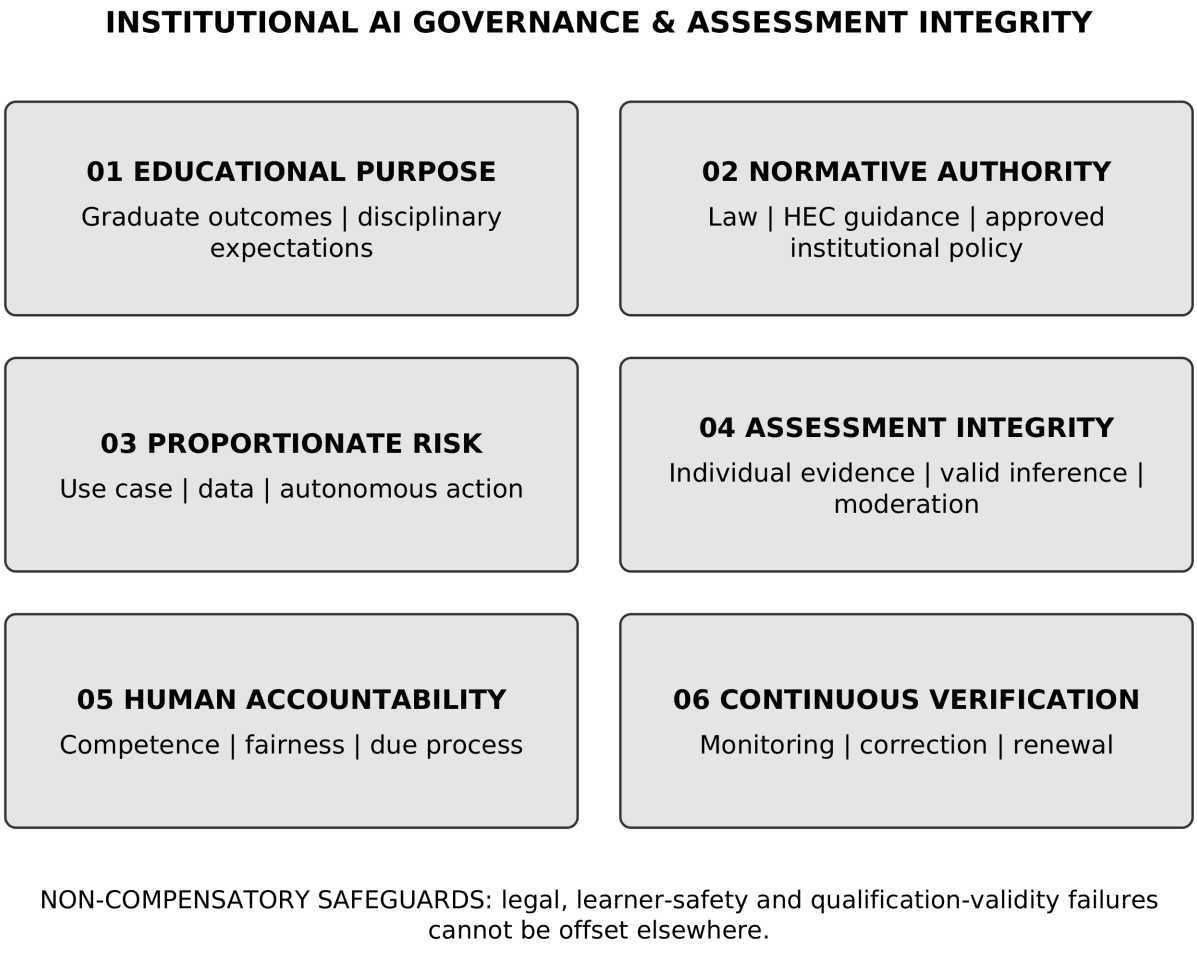
Note. Original proposed decision-rights matrix by the author. The responsible organ and legal powers must be adapted to institutional statutes and applicable HEC instruments; roles may be combined only with adequate safeguards against conflicts of interest.

6.14 Towards an evidence-based model of responsible AI-enabled higher education

The preceding analysis identifies a recurrent failure in institutional AI debates: attention often begins with the technology and ends with a statement of ethical principles, leaving the educational judgement insufficiently specified. An integrated model should proceed in the opposite direction. Begin with the educational or institutional claim, identify its legal and ethical boundaries, select an appropriate function for AI, protect the evidence needed to evaluate achievement, secure human accountability and continue review after deployment. This is the proposed *Institutional AI Governance and Academic Assessment Integrity Framework* (IAG-AAIF). It is an interpretive and operational contribution, not an empirically tested prediction model or an official HEC instrument.

The framework contains six interacting controls. **Educational purpose and standards** establish what must be learnt and demonstrated. **Normative authority and institutional policy** define what is lawful, officially required and locally authorised. **Use-case suitability and proportional risk** determine whether the proposed AI assistance is educationally justified and governable. **Assessment and evidence integrity** protect the inference from student or institutional performance to an academic claim. **Human rights, competence and accountability** require meaningful oversight, accessibility, privacy and due process. **Continuous verification and adaptation** connect observed operation, incidents, feedback and updated sources to improvement. These controls are not six interchangeable points: serious deficiency in legality, learner safety or qualification validity cannot be cancelled by strong performance elsewhere.

Figure 6.2. Six mutually dependent controls in responsible AI-enabled quality governance



Note. Original IAG-AAIF conceptual model by the author. The connections express proposed institutional reasoning and iterative review, not empirically established causal pathways.

An implementation sequence can translate the controls into institutional work. Senior management and academic governance first reconcile existing law, HEC instruments, strategy and assessment regulations, documenting any ambiguity requiring authoritative clarification. Programme teams then review graduate outcomes and classify assessments by the individual competence they must demonstrate. The designated AI governance function compiles a use-case register, evaluates tools, coordinates privacy and security checks and confirms access alternatives. Teaching and learning staff test limited deployments, document student and lecturer experience, and amend assessment or support arrangements before scale-up. Internal QA subsequently verifies practice against the approved design, and senior academic authorities review exceptions, risks and evidence of improvement. Each handover should retain the relevant source, decision-maker, date and accountable owner.

Consider a hypothetical Rwandan bachelor's programme in business analytics. Its staff propose using an external AI service for formative explanations, AI-assisted production of client reports and automated scoring of final strategic recommendations. The first use might be permitted with source verification and an accessible alternative. The second could be taught as a professional competency if students document datasets, prompts, corrections and justified decisions, and can independently interpret unfamiliar evidence. The third raises a more serious validity and fairness problem. Without a sufficiently supported scoring interpretation, representative testing, contestability and meaningful faculty moderation, an automated grade could be educationally indefensible even if the software is technically available. The proper response is differentiated approval, not uniform enthusiasm or prohibition.

The institution's evidence register for this illustration would include the approved learning outcomes, assessment rules, authorised tool inventory, privacy decision, learning materials, lecturer training, student declaration process, moderated assessed samples, documented failures, action records and review dates. Such an evidence trail does not prove that graduates are more employable or that AI causally improved learning. It does allow reviewers to examine whether the university's claim that it governs AI responsibly has a reasonable basis. If students cannot defend their recommendations or staff cannot explain how automated scores were checked, the responsible authority must revisit the assessment and potentially suspend that use. The willingness to amend a failed implementation is a dimension of institutional maturity.

The proposed framework complements IETQG by locating AI inside institutional capability, programme assurance, evidence generation and continuing improvement. It complements ETAJ by making every material finding traceable to the governing criterion, examined record, verification procedure and evaluative warrant. The models do not remove professional disagreement; rather, they clarify where disagreement lies and what additional evidence might resolve it. Future scholarship should test feasibility, inter-rater consistency, consequences for workload, learner experience, educational validity and bias in different disciplines and African institutional contexts. Until those tests occur, stronger language about effectiveness would be unjustified.

The framework becomes usable only when deployed as an iterative governance process supported by evidence, not as a decorative diagram. A realistic initial cycle begins with an inventory of educational AI uses and an authority check, proceeds through programme-level assessment mapping and staff competence review, and then selects limited use cases for properly evaluated pilots. Decision-makers identify success and harm indicators in advance: verified learning against intended outcomes, independent transfer performance where relevant, accessibility, student complaints, integrity cases substantiated through fair procedure, staff workload and total cost. The pilot record should also document rejected options and unexpected negative evidence. Subsequent expansion should be conditional on

those findings, and adverse events should trigger review without waiting for the next annual reporting window. The point of the proposed sequence is to make changes to educational work intelligible and accountable, not to suggest a universal timetable for institutions of different size or maturity. Table 6.7 translates these requirements into a sequenced, auditable implementation process.

Table 6.7. Illustrative implementation and assurance roadmap for institutional AI adoption

Phase and primary concern	Expected output and evidence	Decision gate
1. Map authority and existing use	Regulatory provenance record, tool inventory, current assessment rules	Unresolved legal or critical security risk blocks use
2. Protect learning claims	Graduate outcome and assessment-condition map, identified independent demonstrations	Assessment inference remains educationally defensible
3. Appraise and select tools	Use-case rationale, privacy and accessibility tests, alternatives and owners	Approval is bounded to use, users and data
4. Pilot and verify	Representative learner tasks, independent performance, errors, appeals and workload	Expand only after material risks are controlled
5. Implement and monitor	Training artefacts, contracts, quality review, incident and correction records	Serious failures trigger immediate containment
6. Review and renew	Documented reassessment after policy, vendor, curriculum or evidence change	Continue, amend, suspend or discontinue with reasons

Note. Proposed institutional adaptation of the IAG-AAIF; it is not a prescribed HEC schedule or empirically validated intervention. Each institution should assign named owners, deadlines and evidence identifiers appropriate to its context.

The research agenda is correspondingly specific. Future studies could compare AI-assisted and non-assisted pathways using baseline-sensitive, delayed independent assessments; test whether review panels using the evidence-traceability worksheet reach more consistent and well-supported conclusions; and investigate whether policies disproportionately burden particular language groups, disability groups or resource-constrained students. Such work requires ethical governance, defensible samples, instruments capable of assessing intended constructs and transparent reporting of null or unfavourable findings. The present chapter contributes a conceptually integrated professional model and practical instruments; it does not claim that implementing them has already improved attainment, accreditation consistency or institutional resilience. This evidentiary limit is necessary if the proposed IAG-AAIF is to function as a serious researchable framework rather than an assertion of success (Chen & Cheung, 2025; Deng et al., 2025; Sangwa, 2026a).

6.15 Conclusion: Protecting educational judgement in an AI-rich university

The central issue in AI-enabled higher education is not the presence of machines in academic work but the credibility of the claims universities make when machines participate in it. A curriculum must still represent worthwhile knowledge; teaching must still provide meaningful opportunities to learn; and assessment must still distinguish credible individual achievement from the mere production of plausible artefacts. Human oversight is not secured by placing a lecturer's name beside a machine-generated decision. It requires competence, authority, verification, sufficient time and a process by which errors and unfair outcomes can be corrected. Without those conditions, the language of responsible innovation becomes an administrative assurance unsupported by educational practice.

This chapter has distinguished varieties of AI, defended discipline-sensitive graduate competence, explained the inferential consequences of assistance for assessment validity, and proposed safeguards for authorship, privacy, bias, institutional procurement and accreditation review. It has also situated these safeguards in Rwanda's evolving policy and HEC environment without treating an international benchmark as national law or turning a suggested professional instrument into an official requirement. The IAG-AAIF, disclosure model, assessment-redesign matrix and risk-based review form translate the analysis into tools for discussion, testing and local adaptation. Their conceptual usefulness must not be mistaken for demonstrated improvement in student outcomes or independent empirical validation.

The practical implication is demanding but clear. Institutions should invest as much intellectual effort in deciding what evidence would justify an AI-supported academic judgement as they invest in acquiring the system that produces it. Universities serving students with diverse languages, resources and accessibility needs should be particularly cautious about rules that make affluent tool access a hidden criterion of achievement or unreliable text detection a proxy for integrity. Regulators and peer reviewers should request evidence of actual practice, lawful processing, relevant staff competence and fair remedies, while remaining alert to the uncertainty of predictive claims and the limits of technology demonstrations. Responsible AI governance ultimately strengthens academic freedom and institutional credibility by making decisions open to reasoned scrutiny.

The argument also prepares the next question in the volume. Protecting academic standards cannot be achieved only through assessment design and technical controls; it depends upon whether all learners can meaningfully participate in teaching, obtain timely support and demonstrate attainment under equitable conditions. The following discussion of inclusive curriculum and student success therefore examines the learners for whom these AI-enabled arrangements must work, including those whom a formally sophisticated system might otherwise overlook.

CHAPTER 7

Inclusive Curriculum, Learner Support, and Student Success in Digitally Mediated Higher Education

Educational Equity, Accessibility, Learner Protection, and Meaningful Participation

Abstract

A higher-education programme cannot be considered educationally effective merely because its curriculum is formally coherent, its learning platform operates, or its students can technically enrol. Its quality also depends on whether learners with different resources, responsibilities, abilities, histories and aspirations can participate meaningfully, demonstrate the intended standards, obtain timely support and progress without avoidable disadvantage. This chapter develops an integrated, Rwanda-anchored account of inclusive curriculum and student success in digitally mediated higher education. Through a critical, purposive synthesis of established scholarship, official Rwandan instruments, continental quality-assurance guidance and international accessibility standards, it brings capability-oriented equity, Universal Design for Learning, student-engagement theory, academic support and ethical learning analytics into dialogue. The analysis distinguishes access from use, accommodation from lowered standards, engagement from platform activity, and predictive risk from legitimate intervention. It examines admissions, orientation, digital exclusion, disability, language, self-regulation, advising, wellbeing, postgraduate supervision, complaints, career development and equity-sensitive evaluation. Its distinctive contribution is a proposed participation-to-success architecture connecting learner conditions, institutional responsibilities, evidence of enactment and proportionate corrective action. Four usable instruments are developed: an Inclusive Curriculum and Student Support Review Matrix, a student-lifecycle responsibility map, a digital-accessibility and accommodation checklist, and a student-support evidence and intervention register. The instruments are professional proposals, neither HEC-approved nor empirically validated. The central conclusion is that learner protection must be treated as an assessable component of programme readiness and continuing educational quality, rather than an optional service added after curriculum approval.

Keywords: inclusive higher education; learner support; student success; universal design for learning; digital accessibility; Rwanda; evidence-traceable quality assurance

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7.1 Introduction: Educational quality, equity, and the right to meaningful participation

A student may be admitted to a well-designed online degree and still be effectively excluded from it. The university may provide a course site, schedules, video lectures, electronic reading lists and prompt assessment deadlines, yet the learner may share a phone with relatives, pay for data by the megabyte, encounter documents that a screen reader cannot interpret, or be required to join synchronous sessions during paid employment. Another learner may have reliable internet access but find no coherent academic advice after failing an early assessment. A doctoral candidate may have library access and an approved supervisor but no timely feedback on a research proposal. These examples differ in mechanism, yet each exposes the same quality problem: institutional provision exists formally without becoming a credible opportunity to learn.

The chapters preceding this one have established the educational purpose of higher education, the authority of regulation, the conditions of sustainable institutional capability, the architecture of curriculum, the design of online and blended provision, and the responsibilities accompanying artificial intelligence (AI). Those arguments remain incomplete unless the student's position within the institution is examined. Academic standards are not protected by ignoring barriers that prevent learners from demonstrating them. Nor is equity achieved by substituting favourable progression statistics for intellectually demanding education. The relevant question is whether legitimate standards are made attainable through fair educational opportunities, and whether institutions can identify and remedy disadvantages arising from their own design and delivery decisions (Kahu & Nelson, 2018; Tinto, 2012).

In this chapter, **access** means a genuine opportunity to enter and use an educational provision; **accessibility** concerns the removal or reasonable reduction of barriers to accessing and operating learning environments and resources; **inclusion** refers to equitable participation and belonging under educationally defensible conditions; **learner support** is the coordinated set of academic, administrative, technical, informational and wellbeing functions enabling study; and **student success** includes worthwhile learning, progression, completion and sustainable transitions, not simply retention at any cost. These concepts intersect but are not interchangeable. A fully accessible website may contain academically trivial instruction; an inclusive classroom may still operate unfair assessment; an impressive retention rate may conceal exclusion through strict pre-entry filtering. Evaluation must therefore consider each claim in relation to the educational purpose and the evidence that could actually support it.

The right-to-education tradition reinforces this conceptual distinction. Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD) recognises education without discrimination, including equal access to general tertiary education and reasonable accommodation. UNESCO's *Global Education Monitoring Report 2020* argues for examining the

structural circumstances that exclude learners across educational sectors (UNESCO, 2020; United Nations, 2006). Such instruments supply important international rights-based and policy reference points, but the direct duties of a particular Rwandan university must be identified through applicable domestic law, institutional authorisation and competent official directions. A reference to international good practice does not by itself establish a specific nationally enforceable operational requirement.

The analytical approach is a critical documentary and conceptual synthesis. The author's doctoral thesis informs this chapter, while the preceding chapters establish terminology and the provisional Integrated Evidence-Traceable Quality Governance (IETQG) and Evidence-Traceable Accreditation Judgement (ETAJ) architecture (Sangwa, 2026a). Selected peer-reviewed scholarship is used to evaluate theoretical explanations and educational claims; official Higher Education Council (HEC) and Rwandan material establishes the published national policy and regulatory context; CAST, the World Wide Web Consortium (W3C), UNESCO and Jisc provide additional professional or international references. Sources are purposively selected for their explanatory, normative or practice-related relevance. This is neither an exhaustive systematic review nor a new institutional evaluation: no PRISMA counts, interviews, learner records, observational findings or measured intervention effects are asserted. Constructed examples are explicitly hypothetical, and proposed tools are not represented as regulator-approved or statistically validated measures.

A key proposition guides the discussion. Inclusion should be assessed through the relationship between **the learner's circumstances**, **the institution's opportunities and safeguards**, **the student's actual participation**, and **the standards legitimately achieved**. The same institutional provision can have different effects across learners; the same outcome can arise through different causal pathways. A useful review therefore cannot stop at counting services, disability statements, induction workshops or logins. It must ask what barriers are plausibly operating, how they are detected, who can act, whether an intervention is proportionate, and what evidence indicates that a meaningful educational opportunity has been restored. These considerations prepare the shift from programme design to the systematic internal monitoring explored in the next chapter.

The Rwandan context makes this issue more than an application of imported inclusion terminology. Rwanda acceded to the Convention on the Rights of Persons with Disabilities in December 2008, and the Ministry of Education's *Revised Special Needs and Inclusive Education Policy* sets out national priorities concerning access, support services, professional capacity and appropriate educational resources (Ministry of Education, 2018; United Nations Treaty Collection, 2008). These sources differ in normative status and operational reach. Treaty commitments, national policy priorities, specific legislation, HEC assessment instruments and institutional promises should be read together, but an evaluator must still establish the particular provision governing the programme under review. The relevant task is to connect

legitimate inclusion expectations to testable curriculum and support obligations without inventing a universal checklist of statutory duties.

The unit of analysis should also be stated before a judgement is made. An individual learner may require a confidential adjustment; a module may need redesign; an entire programme may have an exclusionary timetable; and an institution may lack the funding, staffing or decision route needed to correct repeated problems. Evidence at one level does not prove performance at another. A single successful accommodation establishes that a particular difficulty was addressed, not that the university has a reliable service for future cohorts. Conversely, an isolated unresolved case warrants appropriate protection and investigation but cannot establish the frequency of institutional failure without further evidence. The chapter therefore combines student-pathway analysis with institution-level accountability, a distinction that is essential to proportionate external review.

7.2 Philosophical and theoretical foundations of inclusion, accessibility, and learner-centred education

The philosophical difficulty of educational equity is that formally identical treatment can produce materially unequal opportunity. Requiring every learner to watch a two-hour high-definition lecture at the same time may look procedurally neutral, but it imposes unequal burdens on students with unstable connectivity, caring responsibilities, disabilities or restrictive working schedules. Conversely, permitting unrestricted individual variation can undermine comparability when it changes what a qualification certifies. Sound inclusion therefore distinguishes the **academic standard** from contingent conventions about where, when and through which medium a student encounters learning. The purpose is not to remove demanding content; it is to ensure that avoidable design barriers do not masquerade as tests of academic merit.

A capability-oriented interpretation is instructive. Sen (1999) argues that development should be assessed with attention to people's substantive freedoms, not merely the resources formally available to them. Applied cautiously to higher education, a programme place, internet account or electronic textbook is an input, not proof of an educational opportunity. Students differ in their ability to convert inputs into valuable activity because of disability, social expectations, economic resources, prior preparation and institutional conditions. This perspective shifts evaluation from the number of services offered to the conditions through which learners can use those services. It also cautions against attributing educational failure solely to individual choice when the feasible options available to students differ markedly.

Human-rights reasoning contributes a complementary perspective: learners should not be excluded through unjustified discrimination, and reasonable accommodation may be necessary for equal participation (United Nations, 2006). The capability argument addresses the substantive possibility of learning; the rights argument strengthens the normative claim that institutions must take exclusion seriously. Neither determines all questions of academic

standards, reasonable resource allocation or particular professional competencies. In programmes involving clinical safety, engineering performance or laboratory technique, the institution must specify essential outcomes and examine which adjustments preserve their meaning. Fairness is compatible with rigorous performance requirements when those requirements are justified, transparent, validly assessed and not contaminated by irrelevant barriers.

Student-centred learning adds the pedagogical dimension. Its strongest interpretation is not that learners should dictate content or grading, but that teaching decisions should be informed by how students actually learn and by the kinds of agency, feedback and intellectual participation a qualification requires. Biggs's (1996) constructive alignment remains necessary: outcomes, activities and assessments must correspond. Inclusion adds a further test, namely whether different learners can access the designed pathway and whether alternative routes, where offered, sustain comparable opportunities to reach the same defensible outcome. An accessible but unaligned assessment is inadequate; a rigorously aligned assessment delivered through an inaccessible interface is equally defective.

Tinto's (2012) institutional-action perspective directs attention to clear expectations, academic and social support, assessment and feedback, and active involvement in learning. Kahu and Nelson's (2018) educational-interface model deepens the analysis by locating engagement where student circumstances interact with institutional structures and cultures. The contribution of these theories is not a universal formula for retention. Their significance is to resist an exclusively deficit-based explanation in which insufficient motivation, poor time management or inadequate preparation are treated as complete causes of withdrawal.

Institutional timetabling, course design, staff availability, belonging and support responsiveness may mediate those outcomes, and their influence can differ across cohorts and delivery modes.

A socio-technical perspective further illuminates exclusion. A platform feature is never experienced in isolation from language, device design, finance, institutional rules, assessment practices and human support. A text-only course can be low bandwidth but inaccessible when its scanned PDFs have no semantic structure. A video-based course can offer captions but exclude learners when those captions are inaccurate or when captioned content still requires unaffordable data. An AI-powered study assistant may help some learners while disadvantaging those who cannot access the service or whose preferred language is poorly supported. Evaluating the technical function alone risks overlooking the social and academic arrangements that convert it into an actual learning opportunity (Cumming & Rose, 2022; UNESCO, 2023a).

Theoretical plurality is essential here. Capability reasoning is attentive to substantive opportunity but does not specify a complete pedagogical method. UDL guides anticipatory design but cannot resolve every individual accommodation. Engagement theory explains relational and motivational processes but should not be reduced to a single behavioural score.

Institutional theory warns that published commitments may become ceremonial, while critical realism distinguishes a stated policy, an observed event and the deeper processes potentially generating it (Sangwa, 2026a). Their combined lesson is that an institution should not be credited with inclusion simply because it adopts the vocabulary of equity. The decisive question is whether its arrangements withstand scrutiny where learner circumstances and academic requirements meet.

The philosophical argument has a distributive dimension. An institution inevitably allocates limited teaching time, specialist expertise, support funds and access to facilities, and inclusion decisions are therefore not always costless. The relevant choice is not between unlimited accommodation and complete administrative uniformity. Decision-makers should identify the essential learning requirement, examine who bears the present burden of the delivery arrangement, consider effective alternatives, and document why a proposed allocation is academically and legally justified. Resource scarcity may explain a phased improvement plan; it cannot be used as a self-evident argument that an avoidable high-stakes exclusion is acceptable. A defensible decision states what is presently feasible, which immediate safeguards protect the learner, which remedy is funded, and what evidence will later justify closure.

Learner-centred education must equally preserve agency. Students should be offered intelligible choices and opportunities to contest an inaccurate interpretation of their needs, rather than being assigned an identity or intervention on the basis of a category. An adult learner may prefer asynchronous study without requiring a remedial label; a student with a disability may reject an arrangement that unnecessarily segregates them from scholarly collaboration. Involving affected learners does not displace the expertise of lecturers or accessibility specialists. It makes the intervention more accountable by ensuring that professional judgements are tested against the educational task and the experience of those expected to use it.

7.3 Universal Design for Learning and inclusive curriculum planning

Universal Design for Learning (UDL) offers a preventive design strategy: instead of constructing a single standard pathway and retrofitting alternatives after exclusion becomes apparent, educators anticipate learner variability while preserving meaningful academic intentions. CAST's UDL Guidelines 3.0 identify three broad principles: multiple means of engagement, representation, and action and expression. The 2024 revision places greater emphasis on learner agency and the removal of barriers associated with bias and exclusionary systems (CAST, 2024). UDL is not a formula requiring every activity to appear in three formats, nor does it establish that all learners have interchangeable needs. It asks curriculum teams to identify unnecessary obstacles and intentionally expand the ways learners may develop and demonstrate knowledge.

The first principle concerns engagement. Students may differ in their reasons for studying, prior experiences of academic success, confidence, safety, personal obligations and tolerance for particular participation modes. A programme can diversify meaningful engagement through clear relevance, appropriately challenging tasks, respectful collaboration, opportunities for choice, timely feedback and predictable milestones. Yet choice needs disciplined limits. A learner cannot simply opt out of a safety-critical clinical competency or a research-methods outcome essential to the award. The productive design question is which features of participation may be varied without changing what students are academically required to know and do (Biggs, 1996; CAST, 2024).

Multiple means of representation concern the accessibility and intelligibility of subject matter. Meaningful alternatives may include an accurate transcript accompanying spoken exposition, accessible diagrams with explanatory text, readable electronic documents, selected multilingual terminology support, worked examples and short downloadable files. Alternatives should be functionally designed rather than mechanically multiplied. An audio narration may be a useful alternative to extended print for some purposes, but equations, citations, tables and technical diagrams often require carefully structured text or specialist accessible notation. Complex knowledge also needs intellectual scaffolding. Offering a document in three file types does not make it understandable if its argument is disorganised or its prerequisite concepts remain unexplained.

Multiple means of action and expression address the ways learners interact, practise, communicate and demonstrate achievement. The construct being assessed should determine the acceptable modes. A historical argument might be defendable through an appropriately assessed essay or oral examination if both capture source criticism and reasoning. Written-language proficiency, however, cannot be fully certified through an oral presentation when written expression is itself an essential outcome. Similarly, a supervised practical test cannot always be replaced with a simulated quiz. The principle is to vary irrelevant conventions, while making the essential intellectual, professional and safety requirements transparent and independently assessable.

The evidence base for UDL warrants critical interpretation. Cumming and Rose's (2022) review identifies growing application and potential benefits for accessibility in higher education, alongside variation in studies and implementation. It does not justify treating all UDL-labelled courses as effective or assuming that particular combinations of options will produce identical outcomes across disciplines. Institutions should therefore evaluate actual artefacts and experiences: accessible navigation, equivalent assessment conditions, successful assistive-technology use, feedback from affected learners, and samples of learning achieved. UDL is a design and evaluation reference, not a substitute for direct evidence of effective teaching or a waiver of individual accommodation responsibilities.

Rwanda's March 2026 distance-learning guidelines explicitly address accessible blended-learning materials informed by UDL, online learner orientation, staff and student preparation,

and student support. Those provisions are official national guidance and assessment criteria; CAST and WCAG remain separate professional and technical reference frameworks whose legal force must not be assumed without a competent national basis (HEC, 2026a). Inclusive curriculum planning should occur at programme approval rather than at the final stages of course production. The programme team should examine the graduate profile, credit structure, module prerequisites, common assessment bottlenecks, required placements, synchrony, laboratory arrangements and disciplinary language demands. Its review record should identify potential participation barriers, justified essential requirements, planned universal accommodations, individual adjustment routes, resource commitments and a process for reporting problems. Where digital provision is planned, content authors, disability-support professionals, librarians, ICT specialists and prospective learner representatives should test representative tasks before recruitment. Requiring a learner to discover an inaccessible assessment during the examination week is a design failure, not an unavoidable by-product of technological innovation.

UDL also changes how lecturers use AI. Automated captioning, simplified explanations, translation and alternative-format generation may reduce some barriers, but machine outputs can distort specialist vocabulary, disciplinary distinctions, culturally situated meaning and the student's preferred communication mode. Generative systems should therefore be treated as provisional assistance requiring checking, accessible alternatives and accountable human review. Students should not be compelled to use commercial AI services as the exclusive route to support without assessment of cost, privacy, accessibility, availability and academic appropriateness. This position extends the previous chapter's insistence that technological assistance never removes institutional accountability (Miao & Holmes, 2023; Sangwa, 2026a).

The operational standard emerging from UDL is **anticipatory flexibility with evidentiary equivalence**. Anticipatory flexibility requires that common barriers be addressed before individual complaints accumulate. Evidentiary equivalence requires that varied teaching and assessment routes preserve a defensible inference about achievement of the intended learning outcomes. Neither condition can be determined by counting resource formats. They must be examined through curriculum logic, accessibility testing, moderation and students' ability to use the resulting learning pathway.

Inclusive design is particularly demanding when an award includes practical or work-integrated learning. The programme may have to verify access to laboratory benches, adjustable equipment, safe placements, accessible transport, alternative communication arrangements and suitably prepared external supervisors. A student should not discover at placement allocation that an approved adjustment applies on campus but has no agreed counterpart at the placement site. Neither should a university certify a safety-critical competency through an alternative that does not test the required performance. The appropriate process begins with an outcome-level specification, identifies the functional barrier and the place where it arises, tests credible adjustments or alternative placement

arrangements, and records who has authority to approve them. Where professional approval is implicated, the competent professional authority must be consulted rather than presumed to accept a university's unilateral equivalence judgement.

A programme-level UDL review can be organised around an assessment pathway rather than a collection of design principles. Consider an explicitly hypothetical environmental-science module requiring students to interpret remote-sensing imagery and justify a land-use recommendation. Downloadable datasets, accessible explanatory descriptions, keyboard-operable analytical tools and scheduled access to suitable workstations can widen participation without replacing the core requirement to interpret evidence. An alternative that merely supplies the lecturer's interpretation, however, would undermine the intended competence. The reviewer should examine whether each available route enables students to produce their own analysis, whether the assessment demands remain comparable, and whether any learner is excluded by a supposedly optional technology that has become functionally compulsory.

7.4 Digital divides: Connectivity, devices, geographic disparities, language, disability, and affordability

Digital exclusion is not a single shortage that disappears when a mobile network becomes available. It is a layered problem of coverage, affordability, service reliability, electricity, equipment, digital capability, language, accessible content, private study space and institutional expectations. The International Telecommunication Union's *Facts and Figures 2025* estimates that 36% of individuals in its Africa region used the internet in 2025, compared with 74% worldwide; the regional estimates were 55% in urban areas and 21% in rural areas (International Telecommunication Union [ITU], 2025). These are regional population estimates rather than measurements of university-student connectivity in Rwanda, and they cannot support an invented claim about how many Rwandan undergraduates are offline. Their relevance is to establish that nominal network expansion has not abolished materially unequal conditions for digital participation.

Geographic disadvantage is commonly experienced through the cumulative costs of participation. A rural learner may live within an area of nominal coverage while facing weak signal indoors, frequent interruptions, long journeys to reliable charging facilities and more expensive access to equipment repair. A commuter student can live near a campus yet have limited time for its services because of paid employment or caring responsibilities. A university that defines its provision solely in terms of campus access or assumed household connectivity can reproduce these disadvantages unintentionally. Programme planning should therefore test the learning route under plausible conditions, not only under the broadband available in an academic developer's office.

Device inequality is pedagogically consequential. A phone can support communication, audio instruction and some reading, but the practical experience of reviewing a complex statistical

dataset, editing a lengthy dissertation, interpreting technical drawings or operating specialist software may differ sharply from using an adequately configured computer. Even among laptop owners, storage capacity, operating-system compatibility, assistive-technology support and software licensing can determine whether an academic task is feasible. Institutions should specify minimum functional requirements in language understandable to applicants and identify alternatives such as loan equipment, accessible on-campus workstations, remote laboratories or supervised access to specialised facilities. A recommendation to 'bring your own device' is inadequate when a mandatory task requires equipment that prospective students cannot reasonably obtain.

Affordability is another curriculum variable. Tuition is only one component of the effective price of study. Data bundles, electricity, travel to examinations, printed materials, software subscriptions, assistive technologies, accommodation, childcare and lost employment time can influence persistence. Changes in assessment design may quietly transfer costs from the university to students, as when a programme replaces a campus activity with repeated uploads of large video files or imposes a paid third-party examination service. UNESCO's 2023 assessment of technology in education cautions against equating the existence of an educational technology with fair educational value (UNESCO, 2023a). Financial support policies should therefore be read together with course architecture and information about hidden compulsory expenditure.

Language is not simply a preference that can be accommodated by pressing a translation button. Academic success requires command of disciplinary vocabulary, genre conventions, argumentation and assessment instructions. Students moving from earlier education conducted substantially in another language may understand a concept before they can express it fluently in the institutional language of assessment. A just curriculum makes the required language standard explicit, teaches disciplinary language where relevant, distinguishes linguistic proficiency from the substantive disciplinary construct, and provides glossaries, examples and appropriate writing support. It should not assume that every language adjustment is automatically acceptable. Where professional safety or public communication is assessed, particular language competencies may be essential; what must be justified is their relationship to the award rather than the convenience of an inherited examination format.

Disability-related digital exclusion can intersect with poverty and geography. The capacity to use a screen reader depends not only on a student acquiring software but also on keyboard-operable interfaces, semantically structured documents, accessible authentication, usable data tables and responsive technical support. A captioned lecture remains exclusionary if required discussions are conducted in an inaccessible external application or if an oral examination cannot be arranged without unreasonable delay. Similarly, students experiencing cognitive, sensory, motor or episodic health-related functional difficulties may require flexible participation patterns without being compelled to disclose sensitive diagnoses to every

lecturer. Inclusion calls for confidential, function-focused processes that protect academic standards while limiting unnecessary information sharing (United Nations, 2006; W3C, 2023).

Gendered and social expectations can affect the time and privacy available for study, without authorising generalisations that all members of a group share the same constraints. Learners who are parents, carers, refugees, employed adults or returning students may face discontinuous study time and administrative obstacles. Some may encounter financial or social pressures that cannot be removed by university action alone. Yet the institution can avoid compounding them through unpredictable deadlines, discriminatory assumptions, unnecessary campus visits and fragmented services. Equity analysis should be intersectional in its practical method, examining how barriers combine in individual pathways rather than treating each student as the representative of a single category.

An effective digital-equity response should distinguish **universal design controls**, **targeted resources** and **individual adjustments**. Universal controls include downloadable, sensibly sized files, clear course navigation and recorded alternatives where academically permissible. Targeted resources may include connectivity assistance, evening access to laboratories, a device-loan scheme, or additional academic-language provision. Individual adjustments respond to barriers not adequately addressed through universal provision. Their selection should be evidence-informed and reviewed with affected learners, with responsibility assigned to a competent institutional function. A grant for data bundles cannot resolve inaccessible examination software; a lecture transcript cannot remedy a scholarship policy that excludes eligible part-time learners. Matching remedy to mechanism is essential.

Digital-divide monitoring itself poses an evidentiary challenge. A questionnaire may overestimate access if it asks only whether students own a mobile phone. A platform log may underestimate learning undertaken offline, while a student who logs in daily might remain unable to complete required software exercises. Stronger evidence comes from task-specific accessibility testing, device and connectivity diagnostics, anonymised financial and support patterns, participation records interpreted in context, and direct evidence of learning. Institutions should report uncertainty and non-response. They should also avoid publishing subgroup tables from which learners with uncommon conditions or very small cohorts could be identified (ITU, 2025; Jisc, 2015).

Digital equity also requires a realistic continuity test. A course that functions under ordinary conditions may become inaccessible to students during a network interruption, an electricity outage, a platform suspension or an unforeseen campus closure. Programmes should distinguish activities that can be postponed without loss of integrity from activities requiring an approved substitution, a safe physical alternative or an extension of supervised provision. Students need a reliable channel for learning about disruption even when the learning-management system is unavailable. Those arrangements belong to ordinary inclusive design because the effects of disruption are not evenly distributed: a learner who can afford redundant devices and connectivity has options unavailable to a classmate sharing a single

phone. The broader governance of emergencies is examined later in the volume; here the immediate concern is to prevent apparently neutral contingency rules from deepening educational exclusion.

7.5 Student admissions, orientation, academic induction, and digital literacy

Learner protection begins before admission. Prospective students should be given accurate information about qualification recognition, programme duration, credits and workload, delivery modality, compulsory attendance or synchronous components, practical placements, assessment conditions, technology requirements, tuition and additional costs, accessible support and complaint routes. An institution may be legally entitled to admit a learner while still behaving irresponsibly if it conceals a compulsory laboratory residency or advertises a programme as self-paced while imposing frequent fixed-time assessments. Admissions transparency is therefore a substantive quality control, not simply a marketing obligation. It enables candidates to judge the feasibility of participation and allows the regulator to evaluate whether the institutional offer matches authorised provision (HEC, 2026a; Republic of Rwanda, 2026).

Academic access should not be conflated with admission without preparation. Prior qualifications, disciplinary prerequisites, language capacity and professional requirements must be checked through fair, lawful and consistently documented processes. Equally, entry arrangements should avoid unnecessary barriers such as inaccessible application forms, unexplained documentary demands or inaccessible verification appointments. Where recognition of prior learning or bridging routes are legitimately available, students need transparent criteria and evidence requirements. The academic standard for entering a regulated programme cannot be waived solely to widen enrolment, but institutions should not impose requirements unrelated to capacity for successful study. Exceptions and appeals must be authorised, recorded and applied consistently.

Orientation is an institutional transition process rather than a ceremonial welcome. Students need to understand the sequence of learning, academic calendar, expected study hours, grading criteria, academic integrity and AI-use rules, support pathways, technical contingencies, library access, assessment appeals, respectful conduct and data protection. For digital provision, induction should include authentic practice: locating a reading, accessing an accessible document, participating in a discussion, uploading a low-stakes assignment, locating feedback and contacting a human support adviser. A completed online orientation quiz may provide modest evidence of familiarity, but the stronger test is whether learners can complete representative activities without avoidable assistance or confusion.

Digital literacy extends beyond ordinary social-media use. It includes secure account management, source evaluation, file formats, collaborative scholarship, accessible document handling, library databases, citation practices, research-data hygiene, responsible AI use and

awareness of fraud and misinformation. Academic digital literacy is context specific: a mathematics student may need equation-editing and coding tools, while a nursing student must learn privacy-sensitive records handling and safe simulation access. Diagnostic assessment should therefore identify the actual capabilities required by a programme, followed by supported development and later verification. A single general computer-literacy workshop cannot establish readiness for all award levels or disciplines (Miao et al., 2024; UNESCO, 2023a).

Induction should also create a realistic understanding of intellectual expectations. New students need examples of adequate and excellent work, explanation of disciplinary citation conventions, formative opportunities to practise argumentation, and early feedback that makes academic standards intelligible. Transition is particularly challenging when students enter through different secondary, vocational, work-based or international pathways. An academically rigorous institution should neither assume uniform preparation nor lower demand indiscriminately. It should diagnose prerequisites and build a structured bridge to independent university learning, with clear records of support provided and the standards subsequently demonstrated (Kahu & Nelson, 2018; Tinto, 2012).

For adult, part-time and distance learners, induction should be repeatable and available beyond a single welcome week. Students may enrol late under lawful arrangements, return after interruption, or require renewed training following platform changes. Programmes should make core guidance persistently available, provide accessible self-service explanations alongside scheduled human support, and appoint a named owner for unresolved entry problems. A technically efficient admissions system that generates an account but fails to connect the learner to an academic adviser has completed an administrative transaction, not a successful transition to higher education.

The evidence necessary for review therefore includes the published prospectus and approved programme specification, documented admission criteria, accessibility testing of applications, orientation content, task-completion evidence, diagnostic learning activities, support enquiries and improvements made from recurrent problems. These records should not disclose individual medical or financial information to a programme committee unless there is a lawful and necessary reason. Evaluators should examine whether records support credible student pathways rather than reward the sheer number of onboarding emails or promotional messages.

The effectiveness of admission and induction arrangements should be evaluated through a bounded early-study diagnostic. Rather than assuming that enrolment establishes readiness, a programme may provide a low-stakes task involving library retrieval, interpretation of a rubric, use of the approved submission channel and identification of the correct help route. Students who encounter obstacles should receive guidance and a chance to repeat the task before the first consequential deadline. Such a diagnostic is not a disguised selection examination unless it is explicitly authorised and justified as one. Its purpose is to reveal

remediable barriers early, distinguish digital confusion from disciplinary preparation, and create evidence for improving induction. Where responses reveal access requirements, records should be limited to what is necessary for support and handled under applicable confidentiality rules.

7.6 Learner engagement, persistence, motivation, self-regulation, and academic success

Engagement is often measured in ways that confuse visibility with learning. A student who posts frequently may be performing attendance rather than inquiry; another may read deeply, prepare careful notes offline and engage less often on a discussion board while producing excellent assessed work. Platform activity can be useful operational information, but educational engagement concerns the meaningful investment of attention, thought, effort and interaction in learning. Kahu and Nelson (2018) conceptualise engagement through the educational interface, where structural and psychosocial conditions shape what learners do and experience. This approach is especially valuable in digitally mediated provision, where institutional observers may see abundant clicks but little evidence of intellectual progress.

Motivation should be understood as dynamic rather than as a fixed possession of the learner. Interest, confidence, belonging, perceived relevance, feedback experiences and life circumstances can alter the student's willingness and capacity to persist. The institution influences these conditions through the coherence of academic tasks, the respect shown to learners, the predictability of assessment, the opportunity to seek help and the visibility of progress. A support strategy focused only on motivational workshops misses causes of disengagement embedded in unsustainable workloads or confusing course designs. The more useful professional question is which aspects of the learning environment are within institutional control and which patterns of disengagement they may be producing.

Self-regulated learning remains central to flexible education. Zimmerman (2002) distinguishes processes of planning, performance monitoring and reflection, and Broadbent and Poon's (2015) systematic review identifies associations between several self-regulation strategies and achievement in online higher education. These findings should not be converted into a claim that all students need identical study habits or that a deficit in self-regulation explains every academic difficulty. Self-regulation develops partly through instructional support. Effective courses provide clear milestones, accessible calendars, practice tasks, opportunities to monitor mastery, formative feedback and routes for recovering from an early error. In this sense, teaching learners how to manage demanding work is a legitimate component of tertiary education rather than a concession to weakness.

Belonging similarly requires attention to academic practice, not merely social events. Students may feel connected when lecturers acknowledge their reasoning, peers respond constructively, disciplinary identities become accessible and institutional decisions are predictable. Isolation can be intensified by anonymised communication, unmoderated hostile

forums or inaccessible group activities. Yet mandatory peer interaction is not a universal remedy. A research student may need protected time for independent analysis; a learner with a particular functional limitation may find large real-time discussions inaccessible; a mature student may prefer purposeful short consultations. Participation design should relate interaction to intended learning rather than equate inclusion with constant communication (Garrison et al., 2000; L. Thomas, 2012).

Assessment and feedback are powerful mechanisms of persistence because they influence students' interpretations of their own progress. A learner receiving a low grade without intelligible comments may infer personal inability; a similarly demanding assessment with prompt, specific guidance can establish a pathway for improvement. Institutions should make assessment schedules coherent across modules, moderate decisions, provide opportunities to practise before high-stakes examinations and ensure that reasonable adjustments can be requested without fear of academic penalty. Late marking, unexplained rubric changes and inconsistent rules are not merely administrative inconveniences. They can disrupt planning, erode trust and create avoidable progression risk (Biggs, 1996; Tinto, 2012).

Retention must nevertheless remain subordinate to educational integrity. A programme that retains every student by relaxing essential standards may inflate its completion indicator while diminishing the value of the award. Conversely, a programme with a demanding curriculum may record withdrawals that arise partly from honest changes in academic interest, lawful transfers, family responsibilities or economic shocks rather than failed teaching. Analysis should distinguish continuation, transfer, temporary interruption, academic dismissal, voluntary departure and programme closure where records permit. It should also consider students who are technically enrolled but not progressing, and those whose study path requires a legitimate part-time duration. The evaluative object is educational opportunity and appropriate achievement, not the maximum attainable percentage on one dashboard.

A stronger retention inquiry links cohort characteristics and programme arrangements to patterns of learning, without claiming causal certainty from administrative associations. It asks whether first-semester assessment has disproportionate failure, whether compulsory online meetings coincide with working hours, whether feedback delays cluster in large modules, and whether certain disability adjustments are repeatedly implemented too late. Corrective action should be proportionate to the plausible mechanism: redesign an assessment sequence, improve mentoring, adjust service hours, clarify navigation, provide an alternative participation route or review the admissions information. Subsequent evidence should test whether the specific difficulty declined without weakening standards or relocating the barrier elsewhere.

A further distinction concerns recovery from interruption. Programmes often publish excellent rules for uninterrupted full-time study but give little attention to students returning after illness, employment changes, financial difficulty, parental responsibilities or

displacement. Re-entry should involve an authorised academic review of completed credit, changed module prerequisites, expired professional competencies, outstanding financial or administrative obligations and the learner's feasible study load. Such review must neither erase legitimately achieved learning nor promise automatic credit equivalence when the curriculum has materially changed. Clear re-entry routes protect both academic integrity and the substantive possibility of completing a qualification. They also make withdrawal and readmission statistics more interpretable because temporary interruption is no longer treated as indistinguishable from permanent educational failure.

7.7 Student advising, mentoring, psychosocial support, academic counselling, and referral systems

Learner support is best understood as a coordinated service system rather than a collection of offices. Academic advising concerns curriculum choices, progression, prerequisites, workload and degree requirements. Tutoring and mentoring address disciplinary learning and professional development. Counselling and wellbeing services may address personal distress, while accessibility professionals coordinate educational adjustments. Technical and library support provide other distinct forms of assistance. Students often experience these functions as a single problem: they cannot proceed with study until someone resolves an obstacle. The institution's quality depends partly on whether learners can navigate this complexity without repeatedly explaining confidential circumstances to staff unable to help (Walsh et al., 2024; Mireku et al., 2024).

Effective advising requires identifiable ownership. Each learner should be able to locate a competent first contact, understand the expected response window and see how an unresolved issue is escalated. Programme leaders should determine which decisions belong to course lecturers, advisers, academic boards, the registrar, finance or specialist offices, and how referrals move across those boundaries. A 'warm referral' involves a service arranging the next contact or transferring a case with appropriate consent rather than merely giving the student another email address. Case records should be proportionate, access controlled and sufficiently informative to prevent requests from disappearing when staff change roles.

Academic mentoring is especially important where learners are undertaking unfamiliar intellectual work or navigating transitions into new disciplines. A credible scheme provides appropriate matching, clarity about whether mentors are peers or qualified academics, scope of advice, referral rules and safeguards against conflicts of interest. Mentoring should not be used to transfer to unpaid students responsibilities requiring professional academic judgement. Nor should an institution infer effectiveness from the number of mentoring meetings. Evidence of benefit may include resolved problems, improved understanding of academic expectations, timely progression and student accounts of support, interpreted alongside workload and completion data (L. Thomas, 2012; Tinto, 2012).

Psychosocial support requires particularly careful boundary-setting. Universities should acknowledge that financial stress, bereavement, isolation, harassment, displacement and other difficulties can affect study, while avoiding the assumption that every lecturer is a qualified therapist. Staff need training to respond respectfully, identify when immediate safeguarding action may be necessary, and refer learners to appropriately competent services. Institutions with limited specialist capacity can establish clear partnerships and referral arrangements, but those arrangements must be real, accessible and suitable for the risk involved. A directory of external telephone numbers is not an adequate crisis process if students cannot reach the services or if no one knows who is responsible for urgent escalation.

Digitally mediated wellbeing provision must also account for confidentiality and limitations of remote communication. A student may participate from a shared household device, have limited private space for a call, or reside outside the university's normal service jurisdiction. Institutions should explain what can and cannot be offered remotely, arrange secure communication, obtain consent where required, and avoid storing highly sensitive narratives in ordinary course discussion tools. Student-support data should not be accessible simply because a lecturer or platform administrator possesses broad system privileges. Rwanda's Law No. 058/2021 relating to the protection of personal data and privacy supplies a domestic legal context for lawful, purpose-limited and protected processing; the precise institutional compliance arrangements require assessment under the law and any applicable implementing instruments (Republic of Rwanda, 2021b).

AI chatbots and automated triage may provide information after office hours but must not be represented as competent counselling or unqualified advice on legal, medical or crisis matters. A safe arrangement clearly identifies automated interaction, limits data collection, provides accessible human escalation, tests for harmful misinformation and records responsibility for consequential responses. It also avoids making a student's willingness to disclose sensitive information to a commercial platform the price of obtaining ordinary academic assistance. Ethical monitoring and human judgement remain necessary even where automated tools improve response speed (Jisc, 2015; Miao & Holmes, 2023).

Support quality must include responsiveness and resolution rather than service visibility alone. Programme and quality units should review anonymised inquiry categories, time to first meaningful response, overdue cases, referral failures, accessibility complaints and feedback on fairness. Response-time targets should distinguish ordinary inquiries from urgent safety concerns, and they should be locally resourced rather than borrowed as universal numerical standards. The strongest evidence of improvement is a demonstrated change to the process generating repeated problems, accompanied by confirmation that learners can now complete the affected educational activity. In the language of quality governance, learner support becomes credible when the institution can move from a claim of service availability to an auditable record of competent action and verified resolution.

In Rwanda, support-system design should be compared explicitly with published HEC expectations rather than assessed only against broad international advice. The March 2026 distance-learning instrument addresses orientation, student preparation, a support ticketing mechanism, and advance communication of essential equipment. It also describes an online student-support helpdesk expected to operate continuously for relevant online provision (HEC, 2026a). Reviewers should distinguish the availability of a channel around the clock from a claim that every enquiry can be resolved immediately at all hours. An institution needs to show how submissions are received, categorised, escalated and answered by competent personnel, including how urgent risk is identified and how service continuity is maintained. The published HEC assessment tool should be examined for the programme's particular classification and assessment context; the author's additional quality indicators cannot be substituted for those official provisions.

Referral governance must also be tested through the boundary between academic and specialist judgement. A lecturer can identify that a student is struggling with disciplinary work, explain an assessment and connect the learner to a service, but should not infer a mental-health condition from an LMS trace or conduct unsupported clinical triage. Similarly, an adviser may explain academic options but should not override the senate's or examination authority's rules through an informal reassurance. Where a student raises several linked concerns, such as inaccessible assessment, financial strain and a supervision dispute, an appointed coordinator should arrange the necessary decisions without centralising all sensitive information in an unprotected record. The principle is coordinated responsibility with minimum necessary disclosure, not unlimited visibility of a student's personal circumstances.

7.8 Supporting students with disabilities and other access requirements in online and blended environments

Disability inclusion tests whether a university understands the difference between equal academic expectations and identical conditions of access. Accessible education is not a specialised afterthought reserved for a small group of declared students. Its design concerns navigation, information, interaction, assessment, facilities and support across the student population, while particular learners may also require reasonable individual accommodation. The CRPD supplies an important international rights framework, including its Article 24 protections concerning tertiary education, but an institution must examine the domestic legal obligations governing its own operations and must not equate voluntary adherence to a technical benchmark with a complete legal opinion (United Nations, 2006). The institutional obligation is best implemented through clear responsibility, confidential procedures and repeated verification of educational access.

For digital environments, WCAG 2.2 offers an established testable framework organised around perceivable, operable, understandable and robust web content (W3C, 2023). Perceivability requires that information and interface elements be available through usable

sensory alternatives; operability concerns the ability to navigate and activate functions; understandability concerns intelligible information and predictable interaction; and robustness concerns compatibility with relevant user technologies. These principles are necessary technical reference points but do not, by themselves, settle whether every pedagogical resource or learner-support service is accessible. As the W3C explains in its accessibility evaluation guidance, automated tools cannot perform every necessary check, and informed manual evaluation remains essential (W3C, 2024a).

An accessible-learning audit should begin with authentic journeys rather than a platform's compliance logo. Can a keyboard-only user find the assignment and upload work? Does screen-reader output convey heading structure, table relationships, error messages and feedback? Can a student enlarge text without losing controls? Are video captions accurate and synchronised? Can learners understand content that depends on colour, arrows or unlabelled diagrams? Are mathematical expressions, specialised symbols and laboratory materials accessible in appropriate forms? Can a student request assistance when an authentication step fails? These questions should be tested across the LMS, library, videoconferencing, admissions, assessment, payment, complaints and student-record systems, including third-party services.

Documents merit specific scrutiny because a visually polished file may be functionally unusable. An image-only scan of a reading cannot reliably substitute for structured text. A PDF with apparent headings but no tagging, incorrect reading order or unlabelled figures may be inaccessible to assistive technologies. Likewise, a Word file with manually enlarged text but no semantic headings may impair navigation. Universities should establish accessible authoring templates, meaningful alternative text, readable contrast, real heading styles, tagged exports and systematic remedial processes for legacy resources. Publication of a general accessibility statement without training authors or checking exported resources provides weak evidence of implementation (CAST, 2024; W3C, 2024a).

Reasonable adjustment requires academic judgement as well as procedural justice. An individual request should establish the functional barrier, the relevant academic task, the essential outcome, the possible adjustments and their likely consequences. For a timed written examination, additional time or assistive input may remove an irrelevant motor or processing barrier while preserving the construct being assessed. In a clinical examination, an adjustment must be assessed against essential patient-safety competencies and applicable professional standards. Decisions should be reasoned, documented, timely, confidential and appealable through the appropriate institutional process. Neither automatic approval nor unexplained refusal is sufficient. The objective is a defensible match between need, academic validity and lawful institutional responsibility.

The disclosure process itself can exclude students when it requires repeated medical narratives, costly documentation or contact with numerous offices. A better design uses a competent central accommodation function, communicates only the educational arrangements

necessary to implement the decision, limits retention and sharing of sensitive records, and provides a route for urgent provisional measures. Lecturers need enough information to apply agreed adjustments, but they do not automatically need to know a student's full diagnosis. Where the institution relies on outside professionals, it must ensure that referral and verification practices are proportionate, accessible and fair rather than indefinitely delaying ordinary educational participation.

Quality assurance should examine both prospective readiness and actual operation. Prospective evidence includes accessible procurement criteria, course templates, staff training, assessment adjustment rules, assistive-technology provision, accessible complaints procedures and tested user journeys. During delivery, reviewers should examine the timeliness of adjustment, recurrent barriers, remedial actions and the student's capacity to complete required learning activities without unnecessary disclosure. Accessibility quality is not established by a single favourable scan, an undated supplier certificate or the fact that no complaints have been recorded. Silence may indicate that students cannot find a trustworthy or accessible complaint channel.

For Rwanda, disability inclusion should be interpreted through the interaction of the CRPD, applicable national law, ministerial policy and programme-specific HEC material. The Ministry of Education's 2018 policy expressly recognises barriers across educational levels, including tertiary education, and identifies responsibilities concerning specialist support, personnel development and resources (Ministry of Education, 2018). Its policy objectives should not be mechanically recast as individually enforceable numerical standards for every institution. Nonetheless, their presence rules out a defensible institutional approach in which accessibility is treated solely as a discretionary favour. Reviewers should specify whether a finding concerns a legal right, an official programme-assessment provision, an institutional commitment or a professional accessibility benchmark, then examine the evidence appropriate to that claim.

Third-party technology is a recurrent point of vulnerability. A university may have an accessible institutional LMS while using a commercial proctoring, library, payments or simulation service that fails a critical user journey. Supplier statements can help identify a system's claimed conformance but do not verify how the configured version works for the institution's tasks and user population. Procurement should therefore include accessibility criteria, access to testing information, contractual remedies, procedures for reporting defects, a feasible alternative during outages and a plan for transferring records if the vendor changes. A high-risk assessment interface should be tested with relevant assistive technologies before examination deployment and again after material updates. Accessibility assurance is a continuing programme duty, not a one-time purchase condition (W3C, 2023, 2024a).

7.9 Postgraduate supervision, research mentoring, and academic writing support

Postgraduate inclusion deserves separate attention because research degrees often expose students to long periods of independent inquiry, uneven supervisory availability and complex academic expectations. The doctoral candidate's principal barriers may not be access to lecture slides but the absence of topic-specific advice, research methods training, specialist literature, ethical review, scholarly community and timely interpretation of feedback. A programme that admits candidates remotely must demonstrate how supervision, proposal approval, progression review, examination and research integrity will operate throughout the candidate's actual pathway. Generic LMS access cannot establish the educational feasibility of advanced research (HEC, 2026b; Sangwa, 2026a).

Rwanda's Higher Education Council issued a *Postgraduate Degree Framework* dated July 2026, subsequently listed on its official guidelines portal in October. It addresses the research-degree lifecycle through admission, supervision, programme administration, study milestones, progress monitoring, changes of supervisors and examination arrangements (HEC, 2026b). Particularly relevant to learner protection, the framework discusses written supervisory agreements, the identification of a lead supervisor, continuity where supervision changes, research management and periodic progress review. Its own text differentiates national minimum expectations from good-practice recommendations and states that applicable law, the Rwanda Qualifications Framework and programme accreditation conditions prevail where there is conflict. Institutional teams should therefore check the operative status, wording, disciplinary applicability and approved programme conditions of each relevant clause. They should neither overlook the new framework nor treat every aspirational statement within it as a separately enforceable statutory requirement. The substantive professional test remains whether research candidates can obtain the academic guidance and fair institutional decisions necessary to pursue the award's actual intellectual demands.

A credible supervision agreement should clarify intellectual responsibilities, communication arrangements, anticipated feedback periods, supervisory workload, milestones, procedures for resolving disagreement and contingencies if a supervisor becomes unavailable. Such arrangements protect academic independence rather than standardise research outcomes. Intellectual discovery is not perfectly predictable, but students should not be left uncertain about whether a research proposal has been received, whether ethics approval is required, which methodological standards apply or how a delayed response affects their progression. An institutional monitoring system should detect missing milestones and unresolved supervision breakdowns without converting scholarly supervision into routine surveillance.

Research mentoring must attend to differences in disciplinary preparation and access to the knowledge infrastructure. A learner entering through professional experience may possess strong practical judgement but require sustained instruction in epistemology, research design, source criticism or scholarly writing. A candidate working in another language may need

academic-language support without having their analysis undervalued. A distance student may need secure database access, reference-management assistance and workable approaches to specialised software. Effective provision combines postgraduate seminars, writing groups, library instruction, methods clinics, responsible peer feedback and supervisor guidance, with accessibility and asynchronous options where feasible. Academic writing support should help students produce defensible scholarship rather than silently replace their authorship.

The increasing availability of generative AI complicates research supervision. A candidate may use approved technology to explore terms, organise a literature map, correct language or test alternative interpretations, but must still establish the authenticity of sources, the accuracy of methods, the originality of arguments and compliance with institutional disclosure rules. Supervisors should provide explicit guidance about permitted assistance, confidential data, publication ethics and verification of references rather than relying on undocumented assumptions. Where a research degree permits recognition of published work, prior-learning pathways or practice-based evidence, the institution must preserve the award's intellectual demands and the independent assessment of the candidate's contribution (Miao & Holmes, 2023; Sangwa, 2026a).

Evidence of postgraduate support includes supervisor appointment and expertise, research-active resources proportionate to the qualification, candidate-supervisor agreements, anonymised progression trends, records of training, timely feedback, research ethics arrangements and transparent examination processes. An excellent research proposal from one candidate cannot validate a whole institutional system; conversely, a difficult individual project does not prove general supervisory failure. Evaluation should look for repeated capability, access to competent challenge, equity in supervisory allocation and safe routes for reporting problems. This domain connects learner support to the institutional research and governance capacities described earlier in the book.

The supervisory relationship also requires attention to power. A candidate may depend on a supervisor for access to research opportunities, progression recommendations, funding information and eventual examination arrangements. This dependence can make it difficult to raise concerns about unreasonable delay, inappropriate expectations, research misconduct or discrimination. A credible university establishes a route for confidential, independent review, defines when additional supervisors or an alternative supervisor may be appointed, and separates legitimate academic disagreement from procedural mistreatment. It must preserve the candidate's ownership of scholarly arguments and respect the supervisor's responsibility to challenge deficient work. The distinction is particularly significant for distance and part-time candidates who have limited informal access to departmental leadership.

Evaluation should also avoid equating a fixed timetable with sound research formation. An institution may legitimately establish milestone reviews, but discovery, archival access and ethical approvals do not always follow a predetermined sequence. A delayed thesis can reflect poor supervision, under-resourcing, unrealistic initial planning, a necessary methodological

revision or substantive scholarly difficulty. The evidence needed is therefore a reasoned record of progress, feedback, decisions and available support rather than a single elapsed-time statistic. Comparing doctoral completion across fields without controlling for entry route, enrolment intensity, project type and research infrastructure can obscure the causes an institution should address.

7.10 Learning analytics, early-warning systems, ethical monitoring, and responsible intervention

Learning analytics promises to make emerging educational difficulties more visible. Data from learning platforms, assessment systems and student records can identify non-submission, delayed progression or support-service bottlenecks that might otherwise go unnoticed. Reviews by Ifenthaler and Yau (2020) and work on the institutional strategy of analytics by Gašević et al. (2022) indicate that value depends on how information is connected to teaching, governance and interventions, not merely on predictive sophistication. The fundamental distinction is between **a statistical signal**, **a defensible interpretation**, and **a justified educational action**. A student labelled at risk has not thereby been diagnosed with poor motivation or predicted to fail with certainty.

Prediction can reproduce the conditions it is intended to improve if it is treated as identity. A model trained on previous cohorts may detect that students from certain locations, admissions routes or financial circumstances have historically progressed more slowly. These patterns may reflect structural barriers rather than lower academic potential. Interventions that restrict opportunities for students assigned a high-risk score can institutionalise disadvantage. A responsible model is therefore designed to offer proportionate support, with transparent purposes, calibrated error, independent human review and the possibility for learners to correct inaccurate information or challenge a consequential decision (Jisc, 2015; Jones, 2019; Slade & Prinsloo, 2013).

The most useful initial early-warning arrangements may be operational rather than algorithmically complex. A missed mandatory assessment, a repeated failure to access required software, an unresolved appeal, or absence of supervisor feedback for an extended period can trigger a human inquiry under a published procedure. Such rules still require calibration and context. An asynchronous learner who downloads materials for offline use may generate fewer activity logs than a learner who repeatedly opens the same page. An LMS without meaningful offline synchronisation systematically undercounts some legitimate study activity. Programme teams should test what the data represent before presenting digital traces as direct measures of engagement or achievement.

Rwanda's Law No. 058/2021 relating to the protection of personal data and privacy makes data governance a domestic legal issue rather than only an international ethical preference (Republic of Rwanda, 2021b). Institutions should identify the appropriate lawful basis and purpose for processing, apply relevant safeguards, limit access and retention, and understand

obligations related to third-party processors and cross-border arrangements. An early-warning initiative should be assessed before implementation for data minimisation, transparency, potential sensitive information, security, misuse and the risk of unjustified secondary purposes. This chapter does not provide a substitute for institutional legal advice or assert that a single consent form resolves every lawful-basis question. Consent, where relevant, should be meaningful; other lawful bases require equally careful justification under applicable law.

A proportionate intervention sequence begins with the least intrusive informative step. For example, an adviser might send an accessible private message noting a missed assessment and offering specific support, without revealing a model-generated risk label to peers or instructors who do not need it. If the learner explains that a power interruption prevented submission, the response may be an authorised alternative deadline and referral to connectivity assistance. If academic difficulty is identified, a tutor can propose focused feedback or study guidance. If immediate welfare risk emerges, the institution must follow its properly authorised safeguarding protocol. Automated categorisation should not bypass the competent human decision-maker or deprive students of clear reasons and review rights.

Ethical analytics must be evaluated for educational consequences, not only classifier accuracy. A model can predict historical withdrawals well while its interventions accomplish little, increase stigma or divert scarce advisers from students with equally urgent but less visible difficulties. Outcome evaluation should therefore ask whether the intervention reached affected students, was experienced as helpful, changed the identified barrier, protected confidentiality and improved appropriate progression without unfair consequences. Where statistical evaluation is feasible, error rates and intervention outcomes should be compared across legitimately and safely defined student groups, with attention to small-cell disclosure and incomplete data. Where cohorts are too small for stable inference, qualitative review, expert examination and cautious reporting are preferable to spurious percentages.

The case for human oversight is especially strong where AI is used to triage student cases or recommend restrictions. The Jisc code of practice, updated in 2026, emphasises transparency, proportionality, validation, human interpretation and avoiding the use of learning analytics for grading or profiling. Jisc is a professional UK reference, not a Rwandan regulator. Its principles illuminate why a data-driven educational system must remain answerable to the people affected by its decisions. Institutional success is better demonstrated by verified support and fair resolution than by the number of students an algorithm classifies each month (Jisc, 2015).

Learning-analytics governance should incorporate a validity review before and after deployment. Before use, the institution should record the target event, relevant cohort, available predictors, missingness, model or rule version, intended intervention and plausible alternatives. It should also identify false-positive and false-negative consequences. A false positive may subject a capable student to unnecessary scrutiny or unwanted disclosure; a false

negative may mean that a learner with genuine difficulty receives no timely offer of help. Neither error is purely mathematical because its harm depends on institutional action. After deployment, reviewers should examine whether student circumstances or delivery methods have changed so far that historical patterns no longer apply, and whether staff actually have the capacity to respond to every alert.

A risk indicator should ordinarily open a conversation, not close an opportunity. Students must not be silently denied advanced modules, placements, scholarships or academic discretion because a model predicts possible withdrawal. If a consequential decision relies on processed data, the university must identify the applicable legal basis, the qualified human decision-maker, the evidentiary reasons and routes for review. Institutions should avoid inferring protected or sensitive characteristics from behaviour merely because software can generate such classifications. The most convincing analytic success is not increased predictive accuracy in isolation, but a demonstrable reduction in a remediable barrier while academic standards, privacy and student autonomy remain protected.

7.11 Student voice, complaints, feedback, institutional responsiveness, and learner protection

Student participation in quality governance is necessary because policy documentation and management reporting do not capture the full experience of a learning environment. Learners can identify barriers that administrators never encounter, including inaccessible examination instructions, hidden data costs, inconsistent feedback, discouraging interactions, unsafe placements or contradictory advice about progression. Yet student voice is not automatically representative. Learners with limited connectivity, fragile enrolment, language barriers or distrust of institutional authorities may be least likely to complete a satisfaction survey. An institution should therefore employ multiple ethically appropriate routes for listening and avoid treating low response rates or absence of complaints as evidence that no problem exists (HAQAA Initiative, 2018; UNESCO, 2020).

Course evaluations and representative forums have different functions. A course evaluation can identify recurring problems with navigation or teaching but cannot by itself establish the validity of assessment or the achievement of outcomes. Student representatives can discuss systemic issues but should not be required to reveal confidential individual complaints. Focused accessibility testing may illuminate technical barriers, while complaints, appeals and safeguarding reports require protected due-process channels. Each evidence source answers a bounded question. Strong institutions triangulate student accounts with course artefacts, staff records, assessment evidence and operational data, recording disagreements rather than assuming that one favourable score resolves every concern.

Complaints and appeals must be intelligible, accessible and free from retaliation. Students should be told how to distinguish a service complaint, an academic appeal, an allegation of harassment or discrimination, a safeguarding concern and a request for disability adjustment,

because different cases may require different responsible authorities and procedural safeguards. The university should provide confidential reporting where appropriate, fair notification, impartial consideration, reasons for material decisions, proportionate remedies and access to further review through applicable procedures. Digital students should not need to travel physically simply to submit an ordinary online-programme complaint unless a justified requirement exists.

The strongest evidence of responsiveness is the closure of a justified concern. An institution may report that it received fewer complaints in a subsequent year, yet that decline may mean that access to the complaint process became harder. Better indicators include whether complaints were acknowledged, investigated within a justified timeframe, resolved through authorised decisions, communicated clearly and followed by prevention of recurrent failures. Where student testimony and institutional records diverge, reviewers should examine the credibility and completeness of each. Confidentiality must be protected, particularly in small programmes where contextual details may identify complainants.

Student voice should also influence curriculum governance before harm occurs. Consultation on assessment load, preferred support hours, accessibility and work-integrated learning can identify implementation risks at modest cost. It cannot replace disciplinary peer review or external standards, and the most popular educational option is not automatically the best. Legitimate participation means that learners can provide evidence and receive a reasoned response; it does not mean that a vote can abolish an essential programme outcome. Incorporating such feedback into academic decision-making makes inclusion an institutional practice rather than a statement of values.

The effectiveness of student-voice arrangements depends on how disagreement is handled. A serious assessment appeal should not be decided merely by the lecturer whose conduct or grade is challenged; a systemic accessibility complaint should not be dismissed because other students encountered no difficulty; and an allegation of harassment should not be addressed exclusively through a general satisfaction survey. Appropriate independence, rights of response, evidence retention, possible conflicts of interest and the protection of affected parties are part of procedural credibility. Where issues cross institutional or external regulatory jurisdictions, the programme must correctly identify the available escalation route rather than promise review by a body without jurisdiction. Transparency requires students to understand what outcome an institutional procedure can lawfully deliver.

There is also a distinction between closing a case and repairing the underlying system. A complaint about inaccessible instructions may be resolved for one student through an authorised extension, while other students continue to face the same defect. The individual file may be closed only when its remedy is properly delivered, but the programme's corrective action should remain open until the resource or process is fixed and retested. QA teams should therefore report de-identified themes and prevention outcomes, not circulate private

narratives or claim success from declining complaint counts. This is the connection between a credible complaint procedure and continuous programme enhancement.

7.12 Graduate competencies, career development, employer engagement, and lifelong learning pathways

Student success extends beyond the final examination, although universities must avoid claiming sole causal responsibility for employment outcomes. A defensible graduate profile encompasses disciplinary knowledge, professional or research competence, transferable reasoning, ethical judgement and the ability to continue learning as contexts change. Career support can help students identify and communicate those capacities, while employer engagement may provide internships, career insight, project briefs and feedback on professional expectations. The educational question is whether opportunities help learners develop and demonstrate relevant competencies, not whether the institution can advertise a high placement percentage with an unclear denominator (Biggs, 1996; Sangwa, 2026a).

Career services should begin before the final year and be connected to curriculum progression. Students may need guidance in preparing a credible portfolio, locating lawful and safe placements, understanding professional licensing, reflecting on workplace ethics, and navigating job searches or postgraduate pathways. Digitally mediated programmes should offer comparable opportunities to dispersed students, including remote career advising, accessible vacancy information, professional networking and appropriately governed placement arrangements. In disciplines that require direct practice, simulated activities can prepare students but cannot automatically replace supervised experience prescribed by competent professional or academic standards.

Employer engagement should be critical rather than deferential. Employers can identify current skill gaps and provide evidence of workplace expectations, but their preferences may reflect particular technologies, firm sizes or short-term recruitment conditions. University curricula must retain theoretical depth and intellectual independence. Career-readiness should include the capacity to evaluate evidence, learn unfamiliar technologies, communicate across disciplines, respond to ethical conflict and recognise when an apparently efficient automated solution is unsafe. These capabilities remain relevant under rapid AI adoption precisely because tool familiarity becomes obsolete more quickly than sound disciplinary judgement.

Lifelong learning pathways are also part of inclusive success. Returning adults, displaced learners, workers changing occupations and graduates updating knowledge may benefit from appropriate short courses, micro-credentials, recognition of prior learning or part-time postgraduate routes. Such arrangements should have transparent entry criteria, learning outcomes, assessment, credit and recognition conditions; institutional advertisements must not imply that every micro-credential automatically converts into degree credit or professional registration. Equity is strengthened when pathways reduce unnecessary repetition without

diluting the integrity of qualifications and when students receive clear information about what each award legally and academically signifies.

Graduate-tracking evidence should therefore be interpreted cautiously. Survey response bias, local labour conditions, economic shocks, informal work and graduates' pre-existing advantages complicate simple comparisons of employment rates. Professional accreditation may require particular outcomes, but these should be distinguished from broader developmental aspirations. Suitable evidence may include assessed capstone portfolios, verified placement performance, career-service use, graduate surveys with documented limitations, employer consultation and postgraduate progression. A university should report what its evidence supports and avoid turning incomplete employment data into a publicity claim about educational causation.

Graduate support should include the quality and equity of transition opportunities, not merely the number of advertised vacancies. Some professional opportunities depend upon unpaid placements, travel, unpaid examination preparation or networks that students have little means to access. An inclusive career programme should identify such hidden participation requirements, provide truthful information about professional licensing and qualification recognition, and negotiate practicable alternatives where academic and professional standards allow. Career counselling may be offered online, but students should not be promised the same placement opportunity regardless of geography or employer requirements when the institution has not established that such opportunities exist. Reliable graduate information differentiates resources controlled by the university from economic conditions and decisions made by external employers.

7.13 Monitoring equity, educational outcomes, and the quality of student experience

Equity monitoring should begin with a defensible definition of the population, educational opportunity and outcome under review. An admissions report describes who entered; a participation report describes elements of the learning experience; an attainment report describes achievement against standards; and a progression report describes movement through a specified programme or cohort. These are related but not interchangeable measures. Comparing institutions through one aggregate completion rate without considering programme mix, entrants, legitimate part-time trajectories, withdrawals and transfer arrangements can misrepresent their educational contribution. Accordingly, institutions should establish indicator definitions before collecting data and keep them stable or document changes across reporting periods (Kahu & Nelson, 2018; Tinto, 2012).

Disaggregation may reveal otherwise concealed differences, but it requires both ethical safeguards and analytical humility. Where lawful, relevant and adequately protected, institutions may examine participation and outcomes by delivery mode, programme, entry route, location, financial support, declared access requirements or other contextually justified

variables. Each category must have a clear purpose and an acceptable data basis. Small cohorts can make percentages unstable and disclosure risks high; missing data may be systematically concentrated among those already facing barriers. A gap in outcomes is a prompt for investigation, not proof that one characteristic caused the difference. Alternative explanations, differences in assessment and changes in cohort composition require attention before evaluators assign responsibility.

Indicators should balance prospective access, quality of enacted provision, learning achievement and institutional response. Examples include successful orientation-task completion, availability of alternative formats, resolution of accessibility defects, time to a meaningful support response, assessment feedback timeliness, module-level attainment, progression after authorised interventions, examination adjustments delivered when agreed, and documented responses to complaints. Each indicator needs a defined numerator, denominator or qualitative evidence standard, data owner, reporting period, quality check, permitted use and known limitations. Without this discipline, dashboards turn student experience into attractive but unauditable colours.

Measurement must not reward the wrong behaviour. An adviser may shorten average case-resolution time by closing difficult cases prematurely; a lecturer may raise pass rates by making assessment easier; a programme may improve its apparent retention by excluding academically vulnerable applicants. To reduce such distortions, outcome measures need balancing evidence. Fast case closure should be checked against learner confirmation and re-opening rates; high pass rates should be reviewed against assessment standards and moderation; retention trends should be read alongside fair admissions, academic achievement and student wellbeing. Improvement is credible when the response strengthens real learning conditions without merely shifting the problem into an unmeasured area.

HEC's published 2021 internal quality-assurance guidelines provide an additional official reference for institutional responsibility, student participation and continuous review. Institutions should consult the current adopted provisions rather than treat the proposed instruments in this chapter as substitutes for HEC documents (HEC, 2021a). The institutional review cycle should also distinguish assurance from enhancement. Assurance establishes whether minimum legal, academic and learner-protection commitments are satisfied; enhancement asks how credible provision can be improved beyond those minima. A persistent accessibility barrier in a compulsory assessment may demand immediate remediation and potentially restriction of the affected activity. A less critical concern about the clarity of optional course navigation may be prioritised for planned redesign. The evidence-traceable approach requires reviewers to identify normative authority, claim, source, verification, finding, uncertainty, owner, corrective action and subsequent check. This is consistent with IETQG and ETAJ as proposed scholarly architectures, without claiming their formal adoption by HEC or validated predictive value (Sangwa, 2026a).

Importantly, equity monitoring should be participatory without becoming intrusive. Student representatives and professional support staff can help interpret recurring problems, while public reporting should protect confidentiality. Learners need to know when and why their data are being used; institutions should avoid speculative inferences about disability, mental health or motivation from behavioural traces. When an apparent disparity is discovered, the immediate professional duty is to investigate and protect learners, not to publish a ranking of vulnerable groups. The combined evidence should support academic and resource decisions that can later be tested for actual educational consequences.

Equity-sensitive indicators need explicit denominators. An indicator such as 'students receiving timely feedback' is uninterpretable until the institution decides whether it covers all returned assessments, only on-time submissions, or only students who remained enrolled at reporting date. Excluding late or withdrawn students can create an artificially favourable performance picture. Conversely, counting every legitimate extension as a service failure misstates an authorised flexible pathway. The institution should maintain both a transparent primary denominator and an explanation of exclusions, deferments and missing outcomes. Cohort-level comparisons should specify programme, study intensity, modality and period before reviewers infer change.

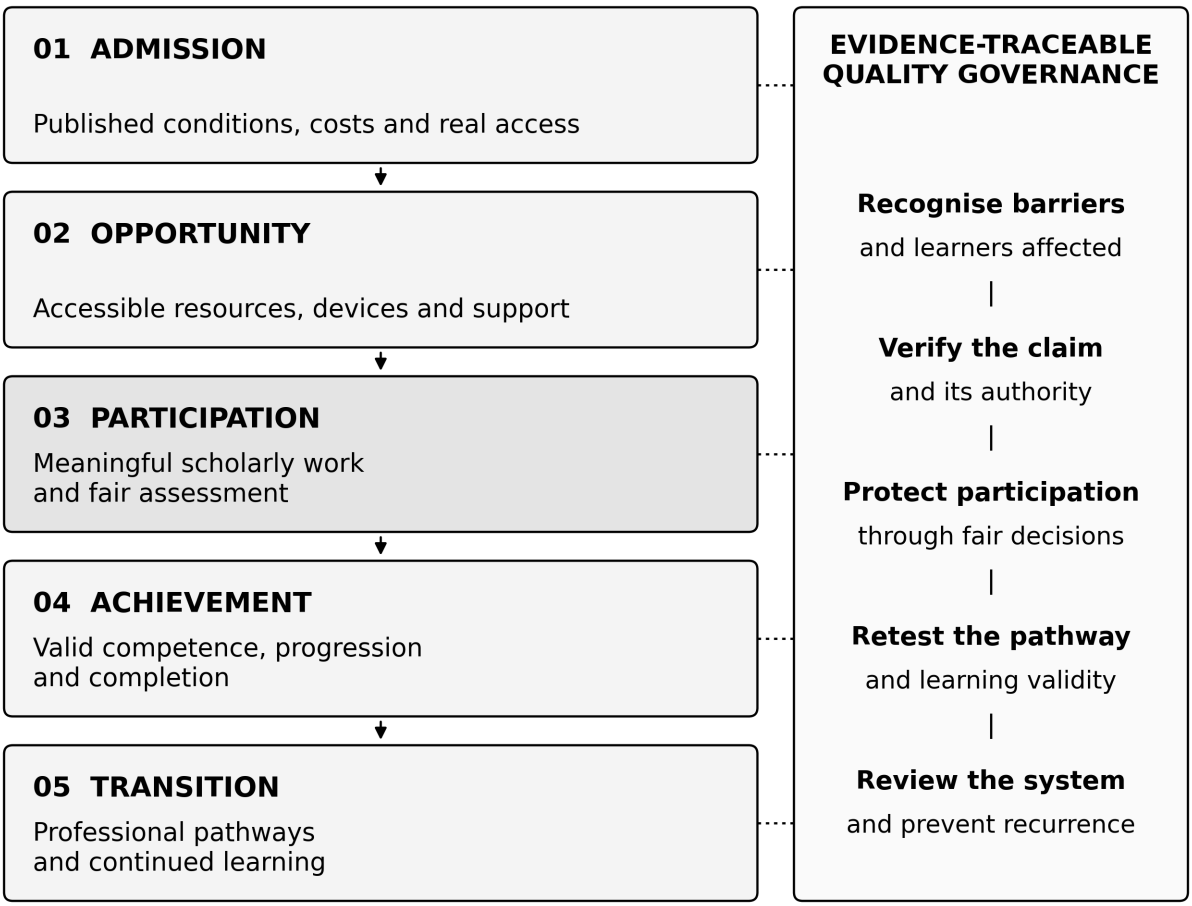
Interpretation also demands qualitative challenge. An improved accessibility pass rate can coexist with more students becoming unable to access a newly required third-party platform, and a greater volume of support tickets may reflect improved accessibility of a reporting channel rather than deteriorating teaching. Evaluators should therefore pair indicator trends with selected user-journey tests, moderated assessment samples, staff workload evidence and learner accounts gathered through voluntary, appropriately protected processes. A dashboard is useful when it makes the next question clear; it becomes misleading when it makes conflicting evidence disappear.

7.14 Practical instruments for inclusive curriculum and student-support assurance

The practical question is how an institution or external reviewer can examine inclusion without reducing complex educational experience to a ceremonial checklist. The instruments below translate the preceding analysis into explicit professional questions, possible evidence, verification procedures and plausible corrective actions. They are designed for institutional self-review, programme validation, annual monitoring and preparation for external evaluation. They are **author-developed professional proposals**, not an official HEC assessment form, a validated measurement scale, or evidence that a particular institution meets accreditation requirements. Their application must begin with current national law, programme-specific approval conditions, applicable professional standards and authorised institutional policy, followed by proportionate verification. Figure 7.1 introduces the chapter’s proposed participation-to-success logic. Table 7.1 then supplies an integrated review matrix, Table 7.2 maps lifecycle responsibilities, Table 7.3 supports task-level accessibility testing,

Table 7.4 structures evidence and corrective decisions, and Table 7.5 specifies equity-sensitive measures with their interpretive safeguards.

Figure 7.1. Proposed participation-to-success and evidence feedback architecture



Arrows show a review pathway, not a validated causal sequence.

Note. Original conceptual model proposed by the author. The connections represent review logic, not an empirically established universal causal pathway. Barriers and institutional interventions can affect any stage; feedback flows to curriculum, support and governance.

Figure 7.1 organises the chapter's central argument. Recruitment and admission create an entry opportunity; accessible curriculum and resources make participation feasible; engagement and support help learners undertake scholarly work; valid assessment tests attainment; and progression and graduate transition reveal further consequences. The sequence is not strictly linear. A student's disability adjustment may affect assessment directly, a financial disruption may interrupt participation late in the degree, and employment outcomes remain shaped by conditions beyond the university. Accordingly, each transition

should be analysed as a hypothesis requiring evidence rather than assumed to follow automatically from the previous stage.

Table 7.1. Inclusive Curriculum and Student Support Review Matrix

Review domain	Principal review question	Examples of verifiable evidence	Typical failure requiring response
Programme promises	Are mode, workload, cost and participation requirements disclosed before enrolment?	Approved specification; prospectus; fee schedule; modality comparison	Advertising conflicts with actual compulsory conditions
Admissions equity	Are criteria lawful, relevant, accessible and consistently applied?	Entry policy; application journey test; decision samples; appeals	Unjustified or inaccessible admission barrier
Onboarding and digital literacy	Can new learners perform authentic academic and digital tasks?	Orientation trial; diagnostic tasks; participation and help records	Welcome content exists, but students cannot navigate or submit
Curriculum and UDL	Are unnecessary access barriers anticipated without reducing essential outcomes?	Outcome map; accessibility design review; assessment alternatives	Single inflexible route unrelated to outcome validity
Connectivity and affordability	Are device, data, software and location burdens feasible and disclosed?	Learner requirement analysis; costed routes; access-support arrangements	Hidden compulsory expense or unreliable access route
Accessible digital environment	Are core learning journeys independently tested with assistive technology?	WCAG-linked audit; manual test results; defects and closure	Supplier declaration is accepted without user testing
Assessment and adjustments	Are academic constructs preserved and adjustments timely and fair?	Rubrics; authorised adjustment records; moderation; appeal decisions	Barrier distorts the competency actually assessed
Engagement and progression	Are engagement signals interpreted against meaningful learning and circumstances?	Assessment samples; cohort review; course design; adviser records	Login counts treated as direct evidence of learning
Academic and psychosocial support	Can students obtain competent, confidential and timely assistance?	Service map; referral and case workflow; resolution review	Repeated hand-offs, lost cases or unsafe counselling substitution
Postgraduate research	Are supervision, methods support, milestones and contingency arrangements credible?	Supervision agreements; workload register; methods provision; progress records	Nominal supervision without practical availability
Analytics and privacy	Are monitoring purposes lawful, proportionate, fair and contestable?	Data inventory; model appraisal; access logs; intervention protocol	Automated risk label triggers adverse action without review
Student voice and protection	Can concerns be raised safely, adjudicated fairly and used for improvement?	Accessible complaints route; outcomes; recurrent-issue review	Silence is treated as proof of satisfaction

Review domain	Principal review question	Examples of verifiable evidence	Typical failure requiring response
Graduate transitions	Do learners receive appropriate career and lifelong-learning guidance?	Assessed graduate profile; placement agreements; career support; alumni data notes	Promotional employment claims lack defensible evidence

Note. Original review instrument proposed by the author. Evidence listed is illustrative rather than a representation of mandatory HEC evidence for every programme. Any regulatory finding requires identification of the operative authority and requirement.

Use of Table 7.1 begins with a bounded and properly authorised review decision. The evaluator identifies the particular programme, qualification, approved delivery mode, affected cohort and applicable requirements before selecting representative evidence from design and actual delivery. Each consequential institutional claim must then be followed to a dated source and, where risk warrants, tested independently through a live user journey or review of relevant practice. The resulting finding should distinguish confirmed non-compliance with an applicable requirement, inadequate or contradictory evidence, a verified implementation deficiency and a developmental opportunity. Protective measures should not wait for an entire report where learners face immediate and substantial risk. A named authority must approve proportionate corrective action, and closure must depend upon retesting the affected pathway or other appropriate evidence that the barrier has actually been addressed. Strength in one domain must not compensate mechanically for a failed essential assessment, an unsafe placement or a defective safeguarding function.

Table 7.2. Student Lifecycle Responsibility and Learner-Protection Map

Lifecycle stage	Primary learner protection	Accountable institutional function	Evidence and trigger for escalation
Public information and inquiry	Truthful, comprehensible programme and cost disclosure	Admissions and programme leadership	Published requirements; mismatch complaint
Application and selection	Accessible, fair and authorised decisions	Admissions/registrar and academic authority	Decision record; access or appeal difficulty
Entry and induction	Tested readiness for study and clear support access	Programme and student-support teams	Real-task trial; unresolved enrolment barrier
Learning and assessment	Accessible instruction, fair feedback and valid evaluation	Module teams and academic leadership	Samples, adjustment delivery, late feedback
Difficulty, interruption and return	Confidential, timely support and authorised options	Adviser, student services and registrar	Case management; missed milestone; re-entry plan
Research or practice-based progression	Competent supervision and safe placement arrangements	Supervisor/programme director and placement partner	Progress review; supervision or placement concern

Lifecycle stage	Primary learner protection	Accountable institutional function	Evidence and trigger for escalation
Completion and transition	Authentic award decisions and appropriate career guidance	Examination authority and careers/alumni services	Moderation; award record; transition evidence

Note. Original student-lifecycle map proposed by the author. Organ names and legal competences must be adapted to each institution's governing documents and applicable Rwandan requirements.

The lifecycle map prevents the common error of assuming that support matters only during the first weeks of study. A student can become vulnerable after a changed timetable, failed placement, family interruption, dissertation delay, accessibility problem or administrative misclassification. The responsible service should be discoverable at each stage; the student should not need to understand the institution's organisational chart before receiving assistance. A programme review should follow at least one realistic case through each major transition using a de-identified or hypothetical test scenario and confirm that responsibility, escalation and record handling are workable.

Table 7.3. Learner Accessibility, Assessment and Accommodation Verification Checklist

Test area	Practical verification procedure	Pass condition or follow-up requirement
Navigation and structure	Use keyboard-only navigation and inspect semantic heading order	Essential actions reachable and sequence understandable
Screen-reader use	Examine representative pages, forms, tables and feedback	Labels, relationships and errors conveyed meaningfully
Text and contrast	Enlarge text, reflow view and test relevant colour contrast	No essential loss of content or function
Video and audio	Check captions, transcripts and meaningful visual alternatives	Accurate access to required educational information
Mathematical and visual material	Test equations, maps, charts and specialised diagrams	Equivalent access to the intended disciplinary content
Documents and files	Inspect source files, tagged exports and reading order	Logical structure, text alternatives and usable downloads
Authentication and examinations	Test login, identity check, timing and submission journey	Essential tasks workable, with authorised alternatives
Low-bandwidth route	Trial representative tasks using mobile and constrained connection	Viable participation route or documented mitigation
Adjustment decisions	Audit timeliness, confidentiality and academic validity	Reasoned decision and implementation before affected task
External suppliers	Test licensed and third-party teaching and support services	Procurement claims corroborated by actual user testing

Test area	Practical verification procedure	Pass condition or follow-up requirement
Problem reporting	Submit a test accessibility report and trace its handling	Accessible human response and documented resolution

Note. Original audit checklist based conceptually on CAST (2024), W3C (2023, 2024a) and the rights-based principles of the CRPD (United Nations, 2006). The checklist is not a substitute for a complete WCAG 2.2 conformance assessment or individual legal determination.

A reviewer should record the test date, system version, device, browser or assistive technology, task attempted, observed result, severity, accessibility specialist's interpretation and re-test outcome. Automated reports are useful for locating candidate defects, but human judgement and testing of representative journeys are required. For a compulsory learning task, the existence of an unresolved critical barrier should trigger immediate learner-protection measures even if a supplier's generic accessibility declaration remains favourable (W3C, 2024a). Where a task cannot reasonably be made accessible in the same form, the programme must make a reasoned adjustment decision preserving essential outcomes and any legally required professional competence.

Table 7.4. Student Support Evidence and Responsible Intervention Register

Required field	Entry rule	Purpose of the record
Claim and requirement	State the precise institutional promise and applicable authority	Avoid ambiguity between law, guidance and proposal
Context and affected pathway	Identify programme, stage, mode and barrier, without unnecessary personal identifiers	Bound the evaluative question
Evidence and provenance	Record source, date, version, access rights and limitations	Enable independent verification
Finding and uncertainty	Distinguish observed barrier, inferred explanation and unresolved facts	Prevent unjustified causal labels
Risk and immediate safeguard	Identify severity, learner consequence and necessary protective step	Protect students while inquiry proceeds
Action and authorised owner	Specify remedy, decision-maker, resources and due date	Establish accountable intervention
Verification and student response	Record re-test, learning effect where supportable, learner feedback and closure decision	Show whether the actual barrier was addressed

Note. Original evidence-register design by the author, consistent with the proposed IETQG and ETAJ reasoning architecture (Sangwa, 2026a). Retention, access and disclosure must comply with applicable data-protection requirements; individual case registers are not public accreditation annexes.

Table 7.5. Equity-sensitive educational indicators: operational definitions, interpretive limits and complementary evidence

Indicator and legitimate question	Suggested calculation or bounded record	Critical interpretive limitation	Corroborating review evidence
Functional induction: can entrants complete necessary tasks?	Entrants completing an authentic orientation task / all entrants required to complete it; record non-response	A completed quiz does not demonstrate lasting digital or academic capability	User-journey observation; first assessment submission problems
Timely agreed adjustments: are essential arrangements implemented?	Adjustments delivered before the affected activity / adjustments authorised for that activity	Unreported needs and late decisions may be invisible	Confidential case sampling; affected learner feedback
Feedback access: does substantive academic response arrive as promised?	Assessments returned with usable feedback within the stated window / assessments due for return; record extensions	A fast response is not necessarily accurate or educationally useful	Moderation of comments; learner revision evidence
Support resolution: is the underlying barrier removed?	Cases with documented confirmed resolution / cases eligible for closure; track reopened matters separately	Closure codes can be manipulated or fail to capture recurrence	De-identified case review; re-test of service pathway
Progression and legitimate interruption: can learners continue?	Cohort outcomes with explicit continuation, transfer, approved interruption and withdrawal categories	Programme mix, enrolment intensity and selection can distort comparisons	Academic-board decisions; workload and cost review
Assessed learning: are standards maintained across routes?	Moderated achievement against common intended outcomes, reported by approved route where safe	An overall pass rate does not establish comparable standards or causal benefit	Assessment blueprint; samples and external examination
Graduate transition: are pathways accurately represented?	Response-rate-qualified alumni and placement evidence with time period and destination type	Employment depends on external markets and response bias	Assessed portfolios; placement review; career-service access

Note. Original proposed indicator architecture by the author. These are definitional examples rather than HEC-prescribed formulae or statistical indicators with validated thresholds. Small-cell suppression, data minimisation and lawful processing are required where relevant; missing values, inclusions and exclusions must be disclosed before interpretation.

Table 7.5 should be treated as a data-definition register rather than a scoreboard. Each indicator requires a named data owner, relevant academic period, reliable source, method for checking completeness, lawful permitted use and explicit decision right. A programme may legitimately report that a figure cannot be calculated because necessary records were not collected. It should not replace missing evidence with an invented estimate or interpret a

small and selective sample as a population finding. External reviewers should seek independent corroboration where the indicator is used to justify a significant institutional or regulatory decision.

A simple ordinal rubric may support internal prioritisation if users understand its limits: **0** indicates absent or unverified provision; **1** indicates a documented arrangement without sufficient evidence of operation; **2** indicates evidence of functioning implementation with unresolved limitations; and **3** indicates independently checked, routinely reviewed implementation with evidence of corrective learning. These descriptors are proposed organisational aids, not psychometrically calibrated scores, HEC thresholds or proof of learner outcomes. A programme with a level-3 service in one domain and a level-0 critical safeguarding function should not be pronounced acceptable through averaging. Severity, legality, essential academic validity and affected students' immediate interests must be examined first.

The ordinal descriptors are principally a way of organising questions about evidence maturity. In a pre-enrolment review, an institution might demonstrate that a specific examination adjustment route is designed, resourced and successfully tested, although no cohort has yet used it. That observation should be reported as prospective readiness, not as demonstrated continuing effectiveness. Once a programme operates, the required claim changes: reviewers need evidence of actual implementation, timeliness, appeal arrangements, learner experience and correction of documented faults. The same numeric label cannot validly be interpreted as proof of both future feasibility and past achievement.

Institutional and regulatory roles must remain distinct. The university is responsible for identifying barriers, conducting its self-review, taking protective action and reporting verifiable improvements. An external evaluator tests institutional claims against the applicable criteria and may recommend conditions or additional scrutiny, but must not present the author's rubric as an official HEC scoring scheme. Where evidence conflicts, the reviewer should record competing explanations and the specific additional verification that could resolve the uncertainty. Where the facts establish an immediate threat to learners, proportionate protection takes priority over completing a composite maturity calculation.

An explicitly hypothetical example illustrates the difference. Consider a Rwandan university proposing an online master's programme whose materials are academically coherent and whose LMS runs reliably. An admission document says lectures may be studied asynchronously, while four compulsory real-time seminars are scheduled at times inaccessible to an identifiable proportion of employed students. An assessment requires a timed third-party examination interface for which the university has obtained only a supplier accessibility statement; no keyboard-only or screen-reader test has been performed. Advisers can receive student messages, but there is no rule assigning responsibility for unresolved accommodation requests. This is a constructed scenario, not evidence about a named institution.

A weak review might praise the comprehensive course site and recommend generic further support. An evidence-traceable review would separate claims and actions. It would establish the approved programme's actual delivery classification and the requirement governing any compulsory synchronous teaching; examine whether prospective information was accurate; test accessibility of the high-stakes examination; identify the authority responsible for individual adjustments; and require a viable route for affected students before the relevant activity. It could distinguish a confirmed misleading promise, an accessibility risk still requiring verification, and a structural support deficiency. The appropriate academic or regulatory decision depends on the established normative basis, severity, evidentiary completeness and competent decision-maker, not on the numerical elegance of a maturity score (HEC, 2026a; Republic of Rwanda, 2026; W3C, 2023).

A second, explicitly hypothetical case shows why equity analysis must not become an excuse to alter standards invisibly. Consider a blended undergraduate quantitative-methods course whose compulsory assessment requires students to analyse a large dataset using a named desktop application. Most learners have mobile phones, but a subgroup cannot run the software, and the department has not budgeted sufficient laboratory hours. The issue is not solved by offering a mobile-accessible multiple-choice test if the intended outcome is competent data analysis. The department could instead reserve suitable workstations, provide a usable remote-desktop route where stable connectivity permits, offer approved offline datasets and schedule equivalent supervised opportunities. An evaluator should inspect the module learning outcomes, software licence conditions, access capacity, assessment rubric, student instructions and samples of actual work before concluding that the remedy preserves academic validity. The case illustrates a claim-evidence-remedy chain; it is not an observation about a real Rwandan institution.

A credible sign-off record for either hypothetical case would identify the affected qualification and cohort, operative HEC or other binding requirement where relevant, each verified barrier and its severity, the available temporary protection, the academic and administrative decision-makers, resource responsibility, evidence of implementation and a scheduled retest. It would also record unresolved uncertainty and protect individual records from unnecessary circulation. This allows the reviewer to explain not merely whether an institution has an accessibility statement, but whether the actual education it promises can be delivered to the learners it admits.

A realistic improvement plan should protect students now while building lasting capability. During initial triage, the institution should identify compulsory activities posing immediate accessibility, assessment or safety risks; make authorised temporary arrangements; and establish named case ownership. During the following academic review cycle, it should reconcile prospectuses and specifications, test representative digital journeys, train staff in accessible authoring and referral, and revise assessment calendars and support protocols. Thereafter, it should evaluate whether the problems recur, whether affected students can

participate and whether educational standards remain secure. No universal thirty-, sixty- or ninety-day timetable is imposed here, because a serious defect may require immediate action while more complex curricular modification must follow lawful approval procedures. The practical objective is documented, risk-proportionate, verified improvement.

7.15 Critical synthesis and conclusion: Inclusion as an academic quality obligation

The argument of this chapter is that inclusion cannot be separated from the academic validity and public credibility of a higher-education qualification. An institution does not fulfil its commitment by making a resource nominally available if learners cannot reasonably use it, nor by increasing completion if assessment no longer verifies the promised knowledge and capability. Educational equity concerns the credible conditions under which diverse learners can enter, participate, receive support, meet demanding standards and progress. Those conditions are shaped jointly by curriculum design, academic judgement, institutional capability, student circumstances and governance choices. They must therefore be examined in relation to one another rather than assigned to an isolated office for exceptional cases.

The theoretical contribution is an integrated account of **substantive participation**. Capability reasoning asks whether students can convert nominal provision into real opportunity; rights-based inclusion identifies unjustified exclusion and the importance of accommodation; UDL guides preventive design; engagement and self-regulation scholarship illuminate participation and persistence; socio-technical analysis explains barriers generated by institutional systems; and evidence-traceable evaluation tests the relationship between policy, enacted practice and outcomes. Each perspective has limits. No theory authorises universal assumptions about learner needs, no platform score establishes educational engagement, and no single favourable outcome statistic proves equity or causation. This qualification is integral to the argument, not a concession made after it.

For Rwanda and comparable African contexts, the chapter's practical implication is that programme readiness and continuing quality assurance should include accessible academic pathways, transparent participation costs, appropriate support capacity, ethical learner data, fair assessment, postgraduate supervision and verifiable mechanisms for addressing complaints. The proposed review matrix, lifecycle map, accessibility checklist and evidence register convert these concerns into disciplined questions. They require adaptation to current HEC instruments, programme authorisations, domestic law, professional standards and institutional responsibilities; they are not endorsed regulatory requirements or empirically validated tools. Their strongest contribution is to make claims about learner protection inspectable while leaving room for contextual and academic judgement.

This analysis completes the book's account of curriculum, delivery and learner participation. The next task is institutional: to govern quality-assurance cycles through which programmes repeatedly test whether these promises hold, interpret imperfect evidence, act on deficiencies

and verify that improvement occurred. Inclusive educational quality is not achieved when a policy is approved or a platform is launched. It is sustained when the university is capable of recognising whose learning opportunities remain constrained, giving defensible reasons for its decisions and changing conditions that unnecessarily prevent students from demonstrating what they can know and do.

PART III

Quality Assurance, Accreditation and Institutional Resilience

The credibility of a programme depends on continuing inquiry into what happens after design and approval. Part III examines the institutional and public responsibilities through which that inquiry proceeds. Chapter 8 addresses internal quality assurance, programme monitoring, corrective action and verified enhancement. Chapter 9 develops external programme review and Evidence-Traceable Accreditation Judgement, distinguishing the evidence behind a finding from the authority required for a formal decision. Chapter 10 examines the continuity of educational obligations through pandemics, conflict, environmental change, cyber incidents and other disruptions.

These chapters join ordinary monitoring, independent scrutiny and preparedness for exceptional conditions. They ask what has been demonstrated, what remains uncertain, whose judgement is required and how a finding should lead to action. The professional instruments help connect evidence registers, evaluative warrants, corrective responsibilities and recovery checks. Their common purpose is to make quality claims open to examination across the programme lifecycle. Part IV then considers how a distinctive institutional mission can inhabit that architecture and how the whole volume can inform coordinated implementation.

8. Internal Quality Assurance, Programme Monitoring, and Continuous Educational Enhancement

9. External Programme Review, Accreditation, and Evidence-Traceable Regulatory Judgement

10. Higher Education Resilience Under Pandemics, Conflict, Environmental Change, and Systemic Disruption

CHAPTER 8

Internal Quality Assurance, Programme Monitoring, and Continuous Educational Enhancement

From Quality Documentation to Evidence of Academic Effectiveness

Abstract

Internal quality assurance (IQA) is a university's continuing responsibility to establish, examine and improve the conditions under which its educational promises become demonstrable achievement. Yet institutional quality systems can produce extensive documentation without reliably detecting weak assessment, inequitable progression, inaccessible teaching or repeated failures to act on evidence. This chapter develops an integrated, Rwanda-anchored account of internal assurance that connects academic standards, programme monitoring, evaluation, institutional judgement, corrective action and verified educational enhancement. A critical documentary and conceptual synthesis draws on Rwanda's Higher Education Council internal quality-assurance guidelines and related national instruments, the African Standards and Guidelines for Quality Assurance, international professional benchmarks, and scholarship on constructive alignment, quality culture, organisational learning, feedback and educational analytics. The chapter advances a proposed evidence-to-enhancement lifecycle nested within Integrated Evidence-Traceable Quality Governance (IETQG), while preserving the distinction between internal professional decisions and legally authorised accreditation judgement. Five interlocking practical instruments provide a manual architecture, an annual programme-review record, a module-evaluation rubric, an evidence register and a corrective-action verification matrix. A worked hypothetical programme case demonstrates how conflicting evidence should lead to proportionate, documented decisions rather than favourable summary scores. These instruments are proposals for professional adaptation, not regulator-approved or empirically validated measures. Effective internal quality assurance is ultimately defined by the defensibility of its judgements and the educational consequences of its actions, not by the volume of its reports.

Keywords: internal quality assurance; programme monitoring; educational enhancement; Rwanda; quality culture; evidence traceability; academic governance

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8.1 Introduction: Quality assurance as institutional responsibility

A university may conduct course evaluations every semester, convene a quality committee, complete annual programme reports and preserve thousands of files for inspection while a fundamental weakness persists unchanged. Students repeatedly receive late feedback; assessment questions fail to test the stated learning outcomes; an internship site cannot accommodate the number of assigned learners; or a programme's high completion rate conceals decreasing academic demand. Such a university has quality-assurance activity, but it has not necessarily established an effective quality-assurance system. The difference concerns what happens between collecting information and changing the conditions that generate educational experience. Internal quality assurance becomes credible when evidence influences decisions and when those decisions are subsequently examined for actual effects (Harvey & Williams, 2010; M. Martin, 2018).

The preceding chapters have established the purposes and multidimensional nature of higher-education quality, the authority of national regulation, the organisational capabilities needed for sustainable provision, and the design conditions of coherent, accessible and academically trustworthy programmes. Their practical implications converge at an unresolved question: who continuously tests whether the university is delivering what it approved and advertised, and what happens when the answer is uncertain or negative? This chapter addresses that question at the level of ordinary institutional operations. It concerns assurance while programmes are being taught, assessed, supported, revised and, where necessary, suspended or discontinued. External accreditation is important, but no periodic visit can substitute for the institution's own capacity to know the state of its programmes between visits (Harmonisation of African Higher Education Quality Assurance and Accreditation Initiative [HAQAA], 2018; Higher Education Council [HEC], 2021a).

IQA is understood here as the governed set of recurrent responsibilities, procedures, professional judgements and evidence practices by which an institution establishes and maintains academic standards, evaluates the actual experience and achievement of learners, protects legitimate interests, and makes accountable decisions for improvement. The definition is deliberately broader than a central quality office. Programme leaders, lecturers, internal examiners, support services, students, institutional researchers, academic boards and governing bodies each perform different parts of the function. A quality office can coordinate evidence and challenge unsupported claims; it cannot teach every module, award every mark or independently finance every improvement. An effective IQA system therefore joins delegated academic responsibility with institutional oversight, rather than replacing academic judgement with centrally administered checklists.

The Rwandan regulatory foundation is unusually relevant. HEC's *Guidelines for Internal Quality Assurance (IQA) Mechanisms for Higher Education*, dated November 2021, present 18 standards covering institutional mission, governance, academic programmes, quality policies,

human and financial resources, learning environments, programme monitoring, student support, information management and periodic review. The document describes institutional ownership, stakeholder engagement, quality culture and continuous improvement, and provides for adaptable self-assessment arrangements (HEC, 2021a). Its standards and assessment guidance should be read alongside the current legal framework and applicable programme-specific instruments. Presidential Order No. 044/01 of 24 July 2026, published on 30 July 2026, governs HEC's mandate; it does not convert the original analytical instruments offered in this chapter into prescribed HEC forms (Republic of Rwanda, 2026). Moreover, publication of a guideline establishes its stated expectations, not evidence that a given institution has complied with them.

The chapter's method is a critical, purposive documentary and conceptual synthesis. The source set comprises the author's doctoral analytical work, preceding chapters, identified HEC and Rwandan legal sources, continental and international quality references, and selected scholarship chosen for explanatory significance or its capacity to challenge simplistic assurance claims. Documents are interpreted according to provenance, level of authority, institutional scope, evidentiary relevance and possible counter-interpretations. No exhaustive systematic search, new participant research, institutional audit, PRISMA screening count, implementation trial or verified improvement effect is claimed. Constructed numerical and organisational examples are explicitly hypothetical. The practical framework is offered for testing and local adaptation, with no claim of regulatory approval or independent empirical validation (Sangwa, 2026a).

The chapter's proposition is both institutional and epistemic. Institutions need routines capable of discovering deficiencies before students or external inspectors bear their full consequences; they also need reasoned methods for deciding what the evidence can and cannot establish. A low response rate cannot prove that students are satisfied, a high pass rate cannot independently establish mastery, and a completed corrective-action form cannot establish that a problem is resolved. Evidence must be interpreted against relevant standards, corroborated where reasonable and linked to an accountable intervention. That logic provides the institutional counterpart of the evidence-traceable accreditation judgement developed in the next chapter, while keeping internal assurance and external regulatory authority analytically distinct.

A useful methodological distinction follows from the chapter's critical realist orientation. An annual report and an officially approved quality policy are observable institutional artefacts. Staff and students' actual teaching, marking, advising and corrective decisions constitute events and practices that may or may not correspond to the artefacts. Institutional incentives, staff capacity, authority relationships, technologies and informal cultures may help to explain recurrent patterns, but those mechanisms cannot simply be read off a dashboard. The analysis therefore considers rival explanations for favourable and unfavourable indicators, asks what would count as disconfirming evidence, and distinguishes an internally warranted conclusion

from a causal claim requiring a stronger research design (Meyer & Rowan, 1977; Sangwa, 2026a). This perspective safeguards against both uncritical optimism about institutional self-reporting and an equally unjustified assumption that all formal procedures are ineffective.

The source-selection process was purposive and interpretive: the Rwandan legal and HEC instruments were prioritised for normative relevance; the African Standards and Guidelines and ESG 2015 were used as comparative benchmarks; and peer-reviewed and institutional research was selected to illuminate educational measurement, quality culture, feedback use and organisational learning. Findings were developed by comparing each source's definition of the quality problem, prescribed or observed practice, evidentiary limitations, and implications for review. This account describes the logic of the present synthesis rather than claiming a retrospectively reconstructed systematic search, comprehensive screening record or empirical test. It also explains why the chapter treats professional checklists as aids to accountable interpretation, not self-validating measurements of institutional quality.

8.2 Quality assurance, quality control, quality enhancement, and institutional effectiveness

Quality assurance, quality control and quality enhancement are closely related but answer different questions. Quality control asks whether a specific product, record, assessment decision or process conforms to defined requirements. Checking that examination papers have been moderated, laboratory equipment meets calibration standards, grades have been accurately entered or a transcript records the correct credits exemplifies control. Assurance asks whether the university has a functioning, credible and adequately evidenced system capable of maintaining standards across repeated activities and cohorts. Enhancement goes further by examining where educational provision can be made more effective, inclusive, intellectually demanding or sustainable, even where the current minimum requirement is being met. Institutional effectiveness concerns the extent to which appropriately chosen purposes are achieved, interpreted with regard to resources, educational context and legitimate alternative explanations (European Association for Quality Assurance in Higher Education et al., 2015; HEC, 2021a).

These functions cannot be arranged as a simple hierarchy in which quality control is obsolete and enhancement automatically superior. A single inaccurate grade can cause material harm irrespective of institutional improvement strategy; an unreliable examination procedure may require immediate correction before any long-term developmental project. Conversely, perfect conformity with a defective rubric can reproduce invalid judgements systematically. Assurance must therefore examine the quality of the standard itself, the reliability of its implementation and the consequences for learners. A procedure is not academically defensible because it is consistently applied if the procedure measures recall where a degree promises independent professional judgement. Biggs's (1996) constructive-alignment argument explains why the validity of objectives, activity and assessment relationships matters in addition to procedural consistency.

Quality enhancement should not become a euphemism for managerial novelty. Replacing a reading list annually, migrating to a new learning platform or increasing the number of feedback surveys does not necessarily constitute educational improvement. An enhancement claim requires a defensible account of the problem or opportunity, the chosen response, plausible pathways through which the response might matter, and relevant evidence from subsequent practice. Where outcomes improve after a change, the institution should still consider concurrent changes in cohort characteristics, staffing, assessment design and economic circumstances before attributing the entire improvement to its intervention. Conversely, unsuccessful interventions can constitute valuable organisational learning when the institution records why they did not work and revises its assumptions transparently (Argyris & Schön, 1978; M. Martin, 2018).

Table 8.1 clarifies the evidence demands of these interlocking functions. The point is not to create four competing administrative departments. It is to prevent the same artefact from being used indiscriminately to answer conceptually different questions. A signed examination moderation record establishes that a recorded control was performed. It does not, without examining the moderation process and assessed work, establish that assessment standards were maintained across a programme.

Table 8.1. The purposes, evidence and characteristic errors of internal educational quality functions

Function	Principal evaluative question	Illustrative evidence	Common inferential error
Quality control	Was the specified decision or process correctly executed?	Mark reconciliation; moderation log; laboratory check	Assuming procedural completion proves academic validity
Quality assurance	Can the institution maintain standards reliably across programmes and cohorts?	Approved procedures; verified samples; staff competence; audit trail	Equating policy existence with routine enactment
Quality enhancement	Did an identified change plausibly improve a worthwhile educational condition?	Baseline; action record; subsequent work samples; learner evidence	Counting initiatives instead of examining consequences
Institutional effectiveness	Are defensible institutional and educational purposes being achieved?	Integrated attainment, progression, research, public-service and resource evidence	Inferring quality from one aggregate performance indicator

Note. Original analytical synthesis informed by HEC (2021a), Biggs (1996), Argyris and Schön (1978), and M. Martin (2018); categories are explanatory rather than mutually exclusive or regulator-prescribed.

The distinction also helps clarify the role of performance targets. A university might require an agreed proportion of feedback to be returned within a defined period. Such a target creates operational visibility, but it does not establish that feedback is intelligible, accurate or used by

students. Boud and Molloy (2013) argue that feedback should be designed as part of learning, with learners progressively able to judge and act upon information. A responsible quality review therefore combines timeliness measures with analysis of feedback quality, student opportunities to respond and subsequent work. Where evidence is incomplete, the correct conclusion is qualified rather than automatically favourable or adverse. Institutional effectiveness is a reasoned judgement, not an arithmetical average of unrelated indicators.

8.3 Institutional quality-assurance governance: Academic boards, senates, departmental committees, and quality units

IQA succeeds or fails partly through its distribution of decision rights. A governing council or board exercises institutional stewardship within the powers granted by law and institutional statutes. A senate or equivalent academic authority ordinarily protects the integrity of curricula, standards, assessment regulations, awards and academic policy. Faculty boards and departmental committees interpret academic requirements within disciplines, programme teams scrutinise day-to-day delivery, and specialist functions support admissions, examinations, libraries, digital systems, student welfare, research and institutional evidence. A central quality unit may develop methods, schedule reviews, consolidate findings and escalate unresolved risk. Exact bodies and competences differ by institution; a template cannot substitute for approved statutes or the legally valid delegation of academic authority (HEC, 2021a; Republic of Rwanda, 2026).

The governance problem is not solved by multiplying committees. Duplication may delay corrections until the next scheduled meeting, while an over-centralised arrangement can cause senior managers to decide specialist academic matters without adequate disciplinary scrutiny. At the opposite extreme, complete decentralisation may allow departments to use inconsistent marking thresholds, abandon agreed complaint procedures or suppress unfavourable data. Effective governance locates professional judgement near the learning activity while establishing common rules for matters that affect fairness, academic comparability, safeguarding and legal compliance. The senate can approve a university-wide moderation policy; departments should apply it through discipline-sensitive methods; independent academic scrutiny should verify that those applications are credible.

Accountability must distinguish four operations often collapsed in institutional reporting: identifying a problem, recommending a response, authorising the intervention and verifying its effectiveness. When the same programme director is required to diagnose, approve and declare closure of a serious failure without independent challenge, conflicts of interest may compromise credibility even without deliberate misconduct. Conversely, review should not be so adversarial that lecturers avoid reporting problems. A proportionate separation of duties might assign the programme team to investigate, the faculty board to approve a curriculum remedy, the quality unit to verify procedural compliance and the academic senate to decide a material award-level modification. Students should have safe opportunities to raise concerns,

while confidential cases must be handled by competent offices without exposing personal information in general committee minutes (HEC, 2021a; Loukkola & Zhang, 2010).

Table 8.2. Illustrative institutional allocation of internal quality-assurance decision rights

Decision locus	Principal assurance responsibility	Typical decision or artefact	Necessary challenge or escalation
Governing council or board	Resource stewardship, institutional risk and executive accountability	Quality strategy, funded improvement priorities	Material unresolved risk, financial or reputational exposure
Senate or academic board	Qualification integrity, academic regulations and standards	Programme validation, award rules, major curricular change	Legal approval, professional requirements, external permissions
Faculty or school committee	Cross-programme oversight and disciplinary standards	Annual review recommendations, staffing and assessment concerns	Material academic deficiencies beyond faculty authority
Department and programme team	Enacted teaching, assessment, support and cohort analysis	Module and programme review, academic action plan	Serious integrity, safety, accessibility or compliance risk
IQA unit or equivalent	Review design, evidence stewardship, independent checking and follow-up	Review calendar, evidence register, follow-up report	Persistent non-closure, inconsistent reporting, conflicting evidence
Specialist services and student representatives	Technical, welfare, library, digital, accessibility and experiential evidence	Service evaluations, user evidence and specialist findings	Confidential cases, urgent learner protection, data incidents

Note. Original proposed allocation, for adaptation to each institution's statutes, staffing and legal obligations. It is not an HEC governance chart. Student participation should be meaningful without requiring students to certify specialist matters beyond their expertise.

An annual responsibility matrix should name the office with final authority for each decision, the officer accountable for completion, the evidence custodian and the escalation route. It should also cover absence and succession, since a programme that depends entirely on one respected individual has not institutionalised its assurance capability. In small institutions, formal committee functions may legitimately be combined, but combination should not remove independent review of high-stakes judgements. Minutes should record contested issues and reasons for decisions, not merely unanimous endorsement. This creates a defensible institutional history when staff change or an external reviewer asks why an apparently known weakness remained unresolved (HEC, 2021a; Meyer & Rowan, 1977).

The defensibility of decisions also requires an appeals and exception architecture. A department may request a temporary assessment variation, a programme director may need emergency replacement supervision, and a learner may challenge a mark or an inaccessible

examination. A quality policy should specify which exceptions are permissible within delegated authority, what academic conditions they must preserve, how decisions are dated and disclosed, and when an exception becomes a material programme change requiring higher authorisation. Repeated waivers should trigger a systemic review rather than remain scattered as individually reasonable decisions. These procedures protect lawful discretion without allowing informal practice to become an undeclared alternative curriculum.

8.4 Establishing institutional quality policies, review schedules, responsibilities, and evidence systems

A functioning IQA policy begins with institutional educational commitments and identifies the standards by which those commitments will be judged. It should state its scope across awards, modalities, campuses, research activity where relevant, learner services and externally partnered provision. It should identify the competent approval authority, the relationship to national requirements, staff and student responsibilities, how possible conflicts of interest are managed, and how serious concerns are escalated. HEC's 2021 guidelines specifically address published QA policies and procedures, formalised roles, stakeholder participation, information management and periodic review. International references such as the African Standards and Guidelines and the ESG 2015 strengthen the comparative case for internal policies, programme monitoring and information use; neither displaces applicable Rwandan law (European Association for Quality Assurance in Higher Education et al., 2015; HAQAA, 2018; HEC, 2021a).

A policy without an operational calendar is difficult to enforce. The institution should synchronise module evaluation with the end of teaching, moderation with assessment and boards of examiners, programme review with reliable cohort results, resource allocation with budget cycles, and major curriculum review with academic planning and regulatory timelines. Emergency reviews must remain possible when risks do not respect calendars. A serious clinical-placement failure should not wait for the annual programme meeting. A substantial unexplained difference between examination markers may require grades to be withheld pending reconciliation. In contrast, a broader redesign of disciplinary progression can often be scheduled after a programme-level analysis. The timing of review should follow educational risk and the availability of meaningful evidence rather than the administrative convenience of one reporting date.

Evidence architecture is central. Institutions should maintain a controlled record of the claim or standard being assessed, the owner of the relevant process, the source and date of evidence, the cohort and programme to which it applies, its access restrictions, the outcome of verification and the decision it informed. Records should make a necessary distinction between policy, allocated resources, implemented activity and demonstrated educational result. For example, a lecturer's curriculum vitae may establish qualifications, a timetable may establish a planned allocation, attendance and course records may show enacted teaching, and reviewed assessment samples may illuminate whether teaching supported the intended

standard. None is an all-purpose substitute for the others. A central repository is useful only when versioning, permissions, retention, retrieval and accountability are designed into its ordinary use (HEC, 2021a; Sangwa, 2026a).

The 2021 HEC IQA document contains 18 standards; a chapter-specific manual need not reproduce their text to create an effective internal crosswalk. Table 8.3 identifies functional clusters through which institutions can index their evidence while preserving the official standard numbers and language in the authoritative source. Clusters are an editorial aid, not a revision of HEC's standard system. They help avoid the error of assigning every indicator to the central QA office while leaving no operational owner within the academic or service departments.

Table 8.3. Functional crosswalk for HEC Rwanda's 2021 internal quality-assurance standards

Internal assurance cluster	HEC 2021 standards	Internal evidence emphasis
Institutional purpose and accountability	1–3, 5	Profile, mission, governance, published IQA arrangements, decision records
Academic programme and assessment integrity	4, 9, 11, 18	Programme approval, monitoring, learning and assessment, periodic review
Staff, funding and learning infrastructure	6–8, 12	Qualified staff, financial stewardship, facilities and learning support
Learner lifecycle and institutional information	10, 15–16	Admissions and certification, information systems, reliable public communication
Research, community and collaboration	13–14, 17	Research and innovation, community engagement, collaborations and mobility

Note. Analytical grouping of the 18 standard titles in HEC (2021a, pp. 12–25). Consult the original instrument for full wording and interpretation; this table is neither an alternative legal standard nor a claim that each requirement is satisfied.

The policy should also set an evidence-governance protocol. Data collected for student advising should not automatically be redistributed for staff disciplinary review, commercial research or unrestricted AI model processing. Rwanda's Law No. 058/2021 on personal data and privacy creates duties that require institutional legal interpretation and appropriate controls, including attention to lawful processing, security and data-subject interests (Republic of Rwanda, 2021b). The institution should define who may inspect identifiable records, how student feedback is de-identified, which records require confidentiality, how long evidence is retained, and what happens when an authorised reviewer needs access. These rules should be proportionate to the purpose: the absence of all student-level evidence can weaken internal inquiry, but unrestricted surveillance is not a legitimate shortcut to assurance.

The evidence system should use a common vocabulary and data dictionary. Programme identifiers, qualification levels, study periods, census dates, credits attempted, credits earned,

withdrawal categories, assessment opportunities and closure states must have agreed meanings if reports are to be compared across faculties or years. For every substantial measure, the institution should record its numerator, denominator, exclusions, reporting period, extraction logic and responsible steward. It should also reconcile the source of records, such as examinations, student information and learning-platform systems, before publishing results. Where two databases disagree about the size of a cohort, the inconsistency is a quality finding to resolve, not a reason to select the more favourable number. The original records and the approved interpretation should remain traceable for authorised review (HEC, 2021a; Jisc, 2015).

A proportionate review calendar requires at least three distinct time horizons. Immediate safety, access and academic-integrity failures need a rapid decision route; module and assessment evidence can be consolidated at the completion of a teaching period; and programme, resource and strategic evidence may require annual or multi-year interpretation. These are proposed operating horizons rather than universal HEC deadlines. The university should define triggering conditions that bring a review forward, including an unexplained progression collapse, repeated appeals, lost placement capacity, cyber incidents affecting academic records, inability to provide specialist supervision, or sustained contradiction between teaching evaluations and moderated student work. The central test is whether staff know both the ordinary timetable and the route for acting before the next scheduled meeting.

8.5 Programme validation, implementation monitoring, and annual academic review

Programme quality must be considered at several distinct stages. Validation is a prospective judgement about the educational merits and readiness of a proposed programme. Launch review examines whether critical staff, teaching resources, assessment arrangements, student information and support systems are actually in place. Implementation monitoring examines whether what was approved is being delivered under the circumstances of an identifiable cohort. Annual programme review interprets accumulated experience and achievement, including whether previous recommendations have been implemented. Periodic strategic review questions the programme’s continuing academic rationale, structure, external relevance and sustainability. These stages form a developmental sequence but should not be confused: a successfully validated dossier does not prove enacted educational quality, while the absence of longitudinal graduation data from a new programme does not automatically establish defective readiness (HEC, 2021a; Sangwa, 2026a).

A validation record should therefore be preserved as the baseline against which implementation can be examined. It should identify the approved programme title and award, learning outcomes, credits, duration, admissions criteria, delivery sites and modes, module register, staffing assumptions, planned enrolment, learning resources, practical training and assessment architecture. Material variations should be recorded through a controlled modification procedure. During implementation, the programme team can compare

authorised and delivered curricula, actual module offerings, teaching and supervisory allocations, assessment tasks, feedback performance, use of learning resources and students' academic experience. A discrepancy may be justified, harmful or simply administrative; its significance depends upon what has changed, which rule or academic purpose is implicated, and who has authority to permit or rectify the departure.

An annual review should not merely restate strengths and weaknesses. It should establish the cohorts and review period, describe student movement from admissions through progression, compare intended and evidenced learning, analyse moderation and external examiner findings, assess student and professional feedback, test staffing and resources, record previous actions and recommend specific decisions. The denominator and relevant population should be explicit. A progression proportion may use all registered students at an agreed census date, whereas assessment pass rates may include only students who attempted the relevant assessment; comparing these without explanation is misleading. Withdrawals, deferrals, repeaters, transfers and students awaiting completion should not disappear from the analysis because they make results difficult to present. Cohort-level interpretation also requires attention to discipline, mode and entry route (HEC, 2021a; Kahu & Nelson, 2018).

It is useful to divide findings into matters that can be corrected within the programme, matters requiring institutional resources, and matters that may demand formal programme modification or external regulatory action. A module may need a redesigned assessment or better sequencing; a recurring laboratory bottleneck may require capital expenditure or a revised cohort limit; a substantial change in qualification structure may have consequences beyond the senate's internal approval. The HEC's 2021 Standard 9 concerns design, approval, monitoring and evaluation of study programmes, and Standard 18 concerns periodic review of core activities. These provisions support the principle of an institutional review cycle, but precise external approval requirements must be established from applicable instruments rather than invented from this chapter's proposed timetable (HEC, 2021a; Republic of Rwanda, 2026).

Table 8.4. Annual programme-review template: minimum evaluative fields and decision outputs

Review field	Evidence to examine	Required analytical conclusion or decision
Programme identity and authority	Approved specification, version, delivery permissions	Is current delivery consistent with approval?
Cohort composition and movement	Admissions, registration, transfer, deferral, withdrawal	What are the denominators and differential progression patterns?
Academic standard and achievement	Outcome maps, moderated work, examiners' findings	Are claimed award-level capabilities evidenced?
Curriculum and module sequence	Module results, prerequisites, content and credit map	What gaps, duplication or progression failures require action?

Review field	Evidence to examine	Required analytical conclusion or decision
Teaching, assessment and feedback	Actual schedules, task samples, moderation, response evidence	Do educational activities and judgements remain fit for purpose?
Inclusion and student support	Access tests, service records, complaints, support response	Which barriers prevent meaningful participation?
Staffing, infrastructure and sustainability	Workload, contracts, facilities, digital service and budget	Can the programme continue safely and credibly?
Stakeholder and external perspective	Student and graduate views, employers, external examiners	What corroborates or challenges internal conclusions?
Previous actions and current risks	Prior review, action register, evidence of verification	Which actions have worked, failed or remain open?
Recommendation and authority	Findings, alternatives, costs, responsible committee	What is approved, escalated, monitored or formally modified?

Note. Original author-developed template informed by HEC (2021a), ESG 2015 and M. Martin (2018). Institutions should add the current statutory or professional criteria relevant to each programme, not treat this instrument as an official HEC form.

Review is most credible when its structure allows unwelcome findings to survive deliberation. A strong report may conclude that teaching is academically effective while identifying a serious access failure affecting a small group; a weakness in learner protection must not be dissolved by favourable overall averages. Reviewers should record uncertainty honestly and assign an evidence-gathering action when the available information cannot settle a material claim. Only thereafter should the academic authority decide whether to continue unchanged, make minor improvement, impose enhanced internal monitoring, propose substantial redesign, restrict recruitment, suspend delivery or pursue an authorised closure process. The purpose is not to impose identical outcomes on all institutions but to require an intelligible relationship between the educational risk and the response.

Programmes with work-integrated learning need an additional assurance layer because attainment depends partly on parties outside the university. Annual review should connect placement agreements, the competence and availability of workplace supervisors, site capacity, insurance and safety arrangements where applicable, scheduled learning, feedback and the authenticity of assessed performances. A signed memorandum of understanding establishes an arrangement; it does not establish that each student obtained appropriate supervised experience. The review should examine sample logs, supervisor reports, observed or authenticated performances, incident records and students' opportunities to meet essential competencies. Where clinical, educational or engineering practice is regulated by another competent body, its requirements must be considered separately from ordinary programme preferences.

The same distinction applies to postgraduate and research provision, which can disappear from undergraduate-style quality dashboards. Doctoral and master's research review requires

defensible admission and progression milestones, access to relevant scholarship and research infrastructure, appropriate supervisory expertise and capacity, ethics and integrity procedures, confirmation of candidature where applicable, examination independence and reliable records of completion and withdrawal. A supervisor's formal appointment or doctoral qualification does not establish the quality of supervision. Institutions need to examine actual meeting and feedback practices without reducing research quality to the number of meetings, pages written or time to submission. Disciplinary expectations and applicable official postgraduate requirements remain controlling; the proposed IQA logic governs how institutions examine and respond to the evidence.

8.6 Module evaluation, curriculum coherence, assessment moderation, and external examining

Modules are the immediate sites where the approved curriculum becomes teaching, learning, practice and assessment. Their evaluation should consequently inspect more than a lecturer's popularity or the average mark. A defensible review examines whether the module's actual content and intellectual demand correspond to its approved learning outcomes, whether prerequisites support rather than obstruct progression, whether learning activities provide opportunities for appropriately complex thinking, whether resources and accessibility arrangements work, and whether assessment tasks support valid claims about individual achievement. These relationships are central to constructive alignment, but the review must also test whether the outcomes themselves remain suitably demanding for the qualification and discipline (Biggs, 1996; HEC, 2021a).

A module should be evaluated through multiple evidence streams. The module descriptor and teaching plan establish intended provision; timetable, course-platform records and teaching artefacts demonstrate elements of enactment; assessment briefs, student submissions, marking rubrics and moderation records illuminate academic demand; student feedback explains perceived barriers; and subsequent module performance may reveal prerequisite gaps. Disagreement among sources can be informative. If most learners report clear teaching but external scrutiny identifies an assessment that tests only elementary recall, the programme should not dismiss the academic concern because the satisfaction score is high. If results decline after a more demanding assessment is introduced, the decline may indicate improved integrity of standards, inadequate preparation or both. The review must examine task validity, learning opportunities and comparative cohort evidence before deciding.

Moderation is a quality-control and academic-standards function whose precise form should follow task characteristics. Pre-assessment moderation examines questions, instructions, difficulty, outcome coverage, accessibility, time and marking criteria before students attempt the work. Post-assessment moderation scrutinises the consistency and defensibility of marking, treatment of borderline results, application of criteria and integrity of recorded grades. Sampling methods need to be justified. Random samples can illuminate broad consistency, while purposive review of high, low, borderline and contested scripts tests

particular risks. In high-stakes or professionally regulated performance assessment, observation, assessor calibration and independent checks may be more informative than retrospective document review. A signature confirming moderation has occurred is useful but cannot replace substantive examination of moderation comments and resulting changes.

External examining introduces an appropriately independent academic perspective where an institution uses that model and where the relevant academic or professional arrangements permit it. The examiner may interrogate qualification level, curricular coherence, assessment briefs, sampled student work, classification decisions and the comparability of standards. Independence requires appropriate disciplinary expertise and management of conflicts of interest; a familiar consultant who designed the relevant assessment cannot automatically supply independent confirmation of its quality. External examiners do not ordinarily replace the authorised internal board of examiners or the competent regulator. Their comments require an institutional response, including reasons where recommendations are not accepted. External examination is therefore both a source of challenge and a test of institutional capacity to respond to challenge (European Association for Quality Assurance in Higher Education et al., 2015; HEC, 2021a).

Table 8.5. Proposed module-evaluation rubric for documented professional judgement

Dimension	Evidence expected	Diagnostic interpretation
Outcome and qualification alignment	Descriptor, approved programme map, discipline benchmark	Are expectations coherent and sufficiently demanding?
Content and intellectual progression	Learning materials, prerequisite map, student tasks	Does instruction deepen disciplinary knowledge appropriately?
Teaching and purposeful interaction	Session evidence, activities, feedback and learner work	Is meaningful enquiry supported, not merely activity counted?
Assessment validity and authenticity	Task blueprint, rubric, student submissions, oral or practical checks	Does work support defensible inferences about achievement?
Marking, moderation and integrity	Calibration, sampling records, anomalies and decisions	Are results dependable, fair and contestable?
Accessibility and participation	Content tests, adjustments, mode and workload evidence	Are unnecessary barriers identified and addressed?
Learning resources and technical continuity	Library, laboratory, placement and platform records	Were promised learning opportunities actually usable?
Review and educational improvement	Prior concerns, corrective records, subsequent evidence	What changed, and how is its educational consequence known?

Note. Original review instrument informed by Biggs (1996), HEC (2021a), and Boud and Molloy (2013). Use a substantiated judgement (effective, improvement required, critical deficiency, or evidence insufficient) for each dimension rather than an unsupported aggregate numerical score.

Evaluators should resist substituting compliance arithmetic for judgement. A rubric of eight dimensions does not mean a programme with seven satisfactory scores and one unsafe

laboratory practice is substantially satisfactory. Material academic integrity, learner-safety and legal thresholds are non-compensatory. The rubric can support consistency by requiring each judgement to refer to evidence and identifying the threshold at risk; it should not pretend to provide a psychometrically validated measure of teaching quality. Its most valuable use is in a structured conversation among lecturer, programme leader and independent reviewer about specific changes that can be verified during the next suitable learning or assessment cycle.

A practical moderation system should document what changed as a result of academic challenge. Before assessment, the reviewer can record whether a task assesses the intended level of reasoning, supplies a fair opportunity to demonstrate learning, has intelligible criteria and can be completed under stated conditions. After marking, the team can inspect stratified samples and discrepant judgements, record the basis for reconciliation, and confirm that approved marks are transferred correctly. Sampling plans should attend to borderline classifications, atypical results, group work, suspected misconduct and modes of delivery without treating purposeful samples as probability estimates. If the same rubric produces markedly different ratings from experienced assessors, the first response should be calibration against authentic student work and explicit performance descriptors, not automatic averaging of incompatible judgements (Biggs, 1996; Boud & Molloy, 2013).

Assessment validity becomes particularly demanding when generative AI is readily available. A portfolio, online essay or take-home task may support excellent learning while providing incomplete evidence of unaided individual competence. Programmes should identify where assistance is permitted, what declaration and process evidence are appropriate, and which outcomes require independently verified performance. Moderation may examine oral defence, supervised practice, successive drafts or authentic demonstrations where educationally justified. These safeguards should not be imposed indiscriminately: an oral examination may create accessibility or language barriers unless appropriately designed, while software-based AI-detection scores cannot substitute for fair evidentiary investigation. The crucial quality question is whether the assessment claim survives proportionate scrutiny of authorship, performance conditions and student opportunity (Sangwa, 2026a).

8.7 Student feedback, course evaluation, graduate outcomes, and stakeholder evidence

Students possess indispensable evidence about whether teaching, schedules, assessment communication, academic advising, support services and learning resources are usable. They do not necessarily possess the complete specialist knowledge needed to judge disciplinary standards, the long-term suitability of a graduate curriculum or the legal conditions of accreditation. Student feedback should therefore be treated neither as a popularity contest nor as an optional ceremonial consultation. It is one fallible but essential perspective that becomes stronger when its collection is ethical, its respondents are described and its findings are compared with observed educational conditions. The institutional purpose of consultation is

to learn what the institution might otherwise overlook and to demonstrate that reasonable concerns receive a substantive response (HEC, 2021a; Kahu & Nelson, 2018).

Evaluation design matters. A single end-of-semester rating of overall satisfaction conflates teaching quality, disciplinary difficulty, student expectations, grading experience and personal circumstances. More useful instruments distinguish clarity of learning expectations, accessibility of resources, workload, feedback usefulness, fairness of assessment, inclusion, opportunities for dialogue and responsiveness to support requests. Open-text responses may explain why a rating is low or high, but need careful thematic interpretation and privacy protection. Feedback obtained while a lecturer controls students' grades can be distorted by fear; responses obtained only from learners who complete a module can exclude those facing the most serious barriers. Anonymous collection, clear questions, safe complaint channels and transparent communication of aggregate results improve credibility without guaranteeing representativeness.

A responsible report states the eligible population, number responding, response rate where known, collection window and relevant nonresponse risks. It avoids presenting a precise-looking percentage as a population fact when the survey captured only a narrow convenience group. Where numbers are very small, reporting a subgroup's characteristics may reveal a student's identity. Findings should therefore be appropriately aggregated and, when necessary, described qualitatively. The institution should distinguish anonymous module feedback from formal complaints, academic appeals, safeguarding reports and requests for individual accommodation; these processes have different evidentiary, confidentiality and procedural purposes. Student representatives can help interpret system-level patterns but should not be expected to investigate confidential allegations or vote upon the academic merits of their own unresolved cases (HEC, 2021a; Republic of Rwanda, 2021b).

Graduate and employer evidence extends review beyond campus. Graduate destinations, further study, entrepreneurial activity, professional licensure, satisfaction with preparation and perceived gaps may illuminate longer-term programme relevance. Employers, professional bodies, placement supervisors, alumni and community partners can identify changes in practice that deserve curricular attention. However, employment indicators are shaped by labour-market conditions, social networks, migration, economic cycles and the population entering the programme. The fact that a graduate obtained a job does not establish that the curriculum caused it; the absence of immediate formal employment does not establish educational failure. Data collection should make room for self-employment, unpaid care, further learning and research careers where relevant, especially in contexts where administrative labour-market records are incomplete. Stakeholder testimony should be evaluated for possible selection and commercial interests rather than accepted merely because it appears on headed paper.

Feedback becomes educationally meaningful only when there is a visible route from consultation to institutional reasoning. Students should be informed, at an appropriate level of

aggregation, which matters were identified, what will change, which requests were not accepted and why, and when progress will be reviewed. This is not a promise that all expressed preferences will be satisfied; academic integrity may require preserving challenging assessments despite dissatisfaction. It is a commitment that experience-based evidence will not disappear into a spreadsheet. Boud and Molloy's (2013) account of feedback as a learning process applies also to the institution: the value lies in its ability to interpret information, make a reasoned adjustment and learn from what follows.

Stakeholder consultation needs a response mechanism rather than simply another collection instrument. After each review period, an institution can issue a concise, accessible account explaining which themes emerged, which changes have been authorised, why particular requests were not accepted, who is responsible for the next step and when students may expect to see the result. Research comparing Australian and Scottish universities found that systematic collection and reporting of student feedback did not consistently translate into improvement action, reinforcing the importance of partnership and accountable follow-up (Shah et al., 2017). That evidence supports a professional warning, not a claim that a particular Rwandan institution has the same weakness.

Graduate tracking likewise requires an explicit sampling and interpretation strategy. Tracer studies should identify the graduation cohort, reachable and responding population, elapsed time after award, programme pathway, geographical mobility and whether outcomes are self-reported or independently corroborated. A respondent group dominated by graduates with stable contact information may yield a distorted picture of employment or professional transitions. Institutions can complement employment status with evidence of professional competence, further learning, service to communities and alumni reflections on curriculum strengths and gaps. Such findings should inform review alongside current scholarly and occupational developments, without allowing short-term labour-market changes alone to determine the legitimacy of every academic programme (HEC, 2021a; UNESCO Office in Harare, 2025).

8.8 Academic staff evaluation, continuing professional development, and teaching enhancement

The competence of academic staff is a continuous institutional obligation rather than a credential checked only at recruitment. Disciplinary expertise, teaching capability, assessment literacy, research practice, digital proficiency, supervision, accessibility and ethical judgement may develop or deteriorate as programmes, technologies and workload conditions change. HEC's 2021 IQA guidance explicitly addresses adequate human resources, staff development, appraisal and the alignment of staff capability with institutional responsibilities. A meaningful institutional policy should connect these functions to the actual academic duties allocated to lecturers rather than assuming that attendance at occasional workshops constitutes sustained competence (HEC, 2021a).

Staff evaluation should be developmental while retaining proportionate accountability for serious failures. Evidence might include peer observation and review of teaching artefacts, the intellectual quality of assessment and feedback, student experiences interpreted cautiously, moderation findings, professional development undertaken, scholarly engagement and demonstrated response to prior recommendations. These sources are not interchangeable. Student ratings are susceptible to confounding influences and can penalise rigorous or unfamiliar teaching; peer observation can capture a carefully rehearsed performance; publications establish scholarly productivity but not necessarily teaching effectiveness. A fair appraisal interprets multiple evidence streams according to role, experience, discipline, modality and workload, while maintaining a transparent process for challenge and response (Harvey & Williams, 2010; Loukkola & Zhang, 2010).

Continuing professional development (CPD) is most effective when linked to a diagnosed problem and supported with opportunities to practise, reflect and obtain feedback. If moderation reveals that lecturers use inconsistent performance-level descriptors, an institution might introduce calibration exercises with anonymised student work, compare justifications and review a subsequent marking sample. If online students struggle with unclear directions, instructional designers and lecturers can collaboratively revise a sample module, test it with intended learner roles and examine subsequent usage and feedback. Where AI-assisted assessment or feedback is introduced, staff development should address task validity, error checking, disclosure, privacy and the preservation of accountable human decisions, rather than promoting tool familiarity alone (Biggs, 1996; HEC, 2021a; Jisc, 2015).

Professional development also depends on labour conditions. Lecturers cannot consistently improve teaching when they are assigned excessive course loads, large marking cohorts, multiple unfamiliar digital systems and inadequate supervision time. An institutional claim of staff commitment is incomplete without an account of allocated workload, specialist support, protected development time and implementation resources. Appraisal should therefore be capable of identifying organisational failures rather than attributing every deficiency to an individual. Where a problem arises from an unreasonable teaching allocation, an intervention limited to staff retraining will be insufficient. Quality governance must be able to alter budgets, timetables, staffing complements and procurement arrangements when evidence shows that these conditions constrain learning.

A fair enhancement process separates developmental support from disciplinary proceedings while retaining clear escalation where misconduct, negligence or unsafe practice is substantiated. Self-reflection and confidential mentoring should not automatically become evidence for employment sanctions; equally, a repeated refusal to comply with valid academic standards cannot be excused as a personal teaching style. Decisions should identify the applicable duty, evidence of its performance or breach, opportunity to respond, improvement support, review point and appropriate authority. Such procedures strengthen the willingness of staff to disclose problems without weakening learner protection or academic standards. The

criterion of success is observable improvement in the affected educational activity, not the number of CPD certificates produced.

The interpretive caution surrounding student evaluations has an empirical foundation. Heffernan's (2022) synthesis reports research indicating that course and teaching evaluations may be affected by prejudice and by disciplinary circumstances. This does not render every student account unreliable; it makes single-instrument personnel rankings professionally difficult to justify. A review can still identify patterns in clarity, responsiveness and inclusion, while using independent inspection of assessment, peer evaluation and documented teaching improvement to address questions beyond students' direct observation. Where an allegation concerns discrimination or abuse, an appropriate safeguarding or disciplinary process should investigate it rather than waiting for aggregate survey confirmation (Heffernan, 2022).

8.9 Digital learning analytics, institutional dashboards, and risks of misleading performance indicators

Digital platforms make previously dispersed aspects of educational participation easier to count. Learning-management systems may record logins, downloads, submissions, discussion activity, time stamps and attempts; student-information systems record enrolment, progression and award outcomes; library systems record access to resources; and service platforms record advising and technical requests. These data can enable earlier recognition of inconsistent delivery, assessment congestion, accessibility problems and students requiring support. Yet the availability of data does not establish the validity of an educational interpretation. A login is not a measure of understanding, a downloaded reading is not proof of reading, and a low number of forum posts does not necessarily imply intellectual disengagement (Jisc, 2015; Slade & Prinsloo, 2013).

Useful dashboards begin with a question that academic staff can act upon. If a programme is concerned about delayed feedback, the system should identify the defined event, relevant deadline, assessed cohort and exceptions, while human review examines feedback substance and workload. If the concern is progression, the dashboard should distinguish credit attempted from credit achieved, registered students from assessment sitters, and first-time passing from passing after reassessment. Disaggregation can reveal differences associated with study mode, entry route, year of study or access conditions, but subgroup sizes and privacy risks must be considered. Differences are prompts for investigation, not automatic proof of discrimination, misconduct or deficient motivation (Kahu & Nelson, 2018; Slade & Prinsloo, 2013).

Table 8.6. Quality dashboard indicators and essential safeguards against misinterpretation

Candidate indicator	What it can legitimately signal	Necessary interpretation or safeguard
Enrolment and withdrawal	Cohort movement and changing service demand	Stable census date; all exit routes; avoid excluding missing students

Candidate indicator	What it can legitimately signal	Necessary interpretation or safeguard
Pass and progression rates	Potential attainment and curriculum bottlenecks	Task validity, marking consistency, reassessment and entry differences
Feedback turnaround	Timeliness of a defined lecturer or support response	Feedback usefulness, exceptions, workload and learner opportunity to act
LMS access and submissions	Particular interactions with a digital system	Offline work, device sharing, access barriers and task characteristics
Student evaluation response	Perceptions of teaching, access and support	Denominators, nonresponse, fear of retaliation and cohort specificity
Complaints and appeals	Reported contested decisions or service failures	Reporting confidence; case severity; resolution quality, not count alone
Graduate destinations	Particular post-study trajectories	Labour market conditions, attribution limits and incomplete follow-up
Corrective-action closure	Administrative progress on agreed work	Verify educational remediation rather than policy or file completion

Note. Original indicator appraisal informed by HEC (2021a), Slade and Prinsloo (2013), Kahu and Nelson (2018), and Jisc (2015). No values or thresholds are asserted as regulatory requirements.

Artificial intelligence increases both the analytical possibilities and risks. Prediction may help identify cohorts that warrant an outreach offer, but it can misclassify students, reinforce historic disadvantage or convert support data into intrusive surveillance. The Jisc code of practice, updated in 2026, emphasises student benefit, validity, explainability, proportional processing, human responsibility and opportunities to question or correct data. Rwanda's personal-data legislation supplies a separate domestic legal context that must be assessed by competent institutional officers (Jisc, 2015; Republic of Rwanda, 2021b). A proposed early-warning system should therefore establish its lawful purpose, minimum required data, governance owner, predictive validity for the intended population, fairness assessment, human intervention route, access permissions and deletion or retention practices before production use. Its effect should be evaluated by whether students receive appropriate, non-stigmatising support, not merely by the accuracy of classifying them as at risk.

Indicator design must also anticipate behavioural distortion. If a department's quality score depends heavily on pass rates, pressure may arise to simplify examinations or exclude difficult learners before the census date. If lecturers are ranked by student satisfaction alone, demanding but effective teaching may be disfavoured. If a university rewards evidence volume, employees may produce documents that consume time without changing learning. Such patterns illustrate the danger of metric substitution: the measurable proxy displaces the educational purpose it was supposed to illuminate. A responsible dashboard therefore combines quantitative signals with discipline-sensitive scrutiny, quality checks and opportunities for counter-evidence. Its principal function is to direct inquiry, not automatically to settle it (Harvey & Williams, 2010; M. Martin, 2018).

The institution should additionally decide whether analytics are necessary for a defined problem at all. Before commissioning predictive software, a pilot might test whether simpler information, such as missed required assessments combined with a documented opportunity for voluntary adviser contact, yields an adequate and less intrusive response. Predictive models should be evaluated against relevant baseline methods, false positives and false negatives, drift across cohorts, and the consequences of intervention. Human review is substantive only when advisers understand the model's limitations, can reject an inappropriate prediction, and have the resources to offer assistance. Jisc's learning-analytics code, originally issued in 2015 and updated in September 2026, provides a useful comparative ethical benchmark, including its strong purpose limits against using learner analytics for grading or profiling; it is not Rwandan law (Jisc, 2015).

Where AI supports institutional dashboards or quality reports, data lineage becomes an academic integrity requirement. A generative summary may omit small but serious cases, misinterpret denominator changes, invent an explanation for missing data or reproduce a bias embedded in historical records. A documented workflow should therefore preserve the underlying query or source extract, authorised access route, model or analytic version where relevant, reviewer's corrections, date of approval and the basis on which a finding was reported. Sensitive student narratives should not be transmitted to an unapproved external service for convenience. The claim that a dashboard is 'AI-enabled' is neither a sign of maturity nor evidence that its conclusions are more accurate than a simpler, transparently governed process.

8.10 Internal quality audits, thematic reviews, benchmarking, and external peer evaluation

An internal audit tests whether institutional arrangements meet defined criteria and operate as represented. It may examine a programme's assessment lifecycle, admissions decisions, placement agreements, accessibility provision, academic records or the governance of information systems. A quality audit differs from a routine programme review in its emphasis on independent verification against a specified scope and evidence standard. The review team should establish the question, criteria and period before inspecting records, identify the responsible process owners, sample implementation rather than relying exclusively on policy, and report confirmed findings separately from unresolved concerns. Where a standard is based on national regulation, the audit should identify the source, version and applicable provision; where the criterion is an internal policy or professional recommendation, that status should be stated explicitly. This distinction protects institutional staff from being criticised against requirements that were never legally or administratively applicable (HEC, 2021a; Republic of Rwanda, 2026).

Thematic review is appropriate where a concern crosses programme boundaries. For example, the same unexplained extension practice may affect several departments, or postgraduate supervisors across multiple faculties may return feedback substantially later than institutional

policy permits. A thematic review can distinguish programme-specific shortcomings from common causal conditions: staff workload, inadequate digital integration, ambiguous procedures, insufficient training or governance bottlenecks. If five programmes independently report the same assessment problem, requiring five separate action plans may reproduce an institution-wide failure of ownership. Central action may be necessary to repair a common system, with programme teams verifying the results locally. Themes can also be selected proactively, including responsible AI use, work-integrated learning, academic integrity, library access, doctoral supervision, cybersecurity, complaint handling or participation by geographically dispersed students.

An audit trail should contain enough information for a competent reviewer to reconstruct the work without exposing unnecessary personal data. The scope, approved criteria, reviewers' independence declarations, sampling rationale, records inspected, interviews or demonstrations undertaken where authorised, conflicting evidence, findings, institutional response and follow-up owner should all be recorded. Sampling is an important limitation. A clean sample provides assurance about the examined records within the sampling design; it does not prove the absence of defects in every programme, campus, cohort or assessment. Conversely, one confirmed serious breach may justify immediate containment without an estimate of population-wide prevalence when the consequences of leaving it unaddressed are unacceptable. The strength of any generalisation must be proportionate to the evidence and risk.

Benchmarking complements internal review when comparators are chosen for functional relevance rather than prestige. A university might compare its moderation design with an institution delivering a similar qualification, its accessibility practices with an authoritative technical standard, or its programme-review procedures with continental guidance. The African Standards and Guidelines supply shared principles, and UNESCO's African IQA handbook offers a contextually relevant professional resource; neither implies that all universities must have identical organisational charts, funding levels or delivery systems (HAQAA, 2018; UNESCO Office in Harare, 2025). Benchmarking should make explicit differences in mission, student characteristics, national authority and resources. Importing a foreign rule without examining those differences may increase compliance burden while leaving local educational problems untouched.

External peer evaluation can serve an institution's internal learning without becoming statutory accreditation. Independent disciplinary specialists may review selected programmes, teaching laboratories, assessment patterns or internal self-evaluation methods before a formal regulatory visit. Their credibility depends upon competence, genuine independence, a defined brief, confidentiality and the institution's willingness to engage with critical conclusions. The institution should not solicit a favourable endorsement and then describe it as independent review. Nor should a private consultant's opinion be represented as permission from HEC to award a degree or use a new delivery modality. The output of

internal audit and invited peer review is an improvement- and assurance-oriented institutional finding; the legally competent authority retains its external functions (HEC, 2021a; Republic of Rwanda, 2026).

An auditable review plan should identify its population and risk-based sampling logic in advance. For instance, an assessment audit might draw ordinary random cases to explore recurring process reliability while deliberately inspecting unusual grade changes, borderline awards, repeated extensions and previously contested decisions. The two sampling purposes should be recorded separately. Reviewers should ask whether selected records are genuine, complete, current and representative of the claim; whether the reported procedure was actually performed; whether contrary instances exist; and whether the proposed finding remains supportable under a reasonable alternative explanation. Conclusions should use calibrated language such as confirmed nonconformity, substantiated effectiveness, evidence insufficient or enhancement opportunity. A high-severity incident may justify immediate containment before a prevalence estimate is available; low-stakes anomalies generally permit further proportionate inquiry.

Institutions should also audit their own IQA system. This meta-evaluation asks whether reviews arrive in time to influence course and budget decisions, whether departments provide candid evidence, whether recommendations are appropriately independent, and whether corrective actions are verified rather than merely marked complete. It should examine cost and burden as quality variables: a reporting system that demands extensive clerical duplication may divert academic time from teaching without yielding better decisions. Review of the review process can test a small random set of concluded cases by reconstructing the applicable criterion, evidence source, competing interpretation, authorised action and subsequent verification. The result may justify simplifying a template, improving staff training or changing governance, not necessarily adding another layer of forms (HEC, 2021a; M. Martin, 2018).

8.11 Programme review, curriculum renewal, suspension, and closure

A programme should be reviewed not only when external accreditation is due, but when evidence challenges its academic, professional or institutional rationale. Renewal may be necessary because disciplinary knowledge has advanced, professional practice has changed, students encounter an avoidable sequence of learning barriers, a crucial practical opportunity is no longer available, or the qualification’s architecture no longer supports its stated graduate profile. Equally, apparent market decline should not automatically eliminate programmes that serve important research, cultural, civic or public-service functions. Decisions require explicit evaluation of educational worth, demonstrated outcomes, institutional capability, viable alternatives and the legitimate interests of affected students (Biggs, 1996; HEC, 2021a; UNESCO Office in Harare, 2025).

Minor module amendments, major programme modifications, temporary suspensions and permanent closures must be kept distinct. Correcting an obsolete reading or clarifying assessment instructions may often occur through delegated procedures. Changing an award's required credits, principal learning outcomes, academic level, substantial practical components, delivery arrangements or identity can affect the basis of approval and may require a higher level of internal or external authorisation. The institution should maintain a controlled modification register identifying the old and proposed versions, rationale, impact on existing and future cohorts, required consultations, governance decisions, communications and, where applicable, correspondence with HEC or a professional regulator. This chapter does not prescribe universal legal thresholds for major modification; the institution must obtain the applicable authoritative determination.

Suspension can be precautionary when continued recruitment or teaching would expose learners to a material threat that cannot immediately be controlled. Examples include the loss of necessary clinical supervision, an unsafe practice facility, a serious unresolved assessment-integrity failure or an interruption of a critical service. A prudent academic authority should distinguish pausing new admissions from interrupting existing students, and examine whether temporary alternative provision can lawfully and academically protect progression. Any interim measure requires a documented reason, competent authority, affected population, current risks, communications, review date and route to resumption or teach-out. An apparently minor administrative suspension can profoundly affect student finance, visas, employment and professional eligibility; these consequences belong in the quality judgement.

Closure demands particularly careful learner protection. Universities should establish the cohorts still enrolled, outstanding modules, placement and supervision requirements, credit and qualification pathways, assessment and appeals arrangements, access to learning and student records, fee or contractual implications, partner responsibilities, staff continuity and the arrangements for maintaining verified academic records after teaching ends. Alternatives such as transfer, supported completion or a formally arranged teach-out require appropriate academic and regulatory verification before being promised. A programme should not advertise uninterrupted completion unless it can demonstrate staff, facilities, finance, academic authority and the necessary legal approvals for the proposed route. Students should receive accurate, timely communication and accessible channels for advice and complaint, while the institution preserves the integrity of the award (European Association for Quality Assurance in Higher Education et al., 2015; HEC, 2021a).

Decisions should also examine their distributive effects. Closure may disproportionately harm working adults, disabled students, doctoral candidates needing specialist supervision, students in remote locations or those unable to transfer without large costs. A financially necessary decision can still be poorly implemented if it transfers avoidable risk to learners who reasonably relied upon published commitments. Conversely, maintaining an academically defective programme solely to avoid reputational embarrassment may be

equally harmful. IQA should therefore require an explicit comparison of realistic alternatives, non-negotiable academic and legal conditions, resource consequences and teach-out feasibility. The final record should explain why the decision is proportionate, how it will be implemented, what will be monitored and who independently confirms that protected commitments have been fulfilled.

Before an institution terminates a programme, its teach-out plan should be assessed as a programme in its own right. The plan needs a cohort-by-cohort schedule of outstanding academic obligations, named teaching and examining capacity, funding through the last expected completion, approved placement and laboratory access, arrangements for supervision and appeals, authenticated results and archived records, and a contingency for students whose legitimate timelines extend beyond the ordinary duration. A proposed transfer to another provider cannot be treated as equivalent provision merely because the providers use similar degree titles. Course-level equivalence, credit recognition, language and modality, costs, accessibility and professional eligibility require individual and programme-specific examination by authorised bodies. Students' continued right to accurate information and fair academic decisions must be protected even where the original provider is winding down.

An institution should evaluate whether apparently efficient portfolio rationalisation creates hidden public costs. Closing a low-enrolment programme may protect institutional solvency but deprive a region of scarce advanced training; sustaining the programme without qualified staff may instead mislead prospective learners and undermine the worth of qualifications. The analytical response is to consider transparent alternatives, including programme collaboration, part-time scheduling, justified cohort limits, targeted investment and orderly closure. Each alternative must be tested against legal authorisation, academic integrity, feasible resources and distribution of learner risk. No favourable financial projection can compensate for an unavailable safety-critical competency or a degree that the institution has no authority to award.

8.12 Governing corrective actions, performance improvement, follow-up, and verification

The quality-assurance lifecycle breaks most decisively when an institution equates action with resolution. An annual review may identify delayed dissertation feedback and approve a new supervision policy; a department may introduce a moderation form after discovering inconsistent marking; or a dean may circulate a reminder on accessibility. These actions may be appropriate beginnings. None establishes that doctoral candidates now receive timely, academically useful supervision, that assessment decisions have become consistent, or that learning resources have become accessible. Corrective-action closure should depend upon the failure addressed, the quality of the remedy, and subsequent evidence that the unacceptable condition has been removed or materially reduced (Argyris & Schön, 1978; M. Martin, 2018).

A defensible action record begins with a precisely described finding. It distinguishes an established breach of an applicable standard from a concern supported by incomplete evidence, an enhancement opportunity above minimum standards, or an urgent risk requiring temporary containment. It then identifies the affected programme and cohort, plausible causes, corrective or preventive actions, financial and academic resources, responsible authority, deadlines, expected evidence, a verification method and escalation criteria. The owner of the activity is not automatically the competent person to certify closure. Where a finding is material, the institution should assign an independent check by the quality unit, academic board or specialist function, depending on the risk (HEC, 2021a; Sangwa, 2026a).

Root-cause analysis must be reasoned rather than theatrical. If feedback is late, possible causes include unreasonable class size, inadequate teaching allocations, ambiguous marking criteria, examiner turnover, software failures or students submitting through inconsistent channels. A simple reminder may work where a single deadline was overlooked, but it cannot correct structurally inadequate marking capacity. Investigators should examine relevant evidence, test competing explanations and avoid treating the nearest visible event as the whole cause. Where records are weak, the action plan may first need to improve measurement and reporting. Uncertainty should be documented rather than disguised by a definitive causal statement the evidence cannot support.

Table 8.7. Corrective-action tracking and verification matrix: illustrative entries

ID and finding	Action and accountable owner	Timing and verification evidence	Status and residual judgement
CA-01: assessment tasks inadequately test analysis	Redesign task blueprint; programme leader and module team	Before next assessment; independent moderation of briefs and marked scripts	Open until assessed work confirms valid demand
CA-02: feedback repeatedly exceeds agreed interval	Reallocate marking workload; dean and department head	Next teaching period; timestamp review and student feedback-use evidence	Improvement in progress; timing alone insufficient
CA-03: required course materials inaccessible	Remediate files; library, accessibility lead and lecturer	Before affected learning activity; assistive-technology test with representative roles	Cannot close on file replacement alone
CA-04: laboratory capacity below planned cohort demand	Revise supervised schedule or capacity; academic and finance authorities	Before practical delivery; safety review and observed access records	Critical; escalate if safe equivalent capacity unavailable
CA-05: previous review actions have no verification	Establish action ownership and follow-up sampling; IQA director	Quarterly check; linked records and independent closure notes	Systemic issue; requires cross-programme audit

Note. All entries are hypothetical. The timeframes and owners are illustrative and do not claim HEC endorsement or prescribe regulatory thresholds. Institutional adoption requires applicable criteria, staff capacity and case-specific risk assessment.

Actions should move through distinguishable states: proposed, authorised, underway, implemented, verified effective, or reopened. An alternative path records an action as superseded with documented reasons; an unsafe intervention may need immediate cancellation. The entry should preserve the original finding rather than overwriting it with a reassuring summary. Verification might require testing a restored digital service, inspecting facilities, reviewing moderated work or examining subsequent student progression alongside alternative explanations. Some outcomes can be verified quickly; others require a full teaching cycle. In high-risk cases, protective interim controls may be necessary while longer-term effects remain uncertain. A dashboard showing a large proportion of actions ‘closed’ is not a meaningful quality achievement if closure records consist only of meeting dates and uploaded policies.

Institutional leaders must also be prepared to act when an authorised remedy is not implemented. Escalation may be needed because an owner lacks resources, an approved modification was not put into practice, evidence reveals a wider failure or a deadline was missed without adequate reason. Escalation should be proportionate, procedurally fair and recorded. It should also reach funding and strategy bodies where necessary, since systemic deficiencies often persist when quality findings have no authority over budgets or enrolment decisions. The most useful follow-up question is not ‘Did the department respond?’ but ‘What is now materially different for the students and academic standards affected by this finding, and how do we know?’ (HEC, 2021a; M. Martin, 2018).

For implementation, the finding should be linked to a theory of correction sufficiently specific to be tested. If student assessment cannot demonstrate independent analysis, the hypothesised mechanism might be an excessively recall-oriented task, inadequate formative practice, inconsistent rubrics or unacknowledged third-party assistance. The programme should distinguish these competing possibilities through task analysis, samples of work, learner experience and moderation records before selecting the principal remedy. The action should specify a baseline, an intended observable difference, an independent verification source, an explicit decision rule and a fallback response if conditions fail to improve. This is not a demand for causal certainty in routine administration; it is a safeguard against interventions whose rationale cannot be examined.

Escalation should follow consequence rather than ceremonial hierarchy. An urgent laboratory hazard or compromised student record may require immediate restriction of access and direct specialist notification, even where ordinary policy begins with programme review. By contrast, a minor formatting inconsistency in a course description may be corrected through delegated control and verified in the next publication cycle. A useful professional protocol differentiates initial containment, formal investigation, corrective decision, confirmation of implementation, verification of educational effect and residual-risk acceptance. The final stage must be authorised by someone competent to accept the remaining risk, not silently inferred

from elapsed time. Cases should remain open where effectiveness cannot yet be observed, with safeguards continuing as appropriate.

8.13 Building an organisational culture of responsibility, learning, and academic integrity

Formal IQA processes depend on human relationships through which staff and students disclose problems, challenge interpretations and accept justified decisions. A university cannot develop a sustainable quality culture by requiring departments to describe themselves favourably. Staff need to know that inconvenient information will be examined competently and that good-faith error disclosure can lead to learning rather than automatic blame. Students need to see that complaints do not invite retaliation; academic leaders need to tolerate disagreement about cherished programmes or technologies; and governing bodies must be willing to fund correction when a serious weakness has been demonstrated. Loukkola and Zhang (2010) distinguish the structural elements of quality assurance from the cultural dimensions of organisational commitment, a distinction that helps explain why apparently similar policies can function differently in practice.

Institutional theory supplies a critical warning. Formal structures may be adopted because accreditation systems and professional communities expect them, while ordinary academic work remains largely unchanged. Meyer and Rowan (1977) described how organisations can maintain legitimate formal arrangements that are only loosely coupled to operational practice. The appropriate response is not to reject all documentation. Published regulations, consistent procedures, verified records and competent committees protect fairness and continuity. The response is to test the connection between institutional claims and action: whether quality meetings consider meaningful academic evidence, whether lecturers can explain the assessment standards they apply, whether budget decisions address repeatedly identified risks and whether learners experience the improvements announced on paper.

Argyris and Schön's (1978) distinction between correcting immediate errors and reconsidering underlying organisational assumptions is useful. If a department misses a feedback deadline once, targeted reorganisation may be sufficient. If it misses deadlines throughout successive cohorts, deeper questions arise: was the expected turnaround feasible, were lecturer duties appropriately calculated, did the curriculum cluster too many assessments, and did leaders reward enrolment growth while neglecting teaching capacity? Quality culture matures when institutions can challenge governing assumptions instead of repeatedly treating systemic symptoms as isolated mistakes. Such reflective inquiry should remain disciplined. Evidence, alternative explanations and the effect of proposed changes still matter; critical conversation without accountable action is no more effective than mechanical compliance.

Academic integrity is both an object of monitoring and a condition of the monitoring process itself. If programmes manipulate grade distributions, fabricate committee records, conceal student complaints, suppress contrary external examiner findings or generate misleading

evidence using AI, the institutional quality system becomes unreliable at its source. Integrity policy should require truthful records, transparent assessment conditions, proportionate inquiry into suspected misconduct, protection of confidential information, effective conflict-of-interest declarations and reasoned appeal procedures. AI-generated internal reports may assist drafting or analysis only where source records are authenticated, confidential information is protected and responsible officers verify claims and retain authority over conclusions. AI fluency cannot replace institutional knowledge or convert invented evidence into a valid programme judgement (HEC, 2021a; Jisc, 2015).

Students are participants in this culture, but participation must be meaningful rather than symbolic. A representative attending senate is not proof that students can influence programme quality. They need accessible information, suitable preparation, an opportunity to question findings, protection when raising concerns and feedback on subsequent decisions. Likewise, academic staff should participate through substantive curriculum and assessment review rather than completing forms whose consequences remain invisible. Recognition and incentives should reward careful evidence-based improvement, mentoring, responsible problem identification and scholarly teaching, while avoiding competitive scoreboards that encourage underreporting. The long-term test of culture is whether the university can identify its own weaknesses more accurately, not whether it can present itself as having few weaknesses.

A quality culture depends on the right to bring unwelcome evidence into academic deliberation. This includes students' ability to report inaccessible assessments without retaliation, junior lecturers' ability to question unsafe laboratory capacity, external examiners' freedom to identify inconsistent standards and quality officers' ability to preserve critical findings when senior managers prefer reassuring summaries. These protections must coexist with careful fact-finding, confidentiality and an opportunity for the subjects of adverse findings to respond. Academic freedom also matters: disciplinary disagreement about theories or research findings is not automatically a quality failure, while demonstrably unfair assessment or falsified evidence cannot be defended solely as academic discretion. The dividing line is whether the institution can justify its judgement against legitimate academic obligations and trustworthy evidence.

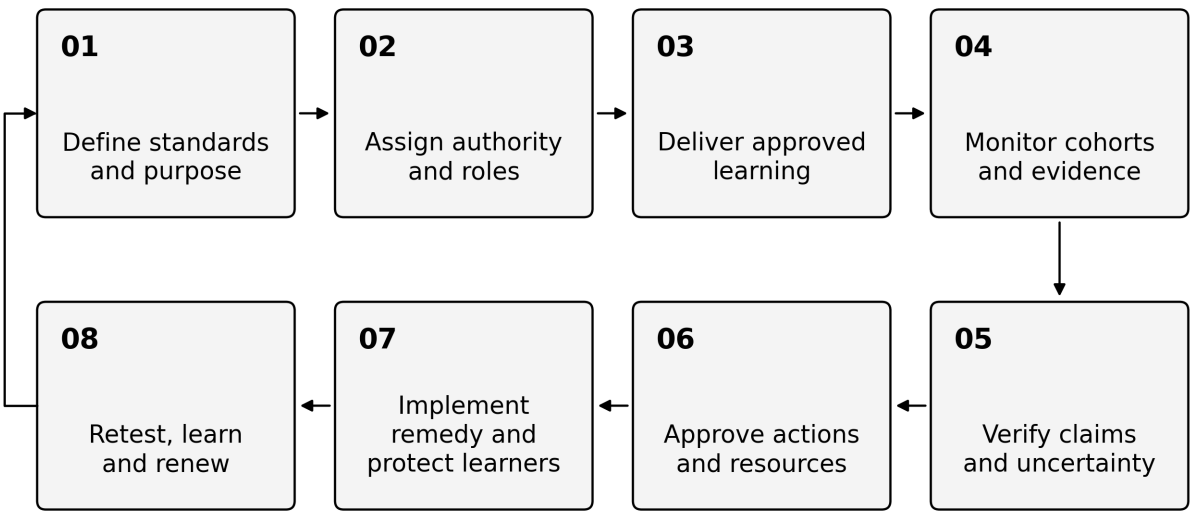
Institutional culture is transmitted through resources and routines as much as through leadership statements. When a board funds the remedy to a documented supervision shortfall, a senate rejects an academically weak proposal despite commercial promise, or a programme publishes a candid explanation of a failed pilot, the institution provides tangible evidence of its stated commitments. Where repeated concerns are ignored because changing practice would be politically inconvenient, quality rhetoric is likely to become detached from education. An IQA system should therefore treat the quality of institutional deliberation, dissent and resource response as relevant evidence of organisational learning, without

asserting that any single behavioural indicator measures culture conclusively (Argyris & Schön, 1978; Loukkola & Zhang, 2010).

8.14 An integrated internal quality-assurance lifecycle for African universities

The chapter's synthesis is an evidence-to-enhancement lifecycle embedded within the provisional Integrated Evidence-Traceable Quality Governance (IETQG) framework developed from the author's doctoral work. The lifecycle connects educational and regulatory purposes, institutionally allocated responsibility, programme enactment, observation and verification, academic interpretation, authorised decision, remedial action and renewed evidence. It operates continuously rather than only before an accreditation deadline. Each transition has a characteristic risk: requirements may be misidentified, delivery may diverge from approval, indicators may misrepresent learning, committees may approve disproportionate interventions, and completed tasks may be mistaken for verified improvement. Traceability means that a consequential quality claim can be followed backwards to an applicable standard and trustworthy evidence and forwards to an accountable decision and subsequent outcome (HEC, 2021a; Sangwa, 2026a).

Figure 8.1. An evidence-to-enhancement lifecycle for institutional and programme quality assurance



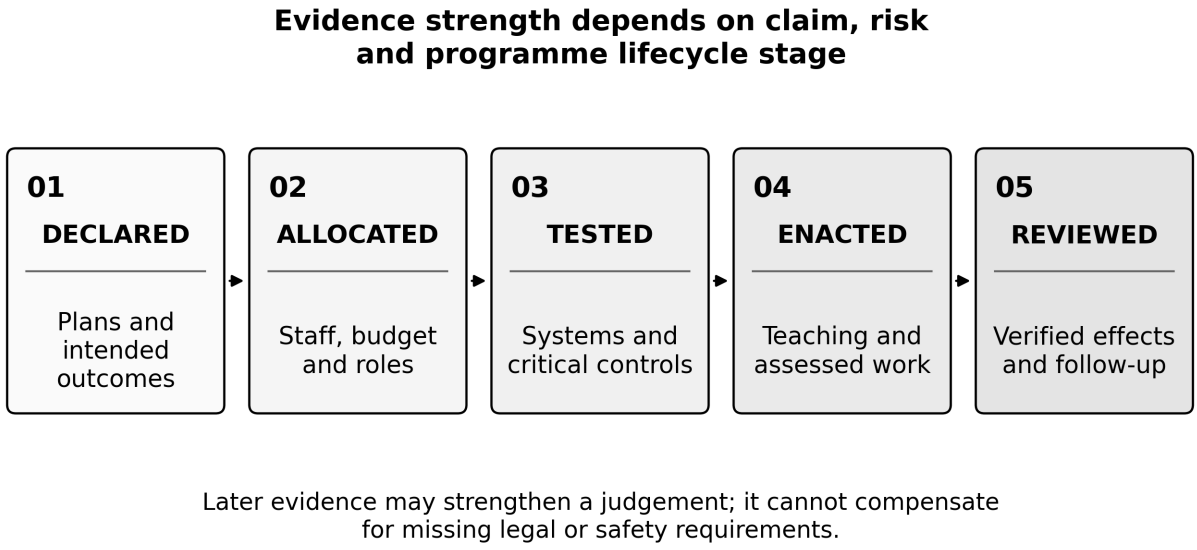
Note. Original conceptual diagram by the author, informed by HEC (2021a), M. Martin (2018) and Sangwa (2026a). Arrows show a proposed institutional process, not an empirically established causal sequence. Urgent safeguarding and compliance risks may require immediate escalation at any stage.

The lifecycle contains two distinct feedback movements. The operational movement detects a specific discrepancy, corrects it and checks whether the remedy works. The developmental movement uses accumulated cases to reconsider the curriculum, staffing model, governance

arrangement, educational objective or underlying institutional assumption. An annual programme review may perform both. It can rectify one unclear assessment brief while deciding that an entire programme's final-year assessment architecture needs revision. The difference is not between small and large paperwork, but between maintaining a defensible provision and reconsidering whether the provision is well designed for its purposes. HEC's reference to the plan-do-check-act cycle provides a compatible practical orientation, although the present eight-stage interpretation is the author's extended proposal rather than HEC's published template (Argyris & Schön, 1978; HEC, 2021a).

A second diagram makes the required standard of evidence more explicit. Quality claims must be supported according to their level: a policy demonstrates intention, a staffing contract or budget demonstrates allocation, a configured assessment or accessible course shows preparation, actual teaching and moderated student work show elements of implementation, and credible follow-up provides information about educational consequences. Evidence from an earlier stage should not be relabelled as proof of a later one. Nor is the sequence a rigid requirement that new programmes must already possess graduate outcome data. Before launch, readiness is assessed through proportionate allocations, testing and risk controls; after implementation, expectations of enacted and longitudinal evidence increase. The stage distinction protects both new institutions from impossible demands and mature programmes from remaining indefinitely at the level of proposals (Sangwa, 2026a).

Figure 8.2. Progressive evidentiary strength in internal quality assurance



Note. Original author-developed conceptual interpretation of programme evidence maturity, drawing on Sangwa (2026a). Evidence classes are not guaranteed to improve monotonically, and sufficient evidence always depends on the claim, risk, lifecycle stage and authorised decision.

Internal Quality Assurance Manual Framework

An institution can operationalise the lifecycle through a controlled IQA manual that is neither so brief as to leave important responsibilities undefined nor so elaborate that ordinary staff cannot use it. The framework proposed here has five integrated parts. The governance part identifies the legal and institutional authorities, delegation, academic independence, student participation, complaints, appeals and conflict management. The academic part specifies programme validation and amendment, module evaluation, assessment moderation, external examining, supervision, learner support and review. The evidence part prescribes data definitions, records, confidentiality, evidence provenance, sampling, report quality and information governance. The response part governs findings, responsible owners, interim protections, action planning, verification and escalation. The learning part specifies thematic review, professional development, resource feedback and periodic assessment of the IQA system itself. Each part should identify the applicable HEC standard and any profession-specific or delivery-mode obligations, with a named custodian and version-control date (HAQAA, 2018; HEC, 2021a).

A usable manual should also state which policies are mandatory, which procedural details are institution-specific, which benchmarks are voluntary and which proposed instruments are experimental. Each programme should know where to locate the current approved specification, who can amend a module, when examiners must report concerns, how a student submits an appeal and who verifies that a corrective action has worked. A small university may use a shared electronic register and a concise committee timetable rather than expensive enterprise software, provided that record integrity, access control, independent challenge and academic authority remain adequate. Conversely, an institution with hundreds of programmes may need interoperable systems and a more specialised IQA function. The quality criterion is whether the arrangement performs the necessary assurance work reliably, not how closely its appearance resembles that of another institution.

For day-to-day use, the manual should specify a reproducible decision path. A programme leader identifies an issue against a current requirement or defensible educational objective; the authorised quality function checks whether the available evidence is sufficient and whether other students or programmes could be affected; a competent academic or executive body decides the remedy; implementation is assigned to an operational owner; and a reviewer who is sufficiently independent of the remedy tests its effects. At each point the record should identify what is known, what remains uncertain and what must be protected meanwhile. This sequence should allow justified shortcuts where immediate learner safety or record integrity is at risk. It should never delay urgent containment solely to wait for the next scheduled quality committee.

Institutional adoption should distinguish the core manual from procedure sheets, schedules and evidence records. The core manual governs purposes, responsibilities, delegation and rights. Controlled operating procedures then explain such recurring functions as examination

moderation, annual programme review, student consultation, complaints, external examining, data retention, digital system incidents and correction verification. Approved templates can be shorter than the underlying policy but must carry an owner, a version, the applicable scope and a review date. This architecture allows a small university to maintain a usable system and a larger university to coordinate multiple schools without replacing academic scrutiny with a central compliance office. An efficient manual reduces ambiguity about action; it does not seek to make every complex academic judgement automatic.

Implementation should be staged with a candid appraisal of administrative capacity. An institution may begin by reconciling approved programme specifications, establishing a risk and evidence register for priority awards, calibrating one or two assessment-review processes and requiring independent closure evidence for critical findings. It can then test a complete annual review in programmes with different educational demands, including a laboratory-intensive award and an online or professionally situated programme. The pilot should measure the time required to assemble and verify records, the usefulness of decisions, discrepancies found, unresolved access risks and whether academic staff can actually follow the procedure. Only a successful, documented pilot should justify wider system procurement or more elaborate data integration. This proposed sequence respects HEC's insistence that IQA be workable, supported by staff and not unnecessarily bureaucratic (HEC, 2021a).

A QA evidence register and traceable finding record

The evidence register is the operational core of the manual. It must record not only where a document is stored but why that document is relevant to a particular claim and which institutionally competent person has checked it. The following proposed format can be used as a programme-level register or extended into a controlled institutional repository. In practice, each evidence record should have a stable unique identifier and a protected revision history. Privacy-sensitive records should be represented through appropriately restricted links, metadata or authenticated extracts rather than uncontrolled duplication (HEC, 2021a; Republic of Rwanda, 2021b).

Table 8.8. Proposed quality-assurance evidence register and verification record

Record field	Required entry or question	Illustrative value
Claim and authority	What is asserted; which current standard or decision applies?	PLO-03 analytical competence; approved programme specification v3
Evidence identifier and provenance	Who produced it, when, for which programme/cohort?	MOD-24-017; 2026 Trimester 2; module assessment sample
Evidence class and access	Policy, allocation, tested provision, enactment or outcome; privacy class	Enacted assessment; restricted student work
Verification and contradiction	Authenticity, currency, completeness and independent corroboration	Moderator confirmed six sampled artefacts; two counterexamples noted

Record field	Required entry or question	Illustrative value
Evaluative warrant and limits	Why does this record support the claim, and where does inference stop?	Findings concern examined work, not the full cohort
Evaluative interpretation	What does the record establish, and what remains uncertain?	Some students demonstrate analysis; breadth across cohort uncertain
Decision and action link	Who decided what; which action or other record follows?	Faculty review FR-018; action CA-01
Retention and review control	Custodian, access permissions, version and next review	Assessment office; authorised reviewers; next cycle

Note. Original proposed fields based on the evidence-traceability logic in Sangwa (2026a). The illustrative values are invented for explanation and are not records of a real programme.

A further distinction is necessary between evidence provenance and evidentiary sufficiency. An authenticated dataset may accurately record every mark entered in an examinations system, yet still fail to establish that students demonstrated the advertised graduate competence. Similarly, a sound random audit sample can support a limited process inference but not necessarily an institution-wide conclusion about academic culture. The register should therefore contain an explicit ‘warrant’ field identifying why this particular record is capable of supporting this particular claim, alongside an exception or contradiction field recording credible material that weakens the inference. A reviewer should be able to retrace the reasoning without assuming that a document’s official appearance proves the proposition for which it was submitted. This is the IQA counterpart of the Evidence-Traceable Accreditation Judgement (ETAJ) architecture examined in the following chapter (Sangwa, 2026a).

Worked hypothetical programme review: from conflicting signals to verified action

Consider an explicitly hypothetical undergraduate business programme at a Rwandan university, provisionally named the Bachelor of Applied Digital Enterprise. Its curriculum has been approved internally, the programme follows an annual review cycle, and teaching combines classroom sessions, asynchronous course materials and workplace projects. A programme dashboard reports that 88% of students who attempted a second-year assessment passed it, while the end-of-module survey reports 82% favourable views of overall teaching. These figures are constructed for this illustration and are not claims about any university or the Rwandan sector. An internal moderator nevertheless finds that most submitted work reproduces provided examples rather than applying the analytical judgement expected by the programme outcome. Separately, students with limited device access report that some timed activities are difficult to complete. The first methodological lesson is that none of the three sources should be suppressed to preserve a favourable headline (Biggs, 1996; Kahu & Nelson, 2018).

The programme team first identifies the precise claims. The high pass rate establishes a reported outcome under the current assessment conditions, subject to the quality of administrative data. It does not prove higher-order analytical competence. The student survey records the perceptions of respondents, but the report must disclose its response rate and consider whether dissatisfied or excluded students are less likely to have participated. The moderator's sample provides direct insight into the cognitive demand of some assessed work; the sample's size and selection prevent unsupported generalisation to every learner. The accessibility concerns indicate a plausible barrier deserving timely investigation, even if the affected population is small. The team collects an assessment blueprint, marking criteria, anonymised samples from relevant performance bands, tutor feedback, learning activities, access-condition evidence and authorised student comments. It records the source of each claim, the contrary evidence and the uncertainty remaining.

Review then distinguishes immediate controls from longer-term redesign. The faculty academic committee may require pre-assessment moderation of a redesigned analytical task that asks students to interpret unfamiliar evidence, explain alternative decisions and justify a recommendation. The module team provides structured practice and formative feedback before the revised assessment. The accessibility lead tests whether equivalent participation is possible through adjusted timing, downloadable learning resources or another academically valid arrangement. The dean examines whether staff time and platform configuration are adequate. None of these remedies may be presumed to waive a necessary HEC or programme-specific approval; if the changes materially alter an approved programme or delivery model, the designated officer must establish the applicable authorisation route (HEC, 2021a, 2026a; Republic of Rwanda, 2026).

The programme's action register records separate findings for assessment validity and access. Each has an accountable owner, an interim safeguard for the current cohort, a deadline tied to the next affected learning activity, and a verification plan. At the following assessment cycle, an independent reviewer examines the task, sampled student work across performance levels, moderation discrepancies and students' opportunities to demonstrate the intended outcome. Access testing confirms whether learners using representative devices and bandwidth conditions can undertake required activities without unjustifiable disadvantage. If marks become lower after assessment demand is corrected, that observation is not itself a failure: the question is whether the programme now generates more credible evidence of achievement and supplies adequate opportunities to reach the legitimate standard. The quality office records whether findings are verified resolved, partly resolved, still open or escalated, and the faculty considers whether analogous modules require thematic review.

This case illustrates why an internally credible conclusion may be mixed. The programme may retain suitable curriculum aims and adequate staffing while requiring material assessment correction and a specified access remedy. Its judgement need not be reduced to a single colour, a crude average score or an assertion that it is fully satisfactory because the pass

rate was high. The value of IQA lies in making these distinctions explicit, maintaining protection while investigation proceeds and knowing when an educational deficiency has genuinely been addressed. The resulting records can subsequently inform an external review, but they do not determine accreditation on the regulator's behalf.

Implementation priorities, limitations, and professional implications

An institution establishing or rebuilding IQA should begin by identifying its highest-consequence quality obligations and the evidence currently available for each. It can then approve a short governance and escalation matrix, pilot the annual programme-review template in different disciplines, test the evidence register for accessibility and confidentiality, and establish a routine in which every significant finding receives an owner and follow-up date. Pilot results should be examined for administrative workload, usefulness to lecturers and students, independence of verification, data quality and actual influence over academic decisions. Scaling should follow observed utility rather than assumptions that more elaborate software, longer reports or a higher number of indicators necessarily produce stronger assurance. The UNESCO African IQA handbook and HEC guidelines support contextual institutional adaptation, but the effectiveness of this chapter's particular proposed instruments remains to be tested (HEC, 2021a; UNESCO Office in Harare, 2025).

Evaluation of the proposed lifecycle itself warrants systematic research. Useful future studies could compare programmes using the instruments with suitably selected comparators; assess inter-reviewer agreement on contested evidence; examine time to detection and verified resolution of critical academic failures; test whether review records are sufficiently reproducible; and analyse unintended administrative and equity consequences. Longitudinal qualitative studies could trace how academic decisions and budgets respond to findings, while mixed-methods designs might test whether improvements in measurement correspond to meaningful changes in student learning. None of these effects is established by the documentary synthesis undertaken for the chapter. The lifecycle is defensible as a transparent analytical and professional architecture, but its performance, feasibility and causal claims require direct investigation (M. Martin, 2018; Sangwa, 2026a).

For HEC Rwanda and comparable authorities, the chief implication is that institutional self-assessment should be interpreted as an evidentiary process, not as a competition in file volume. Reviewers can ask whether institutions know their programme risks, use appropriate methods, acknowledge uncertainty, protect learners, verify action and correct inaccurate public claims. Institutions, in turn, should be able to explain why a finding exists, what the applicable authority requires, who decided the remedy and which subsequent evidence justifies closure. Such mutual expectations may reduce ceremonial compliance while respecting institutional differences and the proper division between internal academic responsibility and external regulatory decision. They provide a direct conceptual bridge to the next chapter's examination of professional reviewer reasoning and evidence-traceable accreditation judgement.

Comparative transfer requires similar restraint. Institutions in Rwanda, Kenya, Ghana and South Africa may pursue recognisably similar internal assurance functions while operating under different statutory authorities, qualification frameworks, resource conditions and arrangements for public and private provision. The transferable proposition is not that one agency's form, staffing ratio or review interval should be copied verbatim. It is that each institution should identify its legally and academically legitimate purposes, test enacted provision, examine disconfirming evidence, respond through competent authority and independently verify important improvements. Professional benchmarks such as the ASG-QA and ESG 2015 can inform that reasoning, provided they are not represented as directly binding national legislation where they lack such status (European Association for Quality Assurance in Higher Education et al., 2015; HAQAA, 2018).

A publication-quality professional instrument must also acknowledge its own costs and uncertainties. Standardised records improve comparability, but can marginalise unusual disciplines or amplify existing power differences when central administrators determine indicators without academic dialogue. Extra independent verification can strengthen confidence, but imposes workload and may be impracticable for every routine decision. The institutional response should therefore be risk-proportionate: preserve non-negotiable legality, safety, qualification integrity and fair process; delegate ordinary educational improvement to appropriately qualified teams; protect opportunities for challenge; and require more intensive evidence where the consequences of a mistaken judgement are greater. The tools developed here remain proposals that require institutional piloting, usability testing, reviewer calibration and empirical evaluation before stronger effectiveness claims are defensible.

Conclusion

Internal quality assurance is not an inventory of policies, surveys, meetings or electronic records. It is a governed institutional capacity to test the relationship between approved educational commitments and the provision students actually encounter, to interpret trustworthy and contradictory evidence, to make decisions within legitimate authority and to establish whether interventions have protected or improved academic standards. The most important distinction is between the completion of assurance activities and justified knowledge about educational effectiveness. A university may perform the former extensively while remaining uncertain about the latter. Conversely, a proportionate, well-governed system can learn from modest but carefully interpreted evidence when it is honest about uncertainty, risk and contextual limits.

The chapter has developed this proposition through fourteen interdependent areas, from governance and review policy to module scrutiny, assessment moderation, learner and graduate feedback, staff capability, analytics, internal audit, programme closure and organisational culture. Its original practical contribution is a proposed evidence-to-enhancement lifecycle supported by a manual architecture, annual programme-review template, module-evaluation rubric, evidence register and corrective-action verification

matrix. These professional instruments translate the provisional IETQG framework into the recurring responsibilities of institutions while avoiding claims of official HEC endorsement or demonstrated empirical validation. They also show why academic integrity, student protection and legal obligations cannot be traded against high average performance scores.

The transition to external accreditation follows naturally. An institution that cannot identify its own evidence, distinguish its uncertainties or verify its improvement claims will struggle to defend those claims before an independent panel. Yet even an excellent internal self-assessment cannot substitute for the regulator's competent determination. The next analytical task is to establish how external reviewers should connect current standards, institutional claims, verified evidence, evaluative warrants, contradictory information and proportionate recommendations in a transparent and contestable judgement. Effective IQA supplies the living evidence and accountable institutional response upon which that judgement can responsibly build.

CHAPTER 9

External Programme Review, Accreditation, and Evidence-Traceable Regulatory Judgement

Standards, Evidence, Professional Reasoning, and Defensible Accreditation Decisions

Abstract

External programme review protects the credibility of qualifications only when evaluators can explain how an applicable standard, a specific institutional claim, trustworthy evidence and defensible professional reasoning warrant a particular conclusion and regulatory response. Accreditation can otherwise reward documentary completeness, confuse uncertainty with failure, or conceal inconsistent treatment beneath numerical scores. This chapter develops an analytically rigorous and professionally operational account of external quality assurance with Rwanda as the principal regulatory context and selected African systems as bounded comparators. A purposive critical synthesis of official instruments, continental quality-assurance standards, assessment and argumentation scholarship, and the author's prior doctoral framework differentiates institutional authority, programme-level readiness, actual educational effectiveness and decision-making competence. It examines regulatory provenance, accreditation dossiers, evidence reliability, peer-review integrity, curriculum and resource appraisal, digital and AI-enabled provision, findings classification, procedural fairness and post-accreditation verification. Its principal contribution is a fully specified application of the Evidence-Traceable Accreditation Judgement (ETAJ) model within Integrated Evidence-Traceable Quality Governance (IETQG). An original toolkit comprising an authority register, evidence register, evaluator worksheet, claim-evidence-warrant matrix, findings guide, calibration exercise, model report and condition-closure record translates the model into auditable practice. Four constructed review scenarios illustrate contradictory curriculum documents, untested learning systems, staffing fragility and invalid assessment claims. ETAJ is a reason-giving architecture, not a substitute for binding HEC requirements or an independently validated decision instrument. Credible external assurance demands both evidence capable of sustaining a finding and lawful, proportionate decisions capable of withstanding informed challenge.

Keywords: external programme review; accreditation; evidence-traceable judgement; Rwanda Higher Education Council; regulatory provenance; Toulmin argumentation; programme implementation readiness

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9.1 Introduction: Accreditation as public accountability and professional judgement

A programme may arrive before an external review panel with an attractive title, signed internal approvals, a complete course catalogue, carefully formatted module descriptions and an institutional assertion that all requirements have been met. On closer examination, the programme specification and the module register may disagree about credits and progression; the learning-management system may contain only empty course shells; or lecturers named in the submission may have no demonstrated availability to teach the proposed timetable. The question is not whether the dossier looks complete. It is whether the institution can legitimately offer the claimed qualification, deliver its educational promise to the proposed learners, assess achievement at the stated level and sustain these arrangements over the relevant programme lifecycle. The corresponding obligation on the reviewer is to demonstrate, rather than merely announce, why the available evidence supports a favourable, qualified or adverse judgement.

The preceding chapter located quality assurance within continuous institutional responsibility. It explained how monitoring, moderation, student feedback, corrective action and verified enhancement should enable universities to know what is happening between formal visits. External review introduces a different accountability relationship. The institution must make its assurance claims inspectable to evaluators who are not responsible for producing them, while the authorised public body must distinguish the panel's professional advice from its own lawful decision. This separation safeguards independent scrutiny but also creates a risk of external judgement that misunderstands context, privileges superficial conformity or treats a brief visit as proof of sustained implementation. A credible process must therefore join institutional evidence, expert interpretation, transparent criteria and procedural fairness (Beerkens, 2018; Harvey & Williams, 2010; Higher Education Council [HEC], 2021a).

External programme review is understood in this chapter as a structured, criteria-referenced inquiry by appropriately appointed persons who examine a particular academic programme's design, resources, readiness, enactment or outcomes. Accreditation is the status-conferring or regulatory decision, where applicable, made by a competent authority under the rules governing its jurisdiction. Review, recommendation and decision should not be used interchangeably: a panel's report does not itself create a right to offer a degree unless the relevant legal arrangements confer that effect. Nor should the presence of an institutional approval be mistaken for programme authorisation, professional licensure or recognition of a qualification abroad. These distinctions are fundamental to lawful communication with students and to the defensibility of official decisions (HEC, n.d.-a; Republic of Rwanda, 2026).

The chapter makes the argument that accreditation is a form of *defeasible practical judgement*. Evidence supports conclusions provisionally and to a degree, in relation to authoritative

requirements and the justified purposes of the review; contrary evidence, missing records or changed circumstances may alter the conclusion. The argument is developed through a critical realist distinction among reported intentions, observed enactment and the underlying capabilities that make continuing performance possible, and through an adaptation of Toulmin's account of claims, data, warrants, backing, qualification and rebuttal (Sangwa, 2026a; Toulmin, 2003). It culminates in the Evidence-Traceable Accreditation Judgement (ETAJ) model, developed in the author's doctoral work and operationalised here for the first time as a complete professional suite of linked records.

The analysis is a purposive critical documentary synthesis, not an independently conducted field evaluation or a systematic review with reproducible screening totals. The source base includes the preceding chapters, the 2026 thesis, published Rwandan legal and HEC instruments identified through the official Council website, the African Standards and Guidelines for Quality Assurance (ASG-QA), the 2015 European Standards and Guidelines (ESG), relevant comparator-agency material and established scholarship on educational quality, institutional legitimacy and argument-based validation. Sources are selected for normative authority, conceptual relevance or the capacity to challenge an intuitive conclusion. Documentary publication verifies the existence and stated content of a rule or professional proposal; it does not establish that any particular institution complies. No new interviews, institutional case studies, peer-panel observations, confidential accreditation records, database-screening counts or measured improvement effects are claimed. Every institution and numerical value in the worked illustrations is explicitly hypothetical. The instruments require authority-specific adaptation before official use.

9.2 The purposes, philosophical foundations, and limitations of external quality assurance

External quality assurance serves several distinguishable purposes. It protects learners and the public from unsupported educational promises; tests whether qualifications satisfy applicable academic and professional expectations; informs legitimate accreditation, monitoring and recognition decisions; and may encourage institutions to investigate weaknesses their routine internal systems have normalised. It can also support comparability, public information, improvement and confidence among universities, employers and regulators. Yet each purpose implies different evidence and different consequences. A licensing review asks whether minimum conditions for lawful entry are satisfied; an enhancement review asks what an already functioning programme could improve; and a post-incident investigation may prioritise immediate learner protection and verified remediation. Treating these different inquiries as one universal scoring exercise obscures their reasons for existing (European Association for Quality Assurance in Higher Education et al., 2015; HAQAA Initiative, 2018).

A philosophical tension runs through external review. Quality as conformance presupposes publicly legitimate criteria that can be applied consistently, whereas quality as transformation or intellectual formation requires judgement about educational purposes and effects that are

not entirely reducible to an inspection checklist. Harvey and Green (1993) established that competing conceptions of higher-education quality produce competing forms of evaluation. A panel focused only on conformity may confirm that the institution has a moderation policy without examining whether moderation protects the standards actually represented by a degree. A panel focused only on professional intuition may instead introduce unpublished personal preferences that universities cannot reasonably anticipate. The defensible middle position is to anchor regulatory findings in operative criteria while making interpretation of academically open-ended terms explicit and contestable.

Institutional theory provides a further corrective. Formal structures can signal legitimacy without being integrated into practice; pressures to conform can encourage institutions to reproduce recognisable quality-assurance language and templates, even when these do not govern routine teaching or resource decisions (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). The warning applies equally to accreditation agencies. An evaluator who assumes that a completed template proves enactment may unintentionally reward ceremonial conformity. Nevertheless, the critique is not a reason to discard documentation. Written programme approval, academic regulations, curriculum matrices, staffing contracts and accessible student information are essential forms of institutional accountability. Their evidentiary significance must be bounded: a policy proves a policy exists; a verified implementation record may demonstrate that some aspect of the policy was enacted; repeated samples and credible monitoring may support a stronger claim of institutional capability.

A critical realist reading explains why these distinctions are more than procedural preferences. The actual capacity to deliver a qualification depends upon structures and relations that are not fully observable in a brief review: staff workload, informal decision rights, student preparedness, financial commitments, professional supervision and technology dependencies. Reviewers observe selected documents, practices and outcomes and then infer, with varying degrees of confidence, whether the relevant conditions exist. Because universities operate as open systems, observed pass rates or graduate employment do not identify one cause without considering other influences. Similarly, a successful laboratory demonstration does not independently establish capacity across all cohorts. External review should therefore recognise inferential uncertainty rather than convert partial observation into an unqualified claim about reality (Sangwa, 2026a; Sayer, 2000).

Evidence-based regulation also has important limits. Beerkens (2018) argues that strong causal impact evaluation of quality-assurance regimes is difficult and that evidence informs professional and policy judgement through several imperfect channels. Review visits can be expensive, intrusive and administratively burdensome; published criteria can become obsolete; peer reviewers can disagree; institutions with stronger administrative capacity can assemble more persuasive documents; and standardisation can undervalue legitimate academic or disciplinary difference. External scrutiny can improve transparency and trigger reform, but neither a favourable decision nor an elaborate process is proof that the

intervention caused better student learning. A mature agency should therefore review the performance of its own procedures, invite scrutiny of difficult decisions and remain proportionate in what it asks institutions to produce.

The ASG-QA offers a continental reference for internal assurance, external assurance and agencies, encouraging transparency, stakeholder involvement, structured review and improvement. The ESG supplies another professionally influential comparison, especially on explicit criteria, expert panels, reporting, complaints and appeals. Neither can replace a Rwandan legal requirement simply because it is widely cited internationally. Their principal contribution here is to help identify functions worth testing, while Rwanda's applicable legal and regulatory instruments determine binding authority (European Association for Quality Assurance in Higher Education et al., 2015; HAQAA Initiative, 2018).

The distinction between an *audit trail* and a *quality outcome* is especially significant for regulators whose decisions will affect students. A trail of approved procedures can show that an institution has formal arrangements for examining programmes; it may not reveal whether academic decision-makers challenge low-quality assessments or correct unsafe practical arrangements. Conversely, a small number of well-chosen learning artefacts may reveal an educational concern that a voluminous self-evaluation has overlooked.

Effective external assurance should therefore connect a credible minimum-evidence threshold with an independent check of how the institutional system works, rather than maximise document volume. This approach is particularly appropriate where institutions face limited quality-assurance budgets and many programmes require review (Ansah, 2015; Beerkens, 2018).

9.3 Institutional accreditation, programme accreditation, audits, and periodic external review

Institutional accreditation assesses questions pertaining to the legitimacy, capacity or quality systems of the provider as a whole, whereas programme accreditation focuses on a specific award, curriculum, field, qualification level, site or approved delivery arrangement. An institutional audit usually examines how organisational systems protect and enhance quality, potentially without making a separate accreditation decision for every programme. Periodic programme review may be institutionally commissioned, undertaken by a professional body or required by a regulator, and may occur independently of a fresh licence. The labels differ by jurisdiction. Rwanda's HEC accreditation webpage, for example, uses institutional accreditation in connection with definitive operating arrangements for certain private providers; the precise legal effect of any activity must be read from the current authoritative instrument rather than deduced from the word *accreditation* alone (HEC, n.d.-a).

The unit of analysis determines what counts as adequate evidence. An institution-wide audit may reasonably examine central budgeting, governance, staff-development policy and quality-management information systems. A programme review must ask whether those

capabilities have actually been allocated to the specific provision. An institution can possess a library subscription without granting students in a particular programme the relevant electronic access, and can employ many doctoral-qualified academics without allocating sufficient qualified supervision to a new doctoral pathway. Conversely, excellence in one programme does not license an inference that all other programmes, campuses and modalities are equally effective. Accreditation reports should state precisely whether findings concern the institution, an award, an intake, a delivery mode, a site, a professional specialisation or a particular stage of implementation (Sangwa, 2026a).

Timing adds a second distinction. Initial review must make a forward-looking judgement under uncertainty, often relying on approved designs, committed resources, rehearsed processes and credible implementation plans. A renewal or re-accreditation review may reasonably demand several cohorts of assessment, progression, graduate outcomes and corrective-action records. Major programme modification requires attention to what has changed and whether prior approval or assurances remain applicable. Monitoring of an established programme should not permit continued reliance on documents that might once have been acceptable for a proposed programme but no longer establish current delivery. The strength and type of evidence should mature as students enrol and graduate.

African comparators illustrate these functions without establishing a single continental regulatory arrangement. Kenya's Commission for University Education publishes academic-programme standards and peer-review evaluation tools. Ghana's Tertiary Education Commission publishes information on accreditation and refers users to an accreditation roadmap; that official material supplies a comparator for institutional and programme oversight without justifying assumptions about a particular case record. South Africa's Council on Higher Education maintains distinct programme accreditation and institutional audit functions under the Higher Education Quality Committee. These official descriptions support a bounded comparison of functional needs, particularly source identification, programme evidence, peer scrutiny and a competent decision body. They do not authorise a Rwandan panel to apply Kenya's timetable, Ghana's appeal deadlines or South Africa's accreditation categories (Commission for University Education [CUE], n.d.; Council on Higher Education [CHE], 2004; Ghana Tertiary Education Commission [GTEC], n.d.).

Table 9.1. External review purposes and the limits of inference

Review object	Primary question	Strongest appropriate evidence	Inference to avoid
Institutional status	Is the provider lawfully authorised and adequately constituted?	Official authorisations; governance and resources; relevant site verification	Assuming every programme and modality is consequently approved
Proposed programme	Is the award defensible and sufficiently ready for the proposed intake?	Current specifications; aligned assessments; named and committed staff; configured facilities	Treating promises or procurement intentions as tested capacity

Review object	Primary question	Strongest appropriate evidence	Inference to avoid
Established programme	Does delivery sustain standards and learner protection?	Assessed work; moderation; cohorts; implementation and corrective-action records	Inferring learning from completion or student satisfaction alone
Institutional audit	Do institutional assurance arrangements function and improve provision?	Decision trails; sampled programmes; independent challenge; verified closure	Confusing an approved IQA policy with effective assurance
Professional or specialist review	Are field-specific competencies and safeguards adequately supported?	Practice logs; supervision; safety; specialist accreditation criteria	Assuming general programme approval substitutes for professional permission

Note. Original synthesis by the author. Categories can overlap. Legal effects depend upon the relevant jurisdiction and instrument.

A useful comparative distinction concerns what may legitimately be transferred between jurisdictions. Kenya's disciplinary standards, Ghana's accreditation roadmap and South Africa's separation of programme criteria from institutional audits demonstrate that agencies must coordinate standards, evidence and competent decision-makers. They do not establish identical powers, thresholds or routes of redress. Comparability is therefore better understood as *functional intelligibility*: a Rwandan reviewer should be able to explain the function served by a foreign process and identify a relevant domestic analogue, while declining to import any unincorporated rule. This reduces two opposite errors, namely insulating domestic review from helpful international experience and treating international resemblance as evidence of lawful domestic authority (Council on Higher Education, 2004; HAQAA Initiative, 2018).

9.4 Establishing regulatory authority, criteria, applicability, and the current status of requirements

The first duty of a reviewer is not to request evidence but to establish what must be demonstrated and why the panel is entitled to require it. In Rwanda this starts with the governing legal and institutional architecture, not an inherited checklist. Presidential Order No. 044/01 of 24 July 2026, published in the Official Gazette on 30 July 2026, governs HEC's contemporary responsibilities, including programme and curriculum approval, standards, monitoring and technology-related oversight. Its repealing provisions must be read carefully: the 2020 presidential order is not an interchangeable substitute for the 2026 mandate. Law No. 010/2021 on the organisation of education, Ministerial Order No. 003/MINEDUC/2021 determining the qualifications framework, relevant standards and operative HEC instruments provide additional sources for particular questions (Republic of Rwanda, 2021a, 2021c, 2026).

An authority register should record the issuing body, precise title, version, date of issue, commencement where relevant, publicly accessible source, specific applicable clause,

regulated object, intended decision and any uncertainty about scope. It should also record whether the material is legislation, a binding delegated instrument, an official evaluation standard, operational guidance, an institution's own undertaking or a voluntary professional benchmark. Classification must follow enabling authority and legal effect, not simply document titles. A regulator's webpage may remain useful for procedure but may retain older terminology; a newer upload date does not prove that the text was newly enacted. Reviewers should confirm supersession, transitional provisions and any material conflicts before elevating a sentence into a finding of non-compliance (HEC, n.d.-b; Republic of Rwanda, 2026).

Applicability is narrower than thematic relevance. An academic requirement may govern all higher learning institutions, only certain awards, new providers, distance programmes, specialist disciplines or activity undertaken after a specified date. A professional body's requirements may concern eligibility for practice rather than the institution's academic authority to award a degree. A foreign benchmark can assist in explaining an educational rationale while remaining nonbinding domestically. Reports should identify the legal status of each criterion, especially where a reviewer recommends action affecting admission, delivery, accreditation, qualification recognition or public communication. Uncertain applicability should be referred to an authorised officer for clarification rather than silently resolved through panel preference.

A practical safeguard is an *authority pause*. When the panel cannot establish that a proposed binding criterion is operative and applicable, it records the educational concern, seeks documentary or official clarification and avoids describing it as a proven statutory breach. Academic concerns do not disappear during this pause: the reviewer may explain why a design appears weak, ask for evidence under an applicable general criterion or identify an enhancement recommendation. But regulatory consequences should not rest on an undisclosed normative foundation. This distinction protects academic standards while also protecting universities against arbitrary expansion of review powers.

Table 9.2. Proposed normative-provenance and applicability register

Field	Required entry	Verification question
N-ID and source	Identifier; official title; issuer; stable URL	Can the original authoritative text be recovered?
Source status	Law, order, standard, procedure, guidance, benchmark	What confers authority, and for what purpose?
Date and version	Publication, effective date, amendment, review date	Is the provision operative for this cohort and review?
Scope	Qualification, modality, institution, programme, site	Does the requirement genuinely govern the claim?

Field	Required entry	Verification question
Criterion	Exact clause or accurately recorded provision	Is the criterion specific enough to evaluate fairly?
Required evidence	Original minimum evidence or justified interpretation	Has professional advice been mistaken for a legal obligation?
Uncertainty and resolution	Open question, consulted authority, response	What remains unsettled before a binding finding?

Note. Original professional register. In an actual review the full official source and current version must be captured, not inferred from this model table.

Regulatory provenance requires a documented decision rule when sources appear inconsistent. A defensible reviewer first checks whether the instruments truly regulate the same action, then considers their dates, legal hierarchy, express amendment and repeal provisions, transition rules and any delegation under which technical standards were issued. Apparent inconsistency can arise because one instrument governs an institution, another a delivery modality and a third the professional practice for which a degree prepares graduates. Where the competent authority's interpretation is required, the case register should identify the question submitted, the date and capacity of the responding official, the response as received and any material limits. Informal telephone advice should not be converted into a universally binding rule without a confirmable legal basis. The object of this procedure is not to make every evaluator a legal adjudicator but to make the point at which academic expertise ends and authoritative interpretation begins both visible and safe.

9.5 Understanding accreditation dossiers, programme specifications, and institutional evidence

An accreditation dossier should permit a competent evaluator to reconstruct the programme as one coherent educational undertaking. It normally includes a proposal explaining educational need and graduate purpose; a programme specification identifying the award, mode, qualification level, credits, delivery duration, admissions, intended outcomes and progression; a complete module register and module descriptions; curriculum and assessment maps; institutional and external approval records; personnel and workload plans; resource and financial commitments; learner services; and applicable professional or partnership arrangements. For established provision, the dossier should increasingly include cohort, assessment, moderation, learner-support, programme-review and corrective-action evidence. The precise mandatory set is determined by applicable HEC procedures and the particular review brief, not by this descriptive inventory (HEC, n.d.-a, n.d.-b).

Programme proposal forms, programme specification forms and module description forms have different evidentiary functions. The proposal justifies why the institution should offer the qualification; the specification defines the authoritative programme-level promise; the module documents explain how individual parts contribute to it. Reviewers should reconcile these

against a version-controlled master register rather than assume that repeated information is consistent. An easily overlooked defect occurs when an approved programme specification states one credit total, a timetable implies another, and several module descriptions have earlier codes or inconsistent year and semester labels. Such contradictions can affect qualification level, student workload, progression, graduation eligibility and the accuracy of institutional information. A dossier index should therefore contain cross-references and identify the controlling approved version of each artefact.

The credibility of a dossier depends partly upon its provenance. A curriculum committee minute establishes that a decision was recorded, not necessarily that the approved version is the one uploaded for inspection. A signed contract may demonstrate a lecturer's employment but not the hours reserved for the programme. A screenshot may establish that a platform page existed, not that students could access a functioning course or that an assessor has tested it. Documentary handling should therefore preserve document owner, creation date, approval status, version, relevant cohort, evidence custodian and relationships with other records. Where the evaluator requests sensitive examination scripts, learner cases or personnel documents, lawful access, minimisation, confidentiality and secure retention should shape the request.

A useful dossier has two levels. The principal narrative presents educational design and institutional argument without forcing reviewers to reconstruct it from hundreds of attachments. The evidence index then identifies the exact record supporting each material assertion. That architecture reduces administrative duplication while strengthening traceability. Instead of uploading multiple inconsistent curriculum spreadsheets, the institution should provide one authorised register and preserve older versions in a controlled archive. It should disclose unresolved discrepancies rather than hide them. Transparent acknowledgement of a deficiency, accompanied by a responsible and verifiable correction plan, is often more useful to professional evaluation than a superficially faultless narrative.

The practical preparation of a dossier warrants a controlled submission protocol. An institution should identify its academic owner, establish a definitive submission date, place programme proposal forms, programme specification forms and module descriptions under explicit revision control, and maintain a change log explaining all post-submission corrections. Review secretariats should then issue a receipt identifying the version accepted for review, missing documents and the mechanism for requests for clarification. A site visit should not become an invitation for uncontrolled replacement of material documents, because a new document may change the claim the panel originally evaluated. Material late evidence should instead receive a dated addendum, an opportunity for panel reconsideration and, where applicable, an institutional response. This discipline is consistent with fairness to both the institution and other applicants, since the review must be able to distinguish an error corrected before judgement from a capability acquired only after an unfavourable observation.

9.6 Evidence quality: Authenticity, relevance, currency, completeness, sufficiency, and corroboration

External review depends upon an epistemic discipline: evidence is valuable only in relation to the proposition it is used to support. Authenticity asks whether a record is genuine and attributable to the represented authority or process. Relevance asks whether it bears on the criterion and programme claim. Currency concerns whether its date and condition match the review period. Completeness asks whether necessary components and contrary material are present. Sufficiency asks whether the evidence, considered as a whole, justifies the strength of the intended conclusion. Corroboration asks whether independent or complementary sources support, qualify or challenge it. These attributes interact, but they cannot sensibly be compressed into a raw document count (Kane, 2013; Toulmin, 2003).

The appropriate test depends upon the evidence type. An approved academic regulation is particularly useful for establishing the intended rule; a sample of examination papers and scripts is more relevant to its enactment. A staff list can establish a claimed resource inventory, while signed workload allocations, teaching records and direct verification are more informative about programme-specific availability. A simulated student account can test whether an online module works as configured; a lecturer's demonstration alone may not reveal what a real learner can access. Financial statements, budgets, vendor contracts and contingency plans can illuminate sustainability, but their inference differs according to whether they are audited historical records, approved allocations or optimistic projections. Review should make these limits visible.

Evidence should be triangulated by function, not multiplied decoratively. Two reports copied from the same unverified spreadsheet do not constitute independent corroboration. A timetable, employment letter and staff interview may together illuminate availability, yet all three can remain inadequate if the lecturer's simultaneous obligations elsewhere are unknown. Similarly, a high overall pass rate can be consistent with effective teaching, grade inflation, weak tasks or selection effects. Examination scripts, rubrics, external moderation and student progression provide more discriminating evidence. Where a material conflict occurs, an evaluator should seek the most directly probative underlying record rather than average inconsistent claims.

Sampling must be proportionate and explicit. A panel can rarely inspect every assessment, cohort, contract or student-service record. Its report should specify sampling logic, period, inclusion criteria, known omissions and constraints on generalising beyond inspected examples. Risk-sensitive purposive sampling is often suitable where resources are limited, but it should deliberately include a range of modules, achievement levels, locations and delivery modes rather than only exemplary materials selected by the institution. Anomalies should prompt follow-up or expansion where proportionate. Absence of evidence must also be interpreted carefully: nonproduction after a clear and feasible request may justify a finding of

not demonstrated, whereas the reviewer should not infer a substantive failure from an inaccessible system caused by the reviewer's own permissions or from an undefined request.

A privacy and security boundary is essential. Accreditation does not provide an unrestricted entitlement to personal student files, clinical records, confidential disciplinary allegations, research data or proprietary technologies. Rwanda's personal-data legislation and relevant institutional obligations require attention to lawful purpose, access and protection. De-identified assessment samples, controlled demonstrations and restricted panel access can often establish the required fact without unnecessary disclosure. Where direct inspection is indispensable, the review arrangement should specify authorisation, custody, confidentiality and disposal. Evidence traceability should protect learners, not create a permanent uncontrolled archive of sensitive information (Republic of Rwanda, 2021b).

Table 9.3. Evidence appraisal: What a record can and cannot establish

Evidence class	Legitimate use	Verification method	Typical overclaim
Normative document	Applicable rule or institutional intent	Official source, approval, version	Treating policy as implementation
Allocation record	Programme-specific staffing, finance or facility commitment	Authorised budget, agreement, workload reconciliation	Assuming resources are available without conflict
Operational demonstration	Configured and functioning service or practical arrangement	Test account, live transaction, representative scenario	Inferring reliability from a single staged demonstration
Educational artefact	Assessment demand or student performance	Sample scripts, marking criteria, moderation, authenticity	Inferring graduate competence from polished artefacts alone
Monitoring dataset	Pattern meriting inquiry	Definitions, denominator, exclusions, triangulation	Treating aggregate rates as causal proof
Stakeholder testimony	Context, experience and plausible discrepancy	Diverse and protected participation, documentary checking	Treating anecdote as prevalence estimate

Note. Original analytical classification. Evidence sufficiency is claim-dependent and does not follow a universal numerical threshold.

Table 9.4. Model programme evidence register with claim-level traceability

Evidence ID and item	Assertion supported	Provenance and period	Verification, limit and next action
E-01: signed programme specification	Award structure and intended outcomes	Senate-approved version; date and cohort recorded	Match credits and module codes against PPF, PSF, MDFs and master register
E-02: lecturer allocation record	Staff available for first intake	HR-controlled allocation and contractual period	Check qualifications, concurrent commitments, teaching load and contingency

Evidence ID and item	Assertion supported	Provenance and period	Verification, limit and next action
E-03: learner-role LMS test	Required first-term modules accessible	Live restricted demonstration; platform version and test date	Record user role, device, failed steps and whether first cohort is covered
E-04: assessment blueprint	Award-level achievement can be assessed	Approved tasks, rubrics and moderation schedule	Inspect construct coverage; prospective evidence cannot prove graduate attainment
E-05: cohort monitoring sample	Enacted provision and improvement	Defined academic year, source system and extraction date	Verify denominator, exclusions, de-identification and cross-check with work samples

Note. Original illustrative register developed for this chapter. Every entry in a real review should also store record custodian, access restrictions, version history, related criterion and claim identifiers, disconfirming records and a time-stamped reviewer disposition. The sample rows are not a completed institutional audit.

An evidence register is useful only when it remains a retrieval system rather than another ceremonial inventory. The reviewer should be able to move from a finding to a claim identifier and then to the original controlled record without relying on memory or hidden files. Where one document supports several claims, those relationships should be separately recorded because its probative force may differ in each context. Where a revised version corrects an error, both the earlier and revised record should remain distinguishable in the secured case file. This protects the institution from reliance on superseded evidence and the reviewer from silently accepting a replacement without examining the consequences. When privacy rules restrict access, a controlled evidence pointer and verification statement can be more appropriate than embedding a confidential source document in a widely distributed report.

9.7 Distinguishing documentary completeness from programme implementation readiness

Documentary completeness and implementation readiness are separate judgements, although both matter. Completeness means that the materials requested for a defined procedure have been submitted and can be located. Readiness means that a specified programme, in its intended mode and for its intended cohort, is sufficiently able to begin and maintain academically defensible provision. A complete dossier can contain an untested timetable, a proposed laboratory yet to be equipped, lecturers whose workload cannot accommodate the modules assigned, or assessment arrangements that have never been moderated. Conversely, a programme with genuine operational strengths may present inconsistent or poorly organised evidence and need to improve its assurance records. External review should identify which defect is present rather than treating every missing or contradictory item as the same kind of weakness (Sangwa, 2026a).

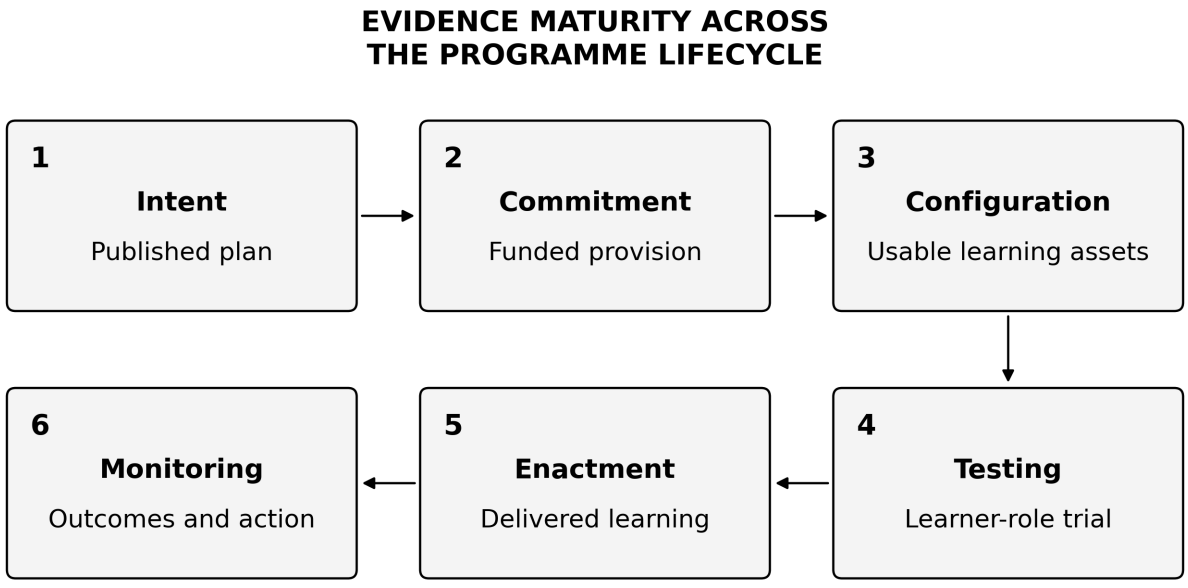
Readiness has a temporal and contextual meaning. Before a programme opens, a reviewer cannot demand three cohorts of graduate outcomes, but may reasonably require a coherent curriculum, lawful approvals, accessible learning environments, committed staff, testable

systems and sufficient financial planning. At the point of first enrolment, the institution should demonstrate that the actual modules offered, assessment protocols, student information, academic advising and relevant facilities are in place. Once a programme has been operating, its claim must be supported increasingly by enactment: completed teaching schedules, assessment samples, moderation, learner experiences, placement records and corrective-action evidence. This sequence does not make evidence weaker by design; it makes demands appropriate to what can legitimately be known at each stage.

Readiness also differs from general institutional capability. A university may have a sound procurement function and a reliable information technology department but not yet have licensed specialist software or configured a student-facing course for a particular degree. The institutional capacity gives plausible backing for future provision but does not establish programme-specific configuration. For practical and professionally regulated disciplines, the relevant test may be especially unforgiving. A university's general partnership with a hospital does not establish sufficient supervised placements for a particular cohort. A memorandum of understanding may indicate intention but not capacity, timetable, eligible supervision or safety. Essential practice learning should not be approved on the assumption that a host will somehow find additional space when students arrive.

A useful evidence-maturity continuum distinguishes intention, commitment, configuration, tested operation, enacted provision and monitored effectiveness. The categories are not universal accreditation stages or a substitute for national criteria. They identify increasingly demanding types of claim. A proposal saying that an LMS will be acquired is an intention; a procurement contract is a commitment; populated and access-controlled courses are configuration; a successful representative learner journey is a test; real coursework and marked submissions show enactment; longitudinal service records and corrective action help assess sustainable effectiveness. Evidence should meet the threshold warranted by the programme lifecycle and the risk of the activity, not whichever stage the dossier happens to describe most favourably.

Figure 9.1. Programme evidence maturity across the accreditation lifecycle



Note. Original proposed process map by the author. The progression represents increasing evidentiary expectations, not a claim that every programme follows a fixed causal trajectory. Material safety and legal thresholds remain non-compensatory at every stage.

A material readiness defect should be expressed as a precise gap between an essential undertaking and the strongest verified evidence presently available. For example: “The institution has supplied an LMS procurement agreement, but the proposed first-semester modules have not been configured and a representative learner-access test could not be completed.” This is stronger than the vague allegation that the institution “lacks e-learning capacity.” It explains what was examined, what remains uncertain and what evidence could resolve the concern. Where appropriate law and procedure allow conditional progression, the panel can propose a pre-enrolment verification requirement rather than speculate about eventual performance. Where a critical learning or safety condition is absent, delaying the relevant activity may be more defensible than approving it subject to a distant documentary report.

Prospective readiness should also be tested under adverse but foreseeable conditions. A programme with a viable single specialist lecturer should demonstrate how core teaching, assessment and supervision would continue during absence; a distance programme should identify the recovery route when the LMS or contracted internet service is unavailable; a laboratory programme should distinguish alternative teaching activities from competencies that cannot safely be certified without its equipment. These are not demands that an institution eliminate every risk before approval. Rather, they ask whether decision-makers

have considered interruption pathways that would materially affect the advertised qualification and have funded practical responses. This establishes a natural boundary between the present chapter's accreditation-readiness test and the subsequent chapter's treatment of systemic resilience.

9.8 Adapting Toulmin's model of argumentation to accreditation reasoning

The transition from evidence to finding is the most consequential and least visible part of many reviews. A checklist typically records a criterion and a judgement, sometimes with a score, but omits the reason why the observed record establishes compliance or failure. Toulmin's model offers a useful explanation of ordinary practical inference. A *claim* is the proposition being advanced; *data* provide supporting grounds; a *warrant* explains why the data bear on the claim; *backing* supports that inferential rule; a *qualifier* indicates its strength and scope; and a *rebuttal* identifies circumstances under which it may fail (Toulmin, 2003). Unlike a purely deductive proof, such reasoning attends to context, disciplinary conventions and the defeasible character of real-world judgements.

Accreditation requires an adaptation because the panel does not begin with a free-standing claim alone. It begins with *normative authority*: a lawful or otherwise appropriately adopted evaluation criterion that makes the issue reviewable. The university then makes a programme claim, offers evidence, and is exposed to verification. The reviewer must state the warrant that connects this evidence to the standard and the particular assertion. For example, a university may claim that all graduates achieve a specified analytical competence, supported by a capstone rubric. The warrant cannot simply say “a rubric exists”; it must explain that relevant tasks elicit the competence at the required level, student performance has been judged against clear criteria and moderation provides adequate confidence in the interpretation. A rubric without student work may support design readiness, but not demonstrated graduate achievement (Biggs, 1996; Kane, 2013).

The analogy with argument-based validation is instructive but bounded. Kane (2013) argues that validity concerns proposed interpretations and uses of test scores, and that an inference chain must withstand scrutiny. External programme review similarly interprets documents, demonstrations and educational outcomes before recommending consequential action. Yet accreditation is not merely a psychometric problem. Its rules arise from public authority, administrative law, professional standards and institutional rights, not only from measurement theory. The validity of an educational inference does not confer legal power on the reviewer, and legal authority alone does not establish the epistemic strength of a finding. The relevant innovation is to keep normative, epistemic and regulatory justification connected without confusing them.

Consider an illustrative claim: “The Bachelor of Applied Data Science is ready to assess independent research competence.” A submitted research-methods module description and a

draft dissertation rubric offer relevant evidence. The academic warrant would need to explain the relationship between the required inquiry competence, planned learning opportunities, assessment demand, qualified supervision, research ethics and moderation. The panel should then ask whether supervision is allocated and whether students can actually access research resources. If no approved assessment brief exists, the correct finding may be *not yet demonstrated* rather than an assertion that teaching has failed. If the submitted rubric assesses only recollection of statistical terminology, the panel may instead establish a positive design deficiency: the proposed assessment does not measure the claimed research competence.

Argumentation therefore strengthens the reviewer in two ways. It requires the assessor to make implicit standards visible, including the basis on which professional expertise is exercised. It also creates a place for disconfirming evidence. The claim might be substantially supported by capstone design, yet contradicted by missing supervisors or inaccessible datasets. Without rebuttal analysis, a confident narrative can survive simply because an evaluator has focused on a favourable subset of the dossier. The aim is not to produce cumbersome legalistic prose for every criterion. Reviewers can use concise, structured statements for routine matters and longer reasoning for serious, disputed or precedent-setting findings.

9.9 Claims, evidence, evaluative warrants, counter-evidence, qualifiers, and findings

A reviewable claim must identify the academic object, quality attribute, relevant population, time and level of assurance. “The programme meets all requirements” is too broad to test directly. “All first-year students in the proposed blended programme can access required learning materials through the approved platform before the first teaching week” is much more specific. It identifies a cohort, medium and practical condition; it can be checked through authenticated student accounts, content mapping and representative device testing. The claim should also indicate whether it concerns a current state, a prospective commitment or measured performance. When the claim changes during the review, the reason and associated evidence version should be retained.

Evaluative warrants should explain the rule of inference, not repeat the claimed conclusion. If the relevant standard requires suitable academic staffing, the statement “staffing is adequate because the staff list is adequate” is circular. A defensible warrant might explain that named faculty members possess qualifications and field expertise appropriate to the assigned modules, have binding appointments and feasible workloads, and are supported by succession or contingency arrangements proportionate to the proposed intake. Its backing may include the operative HEC staffing expectations, the qualifications profile of the award and credible disciplinary norms. The reviewer then tests contrary evidence such as duplicate assignments to full-time programmes or contracts expiring before the relevant module begins.

Uncertainty should be described precisely. A missing record is not always evidence that an activity never occurred. An observed defect is not always isolated: a failed inspection of two central modules may justify broader inquiry but not a claim that every module fails. A qualifier can describe the confidence, scope and lifecycle limits of a finding: "The available evidence supports prospective adequacy for the first cohort, contingent upon inspection of the completed specialist laboratory before practical classes commence." The statement neither overclaims proven long-term capability nor understates the need for a controlled pre-use check. Where an adverse judgement is supported by a directly verified failure, the qualification should not weaken that finding artificially.

Table 9.5. Model claim-evidence-warrant-rebuttal record

Review element	Illustrative entry for a hypothetical programme
Authority and criterion	Applicable qualification-level and assessment standards, version verified in the case record
Institutional claim	Capstone assessment will demonstrate independent analysis at award level
Evidence supplied	Programme outcomes map; capstone brief; draft rubric; staffing allocation; moderation policy
Verification	Map consistent, rubric inspected; supervisor workload not yet reconciled
Evaluative warrant	Valid inference requires suitable tasks, criteria, qualified supervision and moderation
Rebuttal or gap	An unreconciled supervision allocation may make assessment delivery infeasible
Qualifier	Educational design appears plausible; programme-specific operational capacity remains undemonstrated
Finding and remedy	Partially demonstrated; obtain verified staff allocations before the approved launch threshold

Note. Original constructed illustration, not an institutional finding or a statement of HEC-approved conditions.

Finding categories should distinguish at least four situations: demonstrated conformity, conformity supported only with material qualification, insufficient evidence to decide, and demonstrated deficiency. An additional *not applicable* category may be used where a criterion genuinely does not govern the programme, with the normative reason recorded. These categories are explanatory tools, not official Rwanda decision labels. "Not demonstrated" is especially important because proof and reality must not be conflated. An institution may eventually produce evidence that a service is operating; the review at that moment does not justify claiming the service is absent simply because verification was incomplete. Conversely, a verified absence of supervision or a design that fails an essential standard is not merely a paperwork omission.

A finding must be reviewable at two levels. Another expert should be able to understand the evidence, warrant, contrary material and conclusion. A decision-maker should also be able to

identify the finding's significance, the rule under which it matters and the lawful responses open to the competent authority. Those two tests protect against different errors: intellectually weak findings supported by strong procedural language and intellectually strong observations that exceed the regulatory scope of the review. ETAJ makes both visible rather than treating the assessor's professional reputation as sufficient reason for deference.

To make the reasoning operational, the evaluator can draft a *falsification question* for each consequential institutional assertion. If a university claims that every essential outcome is validly assessed, which omitted outcome, invalid task or unmoderated assessment would disconfirm that assertion? If it claims sufficient clinical-placement capacity, what evidence of competing bookings, supervisor qualifications, patient-safety limits or absent agreements would defeat that conclusion? Framing questions in this way does not imply adversarial suspicion. It prevents confirmation bias by obliging the reviewer to search deliberately for the kinds of information that could change an apparently favourable finding. The panel should record what counter-evidence was sought, what was found and which reasonable checks were infeasible, so that apparent absence of rebuttal is not mistaken for evidence of thorough examination.

9.10 Reviewer expertise, independence, conflicts of interest, calibration, and consistency

Peer review derives much of its value from expert interpretation. Evaluating a nursing programme requires substantive understanding of supervised clinical competence, while an advanced computational programme may need reviewers able to assess mathematical progression, technical laboratories and rapidly changing professional practice. Curriculum specialists can test programme coherence; quality-assurance specialists can examine evidence systems and decision processes; student and accessibility perspectives can expose failures that subject experts overlook. A credible panel therefore requires a justified mixture of subject, pedagogical, regulatory and practical expertise rather than reliance on one senior academic who happens to hold an impressive title (European Association for Quality Assurance in Higher Education et al., 2015; HAQAA Initiative, 2018).

Expertise must be distinguished from independence. A reviewer may possess excellent discipline knowledge but have supervised the programme director, consulted on the curriculum, applied for employment at the institution or have an unresolved financial interest in a vendor used by the programme. Such relationships need not always constitute disqualification under every procedure, but they require disclosure and an authoritative conflict-management decision before evidence is assessed. Confidentiality obligations should include student records, examinations, staff information, commercially sensitive agreements and unpublished research. Access to material for evaluation does not entitle a reviewer to retain or repurpose it. A reviewer should also avoid private advice or informal negotiations that blur the boundary between an independent assessment and a consultancy assignment.

Consistency cannot be delivered solely through universal numeric weights. Programmes differ in qualification level, disciplinary hazards, research intensity, delivery modality and lifecycle stage. An identical “staffing” score might conceal a consequential gap in clinical supervision and a comparatively minor scheduling issue in a low-risk elective. What should be standardised is the decision process: common source checking, defined evidence criteria, documented warrants, shared findings terminology, comparable treatment of critical thresholds and a recorded rationale for departures from prior cases. Numerical ratings can support orientation or risk triage when an authorised instrument requires them, but they cannot replace the narrative justification of consequential decisions.

Reviewer calibration should occur before panels encounter a live institution and again when substantial disagreement emerges. A calibration exercise presents the same anonymised, fully specified hypothetical dossier excerpt to several reviewers, asks them to identify the applicable criterion and independently formulate findings, then compares the results. Divergence may reveal misunderstandings of a standard, different assumptions about missing evidence, disciplinary bias or inconsistent risk tolerance. The aim is not to force unanimity through group pressure. It is to agree which questions are legal, which are evidentiary and where legitimate expert interpretation remains open. Material minority reasoning should be preserved when it exposes unresolved uncertainty, particularly where the decision affects students' opportunities or institutional rights.

Table 9.6. Calibration exercise for an external panel

Case element	Shared evidence	Calibration question
A. Curriculum arithmetic	480 credits in PPF and PSF; annual allocations conflict; three module descriptions have duplicate codes	Does the defect prevent authoritative identification of the curriculum, or can a targeted reconciliation suffice?
B. Digital launch	LMS licence active; populated first-semester courses absent; ICT staff demonstrate only an administrator account	Which readiness claim is supported, and which learner-facing test is still required?
C. Staffing	Three lecturers nominated; two are assigned to overlapping full-time programmes; no approved workload plan	Is the evidence insufficient or does a verified capacity deficiency already exist?
D. Assessment	Research outcomes are advanced; sample tests mainly assess recall; moderation policy exists	How should constructive alignment and assessment validity be argued?

Note. All cases and quantities are constructed. The moderator should record the authority used, evidence sought, classification, proposed response and unresolved disagreement. No universal correct regulatory result is implied without the operative criteria.

Good panel leadership protects deliberation from both domination and fragmentation. The chair should distinguish technical clarification, provisional individual assessment, joint

examination of contradictions, report drafting and final recommendation. Panels should avoid allowing the most senior or confident member to convert a personal preference into a mandatory condition. They should also avoid pressuring reviewers to abandon serious safety or academic concerns simply to produce a unanimous score. A reasoned dissent, fairly summarised, may strengthen a recommendation by revealing where the competent decision body needs to consider risk or obtain additional clarification.

Calibration should explicitly test the panel's treatment of *missing*, *contradictory* and *failed* evidence. Reviewers might agree that no staff-allocation record was submitted but disagree whether that supports “not demonstrated” or a verified absence of staff. The distinction can be resolved only by checking what verification was attempted and whether the institutional explanation establishes existing resources. Likewise, a faulty LMS student-role test should be repeated after ruling out a review-team permissions mistake before becoming a major finding. Review leadership should retain a concise calibration memorandum containing the questions on which reviewers agreed, any discretionary interpretations that remain open, and the referral route for questions beyond the panel's mandate. Agreement generated by suppressing disagreement is not equivalent to reliable judgement; the purpose is disciplined comparability rather than artificial unanimity.

9.11 Assessing curriculum content, coherence, academic standards, staffing, infrastructure, and sustainability

Curriculum evaluation begins with the educational worth and qualification-level demands of the intended award. The programme rationale should explain the disciplinary, scholarly, professional or public problem addressed, while the graduate profile should articulate capabilities that are neither trivial nor implausibly broad. The review should determine whether subject coverage includes essential foundations, methods and contemporary knowledge, whether omissions are consequential, and whether any apparent duplication is pedagogically purposeful or an inefficient repetition. Benchmarking against comparable awards is useful for identifying questions but should not become an unexamined requirement that every university reproduce another institution's course list. Disciplinary innovation deserves intellectual scrutiny rather than automatic suspicion (Biggs, 1996; Lattuca & Stark, 2009).

Coherence requires following learning across the entire award. A curriculum map should make visible where programme outcomes are introduced, developed and assessed, while a progression analysis should examine prerequisites, the sequencing of conceptual difficulty, term-by-term workload and culminating demonstration of graduate independence. The evaluator should reconcile codes, module titles, credit values, duration, mode, placement and assessment information across the controlling programme specification, proposal, module register and descriptions. Qualification-level requirements must be verified against the operative Rwanda Qualifications Framework and any applicable specialist conditions; reviewers should not invent a universal credit or annual-load requirement from an illustrative

template. An arithmetic error may be consequential when it affects the award's required learning volume, even if every individual module appears academically sound (Republic of Rwanda, 2021c).

Assessment deserves a separate validity inquiry. A programme claiming that graduates can diagnose complex organisational problems cannot rely exclusively on recall tests of management vocabulary. An engineering programme promising safe technical design needs evidence of applied problem-solving and appropriate practical assessment; an advanced research degree needs defensible original inquiry and supervision. Reviewers should inspect assignment briefs, assessment blueprints, rubrics, marking practices, moderation and student work at different achievement levels where available. They should ask whether grading discriminates meaningfully among performance levels and whether assessments are secure, fair and accessible. A robust assessment policy is supporting evidence, not a substitute for examining the tasks and decisions produced under it (Boud & Molloy, 2013; Kane, 2013).

Staffing adequacy concerns the alignment of people with work. Qualifications and titles matter, but reviewers also need to know who will teach each module, assess learning, provide pastoral or academic support, supervise practice or research, and cover absences. A staffing matrix should cross-tabulate appointments, recognised academic credentials, subject expertise, teaching allocation, concurrent commitments, employment status and continuity risks. Programmes should demonstrate that visiting or part-time faculty are available during the relevant period and that specialist partnerships are enforceable rather than merely aspirational. Reviewer findings must be sensitive to institutional diversity: a small institution can use a carefully governed shared facility or visiting scholar, provided that the arrangement satisfies the applicable standard and can be relied upon by enrolled students.

Infrastructure should be evaluated as an educational function, not as a photographic inventory. A laboratory is relevant when it has appropriate equipment, safety, consumables, qualified support, accessible scheduling and maintenance suitable for the activities being taught. A library is relevant when programme students and faculty can obtain necessary scholarly resources under usable access and licensing arrangements. An online platform is relevant when it enables the intended academic interactions, assessment and student support under realistically expected conditions. Sustainability adds the question of whether these resources can be maintained for the duration of existing and foreseeable student commitments. An impressive opening budget cannot prove viability if recurrent software, subscriptions, specialist staffing, placements or maintenance have not been costed.

A programme can be strong in most dimensions and still fail a critical one. It is not defensible to offset an unavailable clinical placement with excellent classroom teaching or to compensate for inadequate graduate assessment with an unusually attractive student-services brochure. The idea of non-compensatory thresholds protects essential academic, legal and safety conditions. For less fundamental weaknesses, a holistic judgement may legitimately take remedial capacity, context and risk into account. The panel must explain which deficiencies

cross a threshold, which may be corrected without jeopardising learners and how the operative instrument permits the proposed treatment. This avoids both mechanical score averaging and an arbitrary insistence on perfection (Sangwa, 2026a).

Table 9.7. Programme-level academic evaluation matrix

Domain	Core evaluative test	Illustrative corroborating evidence	Critical failure to investigate
Educational rationale	Is the award necessary, worthwhile and appropriately distinguished?	Needs analysis; research and professional context; graduate aims	Marketing assertions replacing educational justification
Qualification integrity	Do level, credits, duration and progression meet applicable criteria?	Authoritative register; RQF mapping; programme specification	Contradictory credit or award records
Curriculum coherence	Is essential knowledge developed in a credible sequence?	Outcome map; module content; prerequisites; assessment map	Content gaps and unsupported graduate claims
Assessment integrity	Can performance evidence warrant the award-level inference?	Tasks, scripts, criteria, moderation, academic-integrity controls	Recall-only assessment of advanced competence
Staffing and supervision	Are suitably qualified personnel truly allocated and available?	Contracts, qualifications, workload, contingency	Named but unavailable lecturers or supervisors
Learning environment	Are required facilities, resources and support usable by the proposed cohort?	Access tests; laboratory inspection; licences; learner journey	Purchased but nonfunctional or inaccessible services
Sustainability	Can students reasonably complete the advertised award?	Multi-year budgets; dependency analysis; continuity and teach-out provisions	Fragile provision with no funded contingency

Note. Original synthesis for professional use. This matrix supplements but does not replace the official criteria applicable to any real evaluation.

Postgraduate provision introduces criteria that should not be inferred from undergraduate templates. HEC's *Postgraduate Degree Framework*, dated July 2026 and publicly listed among its October 2026 guideline uploads, provides a contemporary official reference for postgraduate admission, pathways, supervision, research, examination and institutional responsibility (HEC, 2026b). A reviewer should establish which provisions apply to the degree and cohort under examination, verify the institution's approved rules and examine the relationship among available supervisors, their subject expertise, candidate workload, research ethics, research facilities, milestones and independent examination. The framework's publication does not establish that a particular university has already implemented its provisions, and it

should not be presented as retroactively applicable without considering commencement, transitional arrangements and competent clarification. For doctoral awards especially, possession of a thesis-writing guide is insufficient evidence of an operating supervisory and examination system.

External review should also scrutinise programme information that students use to make long-term commitments. Admission advertisements, approved prospectuses, learning agreements and graduation rules should agree about awarding institution, tuition and mandatory fees, programme duration, scheduled attendance, language of instruction, supervised practical work, recognised learning pathways and material technological costs. Claims of professional recognition or international equivalence must be tied to the competent body and its specific decision, not inferred from the institution's accreditation status. In cross-border programmes, the panel should distinguish marketing partnerships, academic collaboration, franchise delivery, joint qualifications and separately approved awards, since they involve different responsibilities for teaching, assessment, student complaints and the legal identity of the final credential.

9.12 Reviewing online, blended, AI-supported, and practically intensive programmes

Digitally mediated programmes should be assessed against the same defensible academic purposes as other awards, together with delivery-specific risks and requirements. Rwanda's HEC distance-learning guidelines of March 2026 and its 2025 virtual-learning and AI guidance provide official starting points for evaluating digital provision in their published scope. The review should determine which delivery mode is approved, how meaningful engagement occurs, what students can access under real connectivity constraints, how assessments and identity safeguards operate, and how digital services remain available when systems fail. The internationally familiar terms *online*, *blended*, *distance* and *self-paced* are not substitutes for the operative national classification or a programme's actual participation obligations (HEC, 2025b, 2026a).

A live LMS inspection should test the academic journey, not merely the existence of a platform licence. Reviewers can request a restricted student role and follow a representative path: logging in, locating the approved module, accessing required material on realistic devices, understanding intended outcomes, participating in a learning activity, receiving feedback, submitting a task and locating academic or technical support. The panel should confirm course version, enrolment rules, assessment configuration, staff permissions, accessibility and incident escalation. A populated pilot module can illuminate quality but cannot automatically prove that every level of a multi-year degree is ready; a proportionate sampling strategy should cover critical pathways, the first delivery period and specialist risks. Evidence from administrative accounts alone may be misleading if ordinary students face different access permissions or device constraints.

AI-assisted educational activity complicates evidence in two directions. Institutions may use AI to prepare teaching resources, personalise practice, assist feedback, manage analytics or produce administrative reports; students may use it to support learning or generate submissions. Reviewers must ask whether the assessed construct remains identifiable and whether unaided or appropriately supervised individual performance can be established when that is what the award claims to certify. They should examine task-level AI rules, disclosure, staff capability, validation of automated outputs, fair alternatives, privacy and appeals. AI-detection percentages alone are not a reliable proof of academic misconduct, and automated grading should not escape meaningful human accountability simply because a software vendor calls it objective (HEC, 2025b; Kane, 2013; Miao & Holmes, 2023).

Review panels may themselves employ AI for preliminary document indexing or contradiction spotting, subject to lawful data processing and authorised tool use. Such assistance should not replace verification against originals, specialist academic interpretation or accountable human conclusions. A generated summary may omit a limiting clause; a language model may misstate an official provision or invent a citation; and an uploaded dossier may contain sensitive records whose disclosure to a third-party service is not permitted. For consequential reviews, the evaluator should preserve source citations and human-authored reasoning and disclose any material automated assistance under the agency's applicable policy. Reviewer efficiency has no value if it diminishes accuracy, confidentiality or the institution's ability to contest the finding.

Practically intensive programmes require a parallel scrutiny of physical competence and learner safety. Clinical, laboratory, engineering, fieldwork, teacher-education and placement-based courses may use simulation or remote instruction to support learning but cannot assume that every practical performance can be fully demonstrated through a virtual substitute. Reviewers should identify indispensable hands-on outcomes, approved supervision arrangements, facilities, safety protocols, logbooks and valid practical assessments. They should inspect partnership capacity for the planned cohort rather than accept a general cooperation letter as sufficient. Where a virtual simulator makes an educationally plausible contribution, its legitimate assessment scope should be described precisely, and requirements for real-world performance should be preserved where applicable.

The most difficult cases combine these dimensions. A blended healthcare qualification may have excellent online theory instruction and a meticulously configured platform but insufficient practice supervisors. An AI-supported professional programme may produce sophisticated learner projects without a defensible means of showing that graduates can make unaided safety-critical decisions. A distance degree may maintain strong academic standards for students with broadband while excluding others through mandatory high-bandwidth synchronous assessments. These are not reasons to reject innovation; they are reasons to

examine the entire programme-specific learning and evidence chain under the criteria that actually apply (HEC, 2026a; Miao & Holmes, 2023; Sangwa, 2026a).

The March 2026 HEC distance-learning guidelines make this requirement more concrete than an abstract digital-readiness discussion might suggest. Appendix I articulates an evaluation method concerned with infrastructure, materials, staff and student readiness, assessment, policies, governance and financial sustainability; Appendix II contains criterion-level assessment forms, including a four-point scale labelled 0 (*Never*), 1 (*Sometimes*), 2 (*Meets*) and 3 (*Always*) (HEC, 2026a, pp. 21–23). These are part of the published HEC instrument and are not interchangeable with the author-developed finding categories in Table 9.9. A reviewer using an official HEC form should complete its required scores and observations faithfully, while ETAJ can supply the additional provenance, claim-evidence linkage, inferential explanation and treatment of contradictory evidence needed to justify a consequential overall conclusion. The discussion of non-compensatory critical conditions in this chapter is a professional decision safeguard, not a statement that HEC has abolished its published scoring mechanism.

Table 9.8. Connecting HEC distance-learning assessment with ETAJ without replacing the official form

Review task	Published HEC assessment reference	Complementary ETAJ recording question
Evaluate learner-facing LMS	Appendix II: functionality, access and related indicators scored 0–3	Which user role and pathway were tested, and what contrary evidence exists?
Review digital course materials	Appendix I and relevant modality-specific indicators	Do sampled artefacts support outcome-level engagement for the actual cohort?
Evaluate readiness and human support	Staff/student readiness, policies and management domains	Do staffing and support allocations exist beyond policy and attendance lists?
Formulate consequential finding	HEC scoring, narrative observations and applicable official procedure	What authority, verified evidence and warrant justify the qualified conclusion?
Confirm improvement	Official follow-up requirements and authorised milestones	Which independently checked records demonstrate actual closure of the original risk?

Note. Author's comparative implementation aid based on HEC (2026a, Appendices I–II). The official rubric must be consulted directly for complete, current item wording, scoring and any mandated thresholds. ETAJ is an explanatory overlay, not an alternative regulatory scoring system.

9.13 From findings to proportionate recommendations, accreditation conditions, deferral, and non-approval

Evidence does not determine an accreditation outcome without a further act of judgement concerning consequence. A material deficiency may be established to a high degree of confidence while the lawful response still depends on programme lifecycle, student exposure, the seriousness and reversibility of the problem, the possibility of timely correction, and the decision categories authorised by the competent body. Conversely, uncertainty about

evidence may justify a request for clarification rather than a punitive inference that the programme has failed. The reviewer should distinguish the *finding*, which describes the warranted state of assurance, from the *recommendation*, which proposes what should happen, and the *decision*, which belongs to the authorised body. These separations preserve intellectual honesty and institutional due process (Republic of Rwanda, 2026; Sangwa, 2026a).

A proportionate response should attend to five considerations. The first is legal authority: does the regulator have the power to impose the proposed outcome or condition? The second is materiality: does the finding affect an essential qualification requirement, safe learning, reliable assessment, truthful student information or another fundamental standard? The third is evidence strength: is the defect observed and corroborated, or is its existence simply not yet demonstrated? The fourth is timing: can the matter be remedied before learner exposure, or are current students already at risk? The fifth is reversibility: would premature approval cause harm that later documentation cannot adequately undo? The proposed response must state these considerations in relation to the specific case rather than recite "proportionality" as a conclusion.

Recommendations for improvement are appropriate where the programme meets applicable minimum criteria but could strengthen an aspect of design or monitoring. A condition, where the relevant decision framework permits it, should be reserved for a clearly defined requirement whose completion can be verified by a stated deadline and whose status is compatible with the risk of proceeding. Deferral may be appropriate where essential information or activity remains incomplete and the operative procedure provides a route for further determination. Non-approval or refusal requires particular care: it should rest upon the applicable grounds, accurately described deficiencies and the authority's valid procedure, not simply on a panel's discomfort with an unfamiliar curriculum. The labels and procedural mechanisms available in any actual Rwanda case must be taken from current HEC instruments and the authorised decision body; the conceptual categories here do not purport to prescribe HEC outcomes.

Table 9.9. Proposed findings-to-response guide for professional reasoning

Evidentiary situation	Materiality and learner exposure	Potential response to consider, if authorised	Verification or safeguard
Standard demonstrably satisfied	No material unresolved defect	Favourable recommendation; enhancement advice if useful	Routine monitoring of implementation assumptions
Minor correctable discrepancy	Low risk; no essential standard in doubt	Targeted correction or time-bound noncritical condition	Revised controlled artefact and QA confirmation

Evidentiary situation	Materiality and learner exposure	Potential response to consider, if authorised	Verification or safeguard
Material readiness unproven	Essential delivery claim; students not yet exposed	Clarification, deferral or pre-launch evidence requirement	Independent test before recruitment or delivery as applicable
Critical deficiency verified	Immediate threat to safe, lawful or academically credible provision	Adverse recommendation or restriction available in law	Protect affected learners; confirm remedial readiness before use
Evidence materially contradictory	Confidence presently insufficient	Investigate, sample, hear institutional explanation	Resolve discrepancy and record amended inference

Note. Original decision-support guide, not a representation of Rwanda's exhaustive authorised outcome categories. "Condition" and "deferral" must not be assumed available in every procedure.

Conditions must be evidence-bearing instruments, not aspirational instructions. "Improve academic staffing" is too vague to enforce consistently. A properly drafted condition identifies the relevant criterion, verified gap, required action, documentary or operational evidence of completion, responsible office, due date, reviewing authority and consequence of non-fulfilment as established by law. A condition concerning a crucial facility should state whether completion is necessary before student enrolment, before the specific practical activity or by another formally permitted milestone. Conditions that require an institution to produce a policy it already possesses, without addressing observed implementation, merely recreate the documentary-compliance problem the review should correct.

Proportionality also restrains excessive regulation of legitimate academic difference. A reviewer may prefer traditional lectures, a familiar module name or a particular foreign textbook. Such preferences are not binding standards unless validly incorporated into the applicable framework. Where a programme uses an innovative pedagogical route that meets the educational purpose of the authorised requirement and supplies credible evidence of effectiveness, the panel should examine the evidence rather than demand imitation. Equally, claims of innovation cannot excuse absent safety provisions, weak individual assessment, insufficient supervision or an unapproved delivery modification. Impartiality requires scepticism both towards untested novelty and towards the assumption that conventional format implies quality.

A particularly dangerous decision error is *conditional approval without a credible control point*. A programme might be permitted to correct a typographical module code after a decision, but allowing practical classes to commence before a laboratory is safe would transfer a foreseeable risk to students. Conditional progression is defensible only if the applicable process authorises it and the condition specifies who can prevent the affected activity until verified completion. A reviewer should also consider whether remedial action depends on uncertain external procurement, recruitment or partner capacity. If the remedy is unlikely to be completed

within the available period, calling it a condition may conceal a substantive readiness failure. The proper regulatory response remains the competent authority's decision, not the evaluator's private risk tolerance.

9.14 Review reporting, procedural fairness, institutional responses, appeals, and accountability

A credible report makes its reasoning intelligible to three audiences: the institution that must understand and respond, the competent authority that must decide, and interested readers who need assurance that standards were applied fairly. It should identify the review's legal mandate, scope, methodology, panel composition, disclosed conflicts, official criteria, evidence reviewed, sampling limitations, factual clarifications, findings, counter-evidence, recommendations and any dissent material to the decision.

Concision is valuable, but not at the expense of reasons. A report that merely lists “criterion 4: partially met” does not allow an affected university to identify what to correct or why the evaluator considered its evidence insufficient.

Procedural fairness requires that institutions have reasonable notice of applicable criteria, access to a clear process, opportunities to correct factual errors and channels to contest material findings or decisions under the operative procedure. An institution's opportunity to respond should not be reduced to a ceremonial acknowledgment. If it produces credible, previously unavailable documentary evidence or demonstrates that a panel misread a module allocation, the reviewers should reconsider the affected finding and preserve the change trail. At the same time, review fairness does not require the panel to accept a late assertion without verifying it. The final report should distinguish factual corrections, additional evidence, disagreement over standards, disagreement over inference and challenges to the proposed consequence, since each may need a different remedy.

HEC publishes *Appeals and Complaints Procedures for the Higher Education Council Services*, dated December 2025, on its current guidelines page. The document establishes an official reference point for relevant complaint and appeal arrangements, but the chapter does not reproduce unverified deadlines or treat every appeal route as applicable to every accreditation action. A case-specific report should identify the operative appeal mechanism, competent recipient, permitted grounds and submission requirements from the authoritative version supplied to the institution. Ghana's GTEC accreditation materials offer a comparative starting point, but any detailed claim about panel-response deadlines or Board procedure must be traced to the corresponding authoritative Ghanaian instrument and must not be transferred to Rwanda (GTEC, n.d.; HEC, 2025a).

The distinction between panel expertise and decision authority should remain visible after deliberation. A panel ordinarily offers professional findings and recommendations within its commission. The authorised decision-making body determines the regulatory consequence, subject to applicable law and procedural rules. Where that body departs materially from a

panel recommendation, a reasoned record should explain the basis rather than erase the difference. Where the panel is commissioned by an institution for internal external-peer review rather than formal accreditation, the resulting report should be labelled accordingly. Universities must not present favourable peer advice, membership in a professional association or a publisher's endorsement as equivalent to national programme accreditation.

Transparency must be compatible with confidentiality. Publishing aggregate outcomes and sufficiently reasoned determinations can support accountability, but reports may include personal staff information, student assessment samples, medical or disciplinary material and commercially sensitive contract details. The institution and regulator should determine public and restricted versions in accordance with applicable law and official policy, with no fabrication of evidence or concealment of materially adverse conclusions. The records should preserve the factual chain necessary for an appeal without exposing more personal data than the process lawfully requires. A well-governed record therefore separates public findings, restricted evidentiary annexes and secure underlying source records.

The HEC *Appeals and Complaints Procedures for the Higher Education Council Services*, dated December 2025, expressly discusses accreditation appeals alongside other HEC services and distinguishes an appeal against a substantive decision from a complaint about service delivery (HEC, 2025a, sections 3–9). Importantly, the document's introduction refers to the former 2020 order, whereas the Council's contemporary mandate is governed by the 2026 presidential order. This chronological difference does not by itself prove that the procedure has ceased to operate. It does require the relevant officer to establish how the appeal procedure remains applicable under the current governance arrangements before presenting its procedural provisions as operative in a particular case. An institution should receive the decision, sufficiently specific reasons, information about the applicable review route and an unambiguous identification of the final authoritative record.

Reviewer accountability should extend beyond confidentiality and conflict declarations. Agencies and commissioning bodies need methods to detect systematic disagreement among panels, recurrent ambiguity in criteria, inappropriate reliance on institutional prestige or resources, and disproportionate demands for records. An internally quality-assured external process might audit a sample of adverse and favourable recommendations against their underlying evidence, record the causes of successful appeals and revise training when interpretive errors recur. Such examination does not make the agency infallible; it is an institutional expression of the same evidence-to-improvement principle that the regulator asks universities to demonstrate (Beerkens, 2018; Leiber et al., 2015).

9.15 Post-accreditation monitoring, verification, corrective action, and programme enhancement

Accreditation is a time-bounded public judgement embedded in an educational lifecycle, not a perpetual guarantee about future delivery. A favourable initial determination depends upon

assumptions concerning staffing, enrolment, funding, infrastructure, academic standards and student support that subsequent circumstances may confirm or defeat. Monitoring should return to those material assumptions rather than merely request the same annual dossier in an unchanged form. An institution planning an intake of forty students, for example, should investigate the consequences when actual enrolment becomes substantially higher, because workload, equipment access, feedback time and placement capacity may cease to match the approved proposal. A regulator's formal monitoring requirements, where applicable, determine the obligatory schedule and documentation (HEC, 2021a; Sangwa, 2026a).

Corrective action should not be closed when a responsible officer reports that something has been “addressed.” Closure evidence must match the nature of the original deficiency. A corrected module code may be verified through the controlled curriculum register and updated student information. An assessment-validity defect needs moderated replacement tasks and, when delivery has occurred, suitable samples of student performance. A lack of staff availability may require workload reconciliation and evidence that teaching was actually provided. A security or accessibility problem requires operational testing with relevant user roles rather than a general assurance letter from a vendor. Where students were affected, the institution should identify their academic position, explain any remedy or alternative and document fair treatment.

Monitoring should examine both the achievement of conditions and the emergence of new risks. Staff turnover, loss of a placement partner, discontinuation of essential software, an accreditation standard revision or an institutional merger may materially alter the capability originally examined. A change-control process should record what changed, which outcomes or cohorts are affected, whether official approval is required and which evidence demonstrates continuity or lawful transition. This is especially important in online programmes whose digital platforms and third-party services can change rapidly. A new system's usability and security cannot simply be inferred from the quality of the previous vendor's service.

The strongest post-accreditation system integrates external findings with internal quality assurance. Programme leaders own corrective actions, academic governance assesses curricular and award-level implications, specialist services supply operational capacity, institutional QA independently verifies completion, and the authorised external body receives required evidence and makes any reserved decision. Review should avoid duplicative demands where the institution's existing quality evidence can be inspected credibly. Yet efficiency should not eliminate independent challenge, particularly for critical matters. The outcome is a continuing evidence trail that connects a condition imposed at approval with its later verification and with observed consequences for learners.

Table 9.10. Proposed accreditation condition and verified-closure record

Closure field	Required content
Condition identifier	Shared N-ID, claim ID, finding ID and authorised decision reference

Closure field	Required content
Basis and risk	Applicable criterion; verified original deficiency; affected cohort and learning activity
Action and owner	Specific corrective step, approved authority, accountable officer and resourcing
Due point	Legal or formally authorised deadline; pre-enrolment or pre-use threshold where necessary
Closure evidence	Corrected document, operational test, academic artefact or appropriate longitudinal sample
Independent verification	Named evaluator; evidence reviewed; contradictions; date and conclusion
Decision and residual risk	Competent closure decision; ongoing monitoring; student-protection actions

Note. Original professional template. Its use does not confer independent authority on an institutional quality officer to close a regulator-imposed condition.

Post-accreditation accountability is best understood as a two-way responsibility. Universities should report material changes honestly and repair substantiated deficiencies, while the competent body should make the expected evidence, acceptance criteria, time limits and closure authority clear from the outset. Requiring an institution to repeat an entire accreditation dossier to prove that a single staff allocation has been corrected can impose avoidable administrative cost; accepting a new staffing policy without testing whether lecturers are now available creates the opposite problem. Risk-sensitive verification should ask for the least burdensome evidence that is nevertheless sufficient to close the original finding and protect current learners. Where improvement is incomplete, reports should disclose residual risk rather than label administrative activity as successful enhancement.

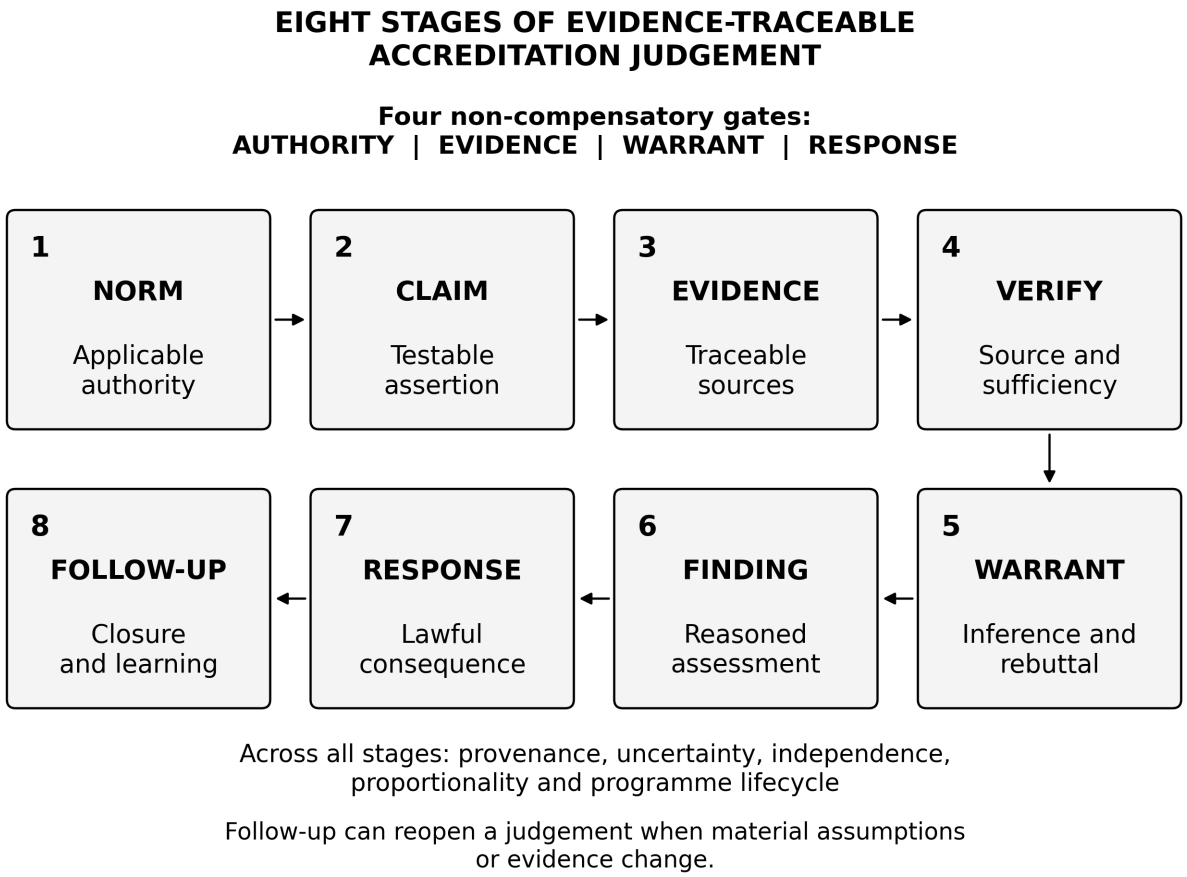
9.16 The Evidence-Traceable Accreditation Judgement model and its operational application

ETAJ consolidates the chapter's argument into an operational model for making accreditation reasoning inspectable. It is the accreditation-judgement component of the broader Integrated Evidence-Traceable Quality Governance (IETQG) framework advanced in the author's doctoral thesis. IETQG connects institutional capability, programme assurance, regulatory judgement, monitoring and enhancement; ETAJ specifies the narrower chain through which an evaluator moves from an applicable rule to a reviewable decision and follow-up. The distinction matters because external review cannot manufacture educational capability and an institution's strong quality-management system cannot authorise its own regulatory verdict. The model seeks coherence between the two forms of responsibility without collapsing them (Sangwa, 2026a).

The model contains eight linked stages. First, *normative authority* establishes the current and applicable criterion. Second, *institutional claim* specifies exactly what the programme asserts. Third, *evidence* records the material offered for that proposition. Fourth, *verification* tests the

material's provenance, quality, correspondence and contradictions. Fifth, *evaluative warrant* states the professional inference and its backing, qualifiers and rebuttals. Sixth, *finding* records what the evidence establishes, demonstrates inadequately or contradicts. Seventh, *regulatory response* connects materiality and confidence to an authorised and proportionate consequence. Eighth, *follow-up* specifies how important assumptions, conditions and outcomes will be checked after the decision. These stages may be revisited during analysis, but the final record must permit reconstruction of the completed chain.

Figure 9.2. Evidence-Traceable Accreditation Judgement: Eight-stage decision architecture



Note. Original operational redrawing by the author of the ETAJ architecture advanced in Sangwa (2026a). The diagram expresses a proposed evaluative process, not a government-approved accreditation procedure or an empirically validated causal model.

Four evaluative gates protect the chain. The *authority gate* checks whether the proposed binding requirement is operative and applicable. The *evidence gate* checks whether the evidence is authentic, relevant and sufficient for the specified claim and lifecycle. The *warrant gate* checks whether a legitimate inference survives meaningful counter-evidence and appropriately states uncertainty. The *response gate* checks legal competence, materiality, proportionality, timing and learner protection. The gates are neither additive scores nor

substitutable strengths. A strong evidence bundle cannot cure lack of legal power, and an authorised response cannot cure an indefensible interpretation. Critical requirements concerning safety, legal status, essential educational achievement and learner protection should not be averaged against unrelated strengths.

Table 9.11. Operational ETAJ reviewer worksheet

Field	Prompt to be answered in the evaluator's own words
Review identity	Programme, qualification, site, mode, cohort, review stage, panel and date
N-ID / authority	What exact current criterion applies, and why?
C-ID / claim	What precise assertion is being tested and at what level?
E-ID / evidence	Which traceable records and representative samples bear on it?
V-ID / verification	How were source, version, implementation and contradictions checked?
W-ID / warrant	Why does this evidence support or fail to support the claim? What backs the inference?
Q-ID / qualification	What uncertainty, alternative explanation or counter-evidence remains?
F-ID / finding	Met, qualified, not demonstrated, deficiency, or not applicable, with reasons
R-ID / response	What proportionate action is available to the competent authority?
M-ID / monitoring	Who will verify closure, against what evidence and by what authorised milestone?

Note. Original author-developed instrument, not an HEC assessment form. Identifier prefixes are illustrative and should be reconciled with official case-management systems.

The model's practical value can be illustrated through four linked hypothetical observations involving a proposed Bachelor of Marketing and Digital Commerce at a fictional Rwandan university. These examples are not statements about any actual programme, reviewer, university or HEC decision. The invented review dossier claims a coherent 480-credit curriculum, an operational blended delivery mode, adequate academic staffing and valid programme-level assessment. The evaluator should not treat that combination of claims as an integrated truth before checking each component. Nor should the panel assume that one failure automatically defeats every other claim. The review proceeds criterion by criterion, connecting related risks while recording their different evidentiary status.

Worked illustration A: Conflicting curriculum records. The proposed programme and specification forms both identify a 480-credit award, yet the annual timetable allocates the award differently from the approved course register; the same code is assigned to two distinct modules and several module descriptions identify years or trimesters inconsistent with the master sequence. The claim is that the academic programme has a consistent, qualification-aligned structure. The evidence demonstrates that documents exist, but the discrepancy prevents the reviewer from reconstructing one unambiguous controlled curriculum. The warrant is that qualification integrity and student progression depend upon identifying a

definite award structure whose modules, credits, assessments and progression rules agree. The finding is a *demonstrated documentation and design-control deficiency*, with the materiality determined by whether reconciliation changes the qualification totals, award-level demand or student study pathway. A proportionate recommendation is a signed, version-controlled master register, fully reconciled with specifications and module descriptions, followed by academic reapproval where applicable and regulator notification where required. A reviewer must not independently invent the corrected credit distribution or claim that the fictional award violates a particular annual credit rule without checking the operative RQF provision.

Worked illustration B: The incomplete LMS. The institution produces an active platform subscription, a digital-learning policy, screenshots and a staff-training attendance list. During a supervised demonstration, the panel cannot locate learner-facing modules for the coming teaching period; a test student cannot view the required assessment instructions or submit work. The assertion of operational blended readiness is therefore not demonstrated and aspects of configured functionality are directly observed to be absent. The appropriate warrant distinguishes procurement from delivery: a licence and staff orientation do not demonstrate that students can undertake the promised learning journey. The panel should request course configuration, accessibility checks, representative student-role tests, support arrangements and a verified academic sign-off before the relevant launch threshold. The actual regulatory consequence depends upon the approved modality, HEC requirements, timing and the competent authority; the observation alone does not authorise a reviewer to cancel institutional accreditation.

Worked illustration C: Staffing fragility. Three qualified academics are named for the programme, but two appear on conflicting schedules for other degrees and the institutional submission contains no approved teaching-load reconciliation. Their qualifications are documented and should not be disputed. Their programme-specific availability, however, is insufficiently established, and the overlapping assignments may support a stronger adverse finding if verified against binding workloads. The panel should seek current contracts, module allocations, timetables, expected marking burden and contingency support. If evidence reveals that all planned courses can in fact be staffed, the initial concern should be closed and the reasons recorded. If no viable arrangements exist for core modules, the review should identify a material readiness deficiency and consider the authorised response appropriate to the risk of admitting a cohort without instruction.

Worked illustration D: Assessment promises without corresponding tasks. The graduate profile promises original market research, critical interpretation of evidence and defensible strategic recommendations. Yet the supplied final-year assessment specifications consist almost entirely of short recall questions, with no authentic research task, assessed project or performance evidence that would justify the advanced claims. The contradiction lies in constructive alignment, not merely the number of assessment documents. A reviewer should examine the full assessment map, ask whether additional capstones or practice tasks exist, and

consider moderation arrangements and staff competence. If the record is complete, the finding may be a verified assessment-design deficiency; if a substantial capstone brief is omitted and subsequently verified, the conclusion should be revised. A proportionate remedy is to redesign and formally approve relevant tasks and criteria before students are assessed under the defective arrangement, subject to the valid decision route.

The cases demonstrate why an accreditation report needs both issue-specific conclusions and an integrated judgement. Curriculum contradiction, unconfigured online delivery, uncertain staffing and assessment misalignment interact, but they cannot be resolved by awarding compensatory points for institutional ambition. The controlling question is whether the combined, verified evidence supports the programme's claim to an academically and legally credible first intake, and if not, which precisely evidenced barriers require correction before different aspects of delivery can proceed. An ETAJ report should separate unresolved questions from demonstrated breaches, retain the institution's response and specify what information would justify a revised determination.

The hypothetical observations should now be integrated into a decision narrative without pretending that a particular HEC decision is predetermined. The conflict in the programme register is a demonstrated document-control weakness; the LMS trial supplies direct evidence of missing student-facing functionality; the staffing situation remains partly unresolved until allocations are checked; and the assessment mapping may demonstrate a design defect if the dossier truly contains no valid advanced tasks. A competent panel should describe each separately and then ask whether, together, the unresolved issues make commencement of the promised learning academically untenable. The distinction matters because a combined risk can be material even when one isolated discrepancy would have been easily corrected. The recommendation should identify a sequence of verifications, including curriculum reconciliation, configured learner-path testing, workload confirmation and approved assessment redesign, that could make a revised determination possible.

For an institution seeking to use ETAJ within an existing management information system, the smallest operational unit is not a completed form but a traceable *claim record*. It contains a normative source ID, programme claim, linked evidence with version and custodian, a verification account, the reviewer's warrant, counter-evidence and qualifier, the classified finding, any institutional response and the final competent decision. A dashboard can summarise outstanding risks, but it should never hide the underlying distinction between a source not submitted, a source disputed and a directly observed failure. Role-based access, retention limits, edit history and an independent approval record are necessary wherever the evidence contains private records or the decision has consequential legal effects. This record architecture may be implemented with ordinary securely governed files and a controlled register; adoption of costly specialist software is not a precondition for defensible reasoning.

External Programme Evaluation and Accreditation Toolkit: Integrated operating protocol

The complementary tools developed in this chapter are operationally linked through one evidence register and common identifiers. The authority register in Table 9.2 establishes the requirement and its applicability; Table 9.3 sets evidence-quality tests; Table 9.4 supplies the version-controlled evidence register; Table 9.5 shows claim-evidence-warrant reasoning; Table 9.6 supplies a pre-review calibration exercise; Table 9.9 classifies findings and candidate responses; and Table 9.11 is the evaluator worksheet. For actual use, a case manager should assign one immutable case identifier and a separate identifier for every norm, claim, evidence item, finding, response and closure record. An item may support multiple claims, but each link must be explicit. Records should preserve both the initial and corrected document versions, reasons for revisions, restricted access permissions and a chronology of decisions.

Table 9.12. Model external programme review report and case-management template

Report section	Minimum professional content
1. Mandate and scope	Authorising instrument, review purpose, programme and delivery description, panel remit
2. Sources and method	Current normative register; evidence catalogue; sampling; meetings; system and site tests; limitations
3. Programme account	Award purpose, qualification level, curriculum, cohorts, locations, delivery and professional conditions
4. Criterion findings	N-ID, C-ID, E-ID, verification, warrant, qualifiers, rebuttals and finding category
5. Cross-cutting risks	Interactions across staffing, assessment, resources, access, safety, technology and sustainability
6. Institutional response	Factual corrections, additional verified evidence, contested interpretation and panel reconsideration
7. Recommendation	Reasoned, proportionate response within authority, including any pre-use safeguards
8. Decision record	Competent decision-maker, decision date, legal effect, notice and available review channels
9. Follow-up	Condition and deadline, responsible officer, verification evidence, closure authority and monitoring

Note. Original reporting template. The fields supplement, rather than replace, the official report form required by the competent agency.

A workable procedure starts with an intake check of the review brief, the institution's authority and the intended award. The secretariat then freezes an identifiable version of the submitted dossier, assigns reviewers subject to conflict declarations and completes the normative-provenance register. Reviewers independently analyse the programme claims and evidence, conduct proportionate demonstrations or inspections, and record initial findings. A

structured panel meeting tests the warrants against counter-evidence and distinguishes unresolved factual matters from substantive deficiencies. The institution is given the opportunity required by applicable procedure to correct facts and submit responses. The panel then finalises a report with evidence-linked recommendations for the competent decision body. After the decision, any lawful conditions are entered into a closure register, where verification is completed independently to the degree required by the risk and official procedure.

A final quality test should be applied to every high-stakes finding. Can the reader identify an operative requirement? Is the programme claim specific? Could the cited evidence be retrieved and checked? Does the warrant explain the inference rather than repeat the conclusion? Has plausible contrary evidence been considered? Is uncertainty accurately expressed? Does the requested consequence follow from the authority and seriousness of the issue? Is there a fair route for factual correction or challenge? Is the proposed condition capable of being verified at a realistic, authorised milestone? A reviewer who cannot answer these questions should refine the finding before relying on it in an adverse recommendation.

ETAJ has important boundaries. It has not been empirically shown to increase inter-rater agreement, reduce mistaken decisions or improve student outcomes. It may impose additional recording burdens if institutions and agencies implement every field as a separate bureaucratic form rather than integrate the logic into existing systems. It cannot resolve contested professional standards simply by displaying the argument in a table, nor can it confer cross-border authority or eliminate reviewer bias. Future research should compare conventional and ETAJ-assisted panels using the same ethically accessible, anonymised cases; assess agreement and reasons for disagreement; measure usability, time and record completeness; and examine whether condition-closure verification actually improves the accuracy of subsequent judgements. Such tests should be prospectively documented, not reconstructed as though already completed (Beerkens, 2018; Sangwa, 2026a).

Conclusion: Defensible judgement and the responsibilities that follow accreditation

External programme review is credible only when public authority, academic knowledge and evidence are brought into disciplined relationship. An institution has a legitimate responsibility to design a worthwhile qualification and to demonstrate that the programme can be delivered as promised. An evaluator has a corresponding duty to identify the criteria actually applicable, inspect evidence at the proper level and stage, distinguish unknowns from demonstrated failures, and show the reasoning by which findings have been reached. A competent authority must then determine any consequence through the powers and procedures that govern it. None of these duties can be replaced by a thick dossier, an attractive dashboard, a single overall score or the status of a distinguished reviewer.

The chapter has translated the thesis's Evidence-Traceable Accreditation Judgement model into a practical, auditable reasoning architecture, supported by normative provenance, evidence appraisal, claim-evidence-warrant analysis, reviewer calibration, findings classification, reporting and condition verification. Its eight stages and four gates make different sources of decision weakness visible. They also establish that academic expertise is most valuable when it is expressed through transparent, contestable warrants rather than through unexplained authority. The proposed toolkit is deliberately adaptable: it can clarify the judgement process without pretending to replace official HEC instruments, discipline-specific standards, university autonomy or legally established appeal arrangements.

Accreditation should therefore be regarded as a consequential but provisional judgement about educational quality under identifiable conditions. Once programmes enrol students, the originally assumed resources, partnerships, technologies and academic practices must endure, adapt and remain open to verification. That recognition connects this discussion to the next challenge in the volume. Pandemics, conflict, environmental hazards, cyber incidents, vendor failure and financial stress can invalidate apparently sound initial assumptions. Institutional resilience is consequently not an unrelated topic added after accreditation; it is one of the conditions that determine whether an authorised educational promise remains credible over time.

The methodological status of the chapter's proposals deserves a final boundary. Their practical plausibility is supported by established argumentation theory, source-sensitive regulatory reasoning, comparative standards and the author's earlier conceptual integration, but neither the diagram nor the completed forms demonstrate causality. An empirical research programme could test whether experienced review panels using ETAJ produce more complete warrants, detect more evidence contradictions or reach decisions that are more understandable on appeal, while also measuring additional time and cost. Such work would require case selection, explicit comparison conditions, anonymisation, appropriate ethical review where human participants are involved and prospectively recorded evaluation protocols. Until then the model remains a transparent professional proposition rather than a demonstrated improvement in accreditation accuracy.

CHAPTER 10

Higher Education Resilience Under Pandemics, Conflict, Environmental Change, and Systemic Disruption

Academic Continuity, Risk Governance, Institutional Independence, and Educational Sustainability

Abstract

Institutional resilience has become inseparable from higher-education quality because a programme's academic promises remain consequential when campuses close, personnel are displaced, public-health measures change, electricity fails, information systems are compromised or financial conditions deteriorate. Nevertheless, continuity is not equivalent to educational effectiveness, and a rapid technological substitute cannot automatically certify the same learning. This chapter develops a Rwanda-anchored, critically evidence-based account of resilience across pandemics, armed conflict, climate hazards, environmental intervention, digital concentration, cyber incidents, fiscal shocks and discipline-specific disruption. It synthesises selected scholarly and authoritative documentary sources through the complementary perspectives of organisational resilience, critical realism, socio-technical systems, disaster-risk reduction and evidence-traceable evaluation. Particular scrutiny is given to weather modification and solar radiation modification, separating demonstrated bounded techniques, modelled possibilities, regulatory instruments, scientific uncertainty and unsupported attribution. The chapter extends Integrated Evidence-Traceable Quality Governance (IETQG) by specifying resilience-related institutional and programme capabilities, and connects continuity judgements to the Evidence-Traceable Accreditation Judgement (ETAJ) model. A practical toolkit supplies a disruption-risk register, scenario matrix, educational criticality assessment, continuity-plan structure, platform-dependency audit, recovery dashboard and post-disruption academic review. An extended hypothetical university scenario illustrates academically defensible adaptations and non-negotiable learner safeguards. These proposed instruments are neither prescribed by Rwanda's Higher Education Council nor independently validated. The principal conclusion is that resilience is demonstrable only when universities can preserve legitimate educational obligations, disclose unavoidable loss, restore interrupted learning and substantiate recovery through reviewable evidence.

Keywords: higher education resilience; academic continuity; disaster-risk governance; institutional sustainability; environmental intervention; cybersecurity; evidence-traceable quality assurance

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10.1 Introduction: Institutional resilience as a quality-assurance concern

An accredited academic programme can become educationally fragile overnight. A campus may be safe on Monday and inaccessible following flooding on Tuesday; the institution's learning platform may operate normally until a malicious intrusion makes student records unavailable; or an international academic partnership may become unusable because of border restrictions, armed conflict or a sudden contractual decision. These events do not automatically invalidate the intellectual merit of a curriculum. They do, however, reveal whether the institution can continue to discharge its educational responsibilities when the arrangements on which it depends are disrupted. A university's claim to quality therefore entails more than proving that its programme works under favourable conditions. It also entails a reasoned account of how academic standards and learner protection can be maintained, adapted or responsibly recovered when those conditions fail.

The preceding examination of external programme review established that accreditation requires identifiable authority, credible evidence, justified inference and proportionate judgement rather than a favourable administrative checklist. Resilience adds a temporal dimension to that proposition. A panel may verify the intended staffing, timetable, library resources and assessment arrangements for an incoming cohort, yet still overlook a single electricity feeder, a financially precarious host hospital, an untested cloud backup or a teaching workforce that cannot be replaced during illness. These vulnerabilities do not justify automatic rejection of every exposed programme. They justify asking whether foreseeable failures have been analysed, essential educational functions prioritised, alternatives rehearsed and responsibilities allocated. Resilience makes the evidentiary test more demanding without transforming accreditation into speculative catastrophe prediction (ISO, 2019; Sangwa, 2026a).

The central argument of this chapter is that *resilience is a quality condition, not a public-relations attribute*. It denotes an institution's credible and accountable capacity to anticipate material disruption, protect people and academic obligations during an event, adapt operations without silently diminishing qualification standards, and learn from recovery. Institutions cannot prevent every pandemic, geopolitical shock or extreme weather event. They can nevertheless influence exposure, dependence, preparation, academic flexibility, information security, emergency communication and the fairness of their responses. An institution that maintains enrolment figures while abandoning supervision or essential laboratory competency has preserved administrative activity rather than the quality of its educational provision. Equally, an institution that temporarily suspends an unsafe activity, informs students, secures alternative supervised access and verifies deferred competence may demonstrate responsible resilience despite a delayed timetable.

Rwanda provides the principal regulatory context, including the Ministry in Charge of Emergency Management's national disaster-risk policy and the Higher Education Council's

(HEC) internal quality-assurance guidance, its March 2026 distance-learning guidance and the governing Presidential Order No. 044/01 of 24 July 2026. National obligations are distinguished from the non-binding or context-dependent perspectives offered by the Sendai Framework for Disaster Risk Reduction, ISO 22301, the United States National Institute of Standards and Technology (NIST), World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP). A regulatory mandate concerning programme quality does not, by itself, impose every continuity procedure advocated in this chapter. Any finding of non-compliance must be attached to the presently applicable provision, its scope and the authority competent to enforce it (HEC, 2021a, 2026a; MINEMA, 2023; Republic of Rwanda, 2026).

The method is a purposive critical documentary and conceptual synthesis of the author's doctoral thesis and preceding chapters, selected peer-reviewed scholarship, official Rwandan instruments, and international scientific, humanitarian and technical publications publicly identifiable by October 2026. Sources were selected for normative authority, conceptual explanatory relevance, relevance to plausible university disruptions and their ability to test disputed claims. This is not a prospectively registered systematic review. No reproducible PRISMA screening totals, institutional interviews, original hazard observations, confidential incident records or measured programme outcomes are asserted. The chapter distinguishes a verified document's content from actual local implementation; its scenarios are expressly hypothetical, and its instruments are proposals requiring local adaptation and evaluation.

The discussion proceeds from conceptual foundations to individual and compound hazards, then to the practical governance arrangements capable of protecting academic continuity. Two potentially misunderstood subjects, environmental modification and solar radiation modification, receive particular attention because they require rigorous separation of scientific mechanism, demonstrated intervention, governance uncertainty and allegations of deliberate weather harm. The concluding integration extends the volume's Integrated Evidence-Traceable Quality Governance (IETQG) framework and Evidence-Traceable Accreditation Judgement (ETAJ) model to the question of educational quality over time. It also prepares the subsequent discussion of mission-specific responsibilities within Christian higher education, where a distinctive institutional purpose intensifies rather than removes the duties of stewardship, truthful communication and learner care.

10.2 Risk, uncertainty, vulnerability, organisational resilience, and educational continuity

Risk refers to the possibility that uncertain events or conditions will affect valued objectives. In higher education, the relevant objectives include personal safety, lawful provision, meaningful participation, academic integrity, valid assessment, research stewardship, reliable records and financial capacity to fulfil obligations already made to students. A hazard such as severe rainfall or ransomware does not produce identical consequences across institutions. Loss depends on the interaction of exposure, vulnerability, critical dependencies, available

alternatives and response capability. A campus situated outside a flood-prone area can nevertheless lose access when bridges serving commuters fail; a university with multiple computer servers can still be unable to operate if its sole identity provider is inaccessible. Risk assessment must therefore examine causal pathways, not merely compile an inventory of feared events (ISO, 2019; UNDRR, 2015).

Uncertainty differs from measurable probability. Universities may estimate the frequency of ordinary outages from maintenance logs, while the probability of a major regional conflict escalation or the consequences of a novel pathogen may be too uncertain for meaningful numeric forecasts. Assigning precise likelihood percentages to poorly understood scenarios can create false confidence. A disciplined assessment records evidence quality, credible ranges, plausible alternative futures and the consequences of error. Where consequences are potentially severe but probability estimates are weak, precaution may be justified without claiming to know when or whether a specific event will occur. The appropriate decision is not always the one favoured by a numerical risk score; it may be the one that protects an essential academic obligation under several plausible scenarios.

Organisational resilience has been theorised as an ability to anticipate, cope and adapt, rather than merely return to a former state. Duchek's (2020) capability-based conception identifies anticipation, coping and adaptation as analytically related but distinguishable capacities. A related ecological tradition distinguishes the ability to absorb disturbance from transformations that become necessary when former arrangements are no longer viable (Holling, 1973). These ideas are useful for universities, but ecological resilience cannot simply be imported as an exact institutional metric. A university's identity, legal obligations, academic standards and individual learners' rights cannot all be reduced to the persistence of an organisational system. Resilience must be evaluated against *what* persists, *for whom*, *at what cost* and *under whose authority*.

Continuity describes the preservation or timely restoration of identified functions at an acceptable minimum level. It is narrower than resilience and may be necessary without being sufficient. A university could keep its payroll and website running while losing safe laboratories and postgraduate supervision. Conversely, a temporary interruption may protect human life and make later academic recovery possible. It is therefore essential to distinguish **safety continuity**, **administrative continuity**, **educational continuity**, **research continuity**, **credential continuity** and **institutional viability**. Their thresholds, responsible officers and restoration sequences may differ. Educational continuity is not a promise that all teaching must proceed regardless of circumstances; it is a governed commitment to preserve credible learning opportunities and prevent avoidable permanent loss of required competence.

Critical realism sharpens the distinction between preparedness as representation and resilience as enacted capacity. A contingency document is an observable artefact; an actual staff response, successful restoration and fair assessment adjustment are events; the personnel, delegated authority, resource redundancy and institutional habits generating these events are

deeper conditions. A successful rehearsal provides stronger evidence than an untested plan but does not guarantee equivalent performance in an unfamiliar emergency. Similarly, a prior failure may reveal an institutional weakness without proving that no subsequent learning has occurred. Evaluation should therefore seek connected evidence of design, testing, implementation, result and correction while recognising uncertainty about future shocks (Duchek, 2020; Sangwa, 2026a).

Universities face *compound and cascading risks*. Flooding can interrupt power and internet access, delay supply deliveries, displace students, reduce fee payment, damage laboratory samples and overwhelm administrative helpdesks. A cyberattack during examination week can simultaneously disrupt assessment, identity verification, financial processing and safeguarding reports. Risks should be mapped through critical services and shared points of failure. This exposes why distributing three systems across one cloud-provider account may be less resilient than it appears, and why a small faculty's reliance on one specialist lecturer can place an entire qualification pathway at risk.

Table 10.1. Distinguishing resilience concepts by evaluative object

Concept	Central question	Appropriate evidence	Interpretation to avoid
Hazard and exposure	What could affect which people, places or systems?	Authoritative hazard data; asset and dependency maps	Assuming a regional hazard has identical local consequences
Vulnerability	Why might the exposed programme suffer material loss?	Accessibility, staffing, finance and infrastructure diagnostics	Treating low resources as proof of inevitable failure
Preparedness	Are credible response arrangements ready?	Approved plans; named roles; training; tested alternatives	Treating a policy document as proof of capability
Continuity	Which essential function can be maintained and for how long?	Service restoration records; academic alternative plans	Equating platform uptime with learning
Recovery	Has interrupted legitimate provision been restored?	Verified competence; reconciled records; student remedies	Using reopening dates as proof of full recovery
Adaptation	Has the institution reduced future fragility?	Revised controls; repeat tests; reviewed outcomes	Counting initiatives without testing effectiveness

Note. Original analytical synthesis informed by Duchek (2020), UNDRR (2015), ISO (2019) and Sangwa (2026a). The categories are proposed evaluative distinctions, not standardised HEC performance scores.

The United Nations Office for Disaster Risk Reduction (UNDRR) Sendai Framework identifies understanding disaster risk, strengthening risk governance, investing in risk reduction, and enhancing preparedness and recovery as four complementary priorities (UNDRR, 2015). Applied to universities, these priorities suggest a movement from hazard awareness to explicit governance and financed protective capability. Importantly, they should not encourage an

impossible institutional ambition to eliminate uncertainty. Robust resilience governance accepts that knowledge remains partial, that threats can interact, and that some academic functions should be stopped rather than continued unsafely. What matters is whether the institution can give credible reasons for the thresholds and trade-offs it selects.

An important governance distinction is between robustness and adaptive capacity. Robustness concerns protection against a recognisable disruption, such as an appropriately located backup power supply; adaptive capacity concerns an institution's ability to recognise that the initial plan no longer fits the situation and to make a justified change. Both can fail for different reasons. A university may possess redundant technology while lacking academic authority to authorise an alternative examination, or employ flexible leaders while possessing no independently recoverable student records. For this reason, a resilience audit should trace an educational obligation through its physical, human, financial, informational and decision-making dependencies. The absence of any one indispensable component may defeat an otherwise strong continuity plan. This is a socio-technical conclusion, not a claim that the components operate through identical causal mechanisms (Duchek, 2020; Swanson et al., 2010).

Responsibility for resilience is also distributed unevenly. An institution can outsource network hosting, security monitoring, printing, student accommodation or clinical placements, but it cannot outsource its ultimate academic duty to award only defensible qualifications. Conversely, it cannot guarantee the conduct of every national utility or partner. Sound risk governance therefore distinguishes what an institution directly controls, what it can influence contractually or cooperatively, and what it must prepare to absorb through contingency. Governance maturity is demonstrated by the quality of those boundaries and the arrangements for testing them, not by an assertion that all risks are within managerial control.

10.3 Lessons from COVID-19 and emergency remote teaching

COVID-19 revealed that universities were simultaneously dependent on physical proximity, unequal student access to technology, and institutional capacities that had often been developed for ordinary circumstances.

Closing a campus did not simply relocate lectures. It disrupted laboratories, placements, archives, field sites, residence arrangements, personal wellbeing, cross-border movement and the social conditions under which students could study. The practical capacity to substitute a virtual classroom differed across disciplines and learners. Hodges et al. (2020) consequently distinguished *emergency remote teaching* from intentionally designed online education: the former prioritises temporary access during crisis, while the latter depends on deliberate instructional design, interaction, resources, support and assessment arrangements.

The distinction has enduring implications for quality assurance. Institutions should not interpret a large number of emergency platform logins as evidence that learning outcomes were achieved, nor should evaluators condemn every emergency measure for failing to

resemble an established online programme. Under an acute crisis, preserving communication and a safe route to limited academic progress may be a defensible initial objective. Over time, however, provisional arrangements require examination, redesign and, where necessary, formal authorisation. The period of tolerated exception should be bounded, explained to students and documented with respect to the outcomes, contact hours, supervised activities or assessments it changes (HEC, 2026a; Hodges et al., 2020).

The pandemic also exposed differences between apparent and effective access. Students may have remained enrolled without affordable bandwidth, suitable devices, quiet study locations, accessible materials or dependable electricity. Lecturers may have been capable disciplinary experts without preparation in asynchronous explanation, online feedback or remote supervision. Digital technologies sometimes preserved valuable learning, but they also distributed costs to households and widened the effects of pre-existing inequalities. UNESCO's 2023 Global Education Monitoring Report cautions against the assumption that technology's educational benefits are self-evident or evenly established by high-quality evaluation. A resilience policy that merely mandates immediate online migration may therefore impose new exclusions while presenting itself as an equitable solution (UNESCO, 2023a).

Assessment adaptation proved especially difficult. Remote invigilation can create privacy and connectivity burdens; unsupervised written examinations may not reveal individual competence when collaboration and generative technologies are poorly governed; and altered pass thresholds can conceal reduced academic demand. Yet controlled take-home problems, oral defences, open-book analysis and properly moderated portfolios may be legitimate when the assessment construct and conditions are understood. The key is to document what a particular task demonstrates, how identity and authorship are reasonably established, which aspects of prior assessment have changed, and whether the results remain defensible for progression or award. Emergency flexibility must operate through academic judgement rather than unofficial individual concessions.

Continuity also requires a student-lifecycle perspective. An emergency may affect final-year students awaiting professional registration differently from new entrants lacking orientation, part-time students undertaking employment, research candidates dependent on specialist equipment or international students whose visas and accommodation are disrupted. Uniform calendar adjustments therefore risk unequal harm. Institutions should identify affected cohorts and critical milestones, notify students of revised rights and obligations, provide accessible channels for appeal or deferral, and preserve reliable histories of exceptions. A timetable amendment may be simple administratively yet life-changing financially for a learner who cannot extend accommodation or employment leave.

The most important post-pandemic lesson is not that all universities should become entirely online. It is that *multiple educational delivery capabilities* can reduce vulnerability when academically appropriate, but only when accompanied by tested student access, staff

competence, independent assessment, discipline-specific alternatives, data governance and sustained quality monitoring. Institutions should preserve the capacity to use low-bandwidth text, downloadable resources, telephone support, carefully scheduled tutorials, secure offline records and learning sites beyond the main campus where appropriate. Resilience can be strengthened by modest interoperable systems more effectively than by an expensive but fragile commitment to one high-bandwidth delivery model (HEC, 2026a; UNESCO, 2023a).

A closer reading of the global response also cautions against treating emergency digitisation as evidence of sustainable technological transformation. Adedoyin and Soykan (2023) describe both opportunities and limitations associated with the pandemic-driven turn to online learning, including access constraints and differences between emergency provision and intentionally designed programmes. Their analysis supports further study of the conditions under which blended arrangements endure; it does not establish that all universities achieved comparable outcomes or that one delivery mode is appropriate for every discipline. For institutional planning, the retrospective lesson should become a programme-level diagnostic: which emergency adaptations were educationally defensible, which produced missing evidence of learning, and which temporary concessions were allowed to persist without deliberate academic review?

10.4 Future pandemics, public-health emergencies, institutional preparedness, and flexible learning

The next health emergency need not resemble COVID-19. It could spread differently, pose greater or lesser risks to particular groups, require geographically differentiated measures, or coincide with other disruptions. Universities should avoid designing plans around a precise recurrence of the last crisis. Instead, they should develop adaptable arrangements for surveillance of authoritative health advice, safe campus operation, temporary absence, remote access, essential in-person training, workforce continuity and staged return. The World Health Organization's International Health Regulations (2005), as amended in 2014, 2022 and 2024, with the 2024 changes entering into force in September 2025 for the States Parties to which those amendments apply, provide an international legal and public-health coordination framework. They do not make WHO the direct operator of a university's campus restrictions or provide a substitute for applicable national public-health decisions (WHO, 2025).

Preparedness begins with legitimate decision authority. A university's crisis management team must know which matters are governed by public-health authorities, which by institutional occupational health and safety responsibilities, and which academic accommodations require senate or equivalent approval. Academic leadership should have access to qualified clinical or public-health advice, not merely an administrative risk score. Plans need clear triggers for heightened precautions, affected population groups, voluntary or mandated changes as lawfully applicable, and prompt reassessment when evidence changes. This reduces the temptation to present every emergency measure as permanent or every policy change as proof that an earlier assessment was irrational.

Public-health continuity has several simultaneous aims. The first is protecting life and preventing avoidable transmission within the bounds of competent advice. The second is maintaining essential educational and institutional functions wherever safe. The third is preventing disproportionate exclusion of students with disabilities, chronic vulnerabilities, caregiving responsibilities, limited housing security or restricted access to medical services. The fourth is ensuring proportionate handling of sensitive health information. Staff should not circulate identifiable medical records widely in order to justify an operational decision; the institution should collect only what is lawful, necessary and properly protected, in accordance with relevant privacy obligations (Republic of Rwanda, 2021b; WHO, 2025).

Flexible learning preparedness is most effective when designed before an emergency. Programme teams should classify learning outcomes into those that can be achieved through alternative media, those that require supervised practice but may be rescheduled, and those for which a safe substitute cannot establish competence. A laboratory method may be explained through recorded demonstrations without the student acquiring the manipulative skill it certifies. A simulated counselling encounter may provide useful rehearsal but not replace every required clinical contact. Academic teams must specify the minimum safe and valid evidence needed for each outcome, together with authorisation and the conditions under which deferred components will be completed.

Staff continuity deserves separate treatment. Universities often rely on a small group of specialists for course coordination, high-stakes assessment, doctoral supervision or laboratory safety. A pandemic can remove multiple such staff simultaneously. Institutions should develop practicable succession arrangements, cross-train academic and administrative personnel, prepare moderation and assessment materials for authorised substitutes, and document access controls for essential records. These measures should not be interpreted as permission for unqualified personnel to deliver specialist clinical instruction or supervise research beyond their competence. Continuity must preserve academic eligibility and independent judgement, even if doing so entails slower progress.

A robust plan incorporates phased campus access, ventilated or otherwise appropriately controlled teaching environments as relevant to current guidance, accessible communication, safe placements, alternative assessment windows and transparent student remedies. Exercise scenarios should test the decision-making chain, not just ask participants to confirm that a policy exists. After an exercise, leaders should identify who did not receive messages, which students could not complete alternative tasks, which decisions lacked authority and which resources were assumed available but were not. The results should enter routine quality-assurance processes and budget planning rather than remain isolated within a health-and-safety file.

10.5 Armed conflict, regional instability, displacement, cross-border restrictions, and higher-education continuity

Armed conflict endangers higher education through direct attacks, insecurity around campuses, displacement, loss of income, interruption of humanitarian services, restrictions on movement and the destruction of knowledge resources. Its effects also extend beyond conflict zones. Students may be unable to cross a border for examination or clinical training; international partners may suspend travel or funding; fieldwork may become unsafe; banking and telecommunications disruptions may interrupt payments or access to digital systems. A university outside the immediate theatre of violence can therefore experience a serious educational shock through regional dependencies. This matters for Rwandan and other African institutions whose students, staff, research activities and practical partnerships may operate across national borders.

The Global Coalition to Protect Education from Attack (GCPEA, 2024) documented approximately 6,000 reported attacks on education, and cases involving military use of educational facilities, during 2022–2023 across the settings assessed. This is not a count of attacks exclusively on universities, and reported incidents should not be converted into a rate for African higher education. It does demonstrate that education-related infrastructure and people can be deliberately or incidentally exposed to violence. Similarly, UNHCR (2025) estimated 123.2 million forcibly displaced people worldwide at the end of 2024, a global humanitarian indicator rather than an estimate of displaced university students. These data establish the seriousness of the underlying risk environment while leaving the situation of each institution to be examined through relevant evidence.

Protection must precede administrative continuity. A university should not require students to attend an unsafe campus, placement site or research location merely to avoid delayed graduation. Security and travel advisories should be monitored through reliable sources; academic fieldwork protocols should distinguish ordinary research risk from unacceptable exposure; and staff should have authority to suspend dangerous activities without waiting for a routine committee cycle. Confidential emergency contact arrangements, safe accommodation referrals, academic counselling and access to essential identity or education records can be critical to affected learners. Policies should prevent retaliatory discipline when a student cannot meet an impossible attendance condition because of verified displacement or travel restrictions.

For displaced or internationally mobile learners, academic continuity also involves the portability and trustworthy preservation of prior achievement. Institutions should maintain secure, accessible transcripts, module descriptors and assessment records and establish fair procedures for considering interrupted study, lost documentation and qualifications acquired elsewhere. Recognition decisions must be distinguished from admission discretion and from formal award equivalence under domestic rules. A student's inability to obtain an original paper transcript from a closed institution should prompt proportionate verification

alternatives, not automatic assumption of fraud. Conversely, humanitarian accommodation cannot justify awarding credit for learning that has not been sufficiently evidenced.

Remote education can extend reach during conflict, but it has limitations. Internet access may be deliberately restricted, electricity and telecommunications may be damaged, digital surveillance may compromise safety, and students may lack private study conditions. A remote-learning arrangement that exposes a displaced student's location or political associations can generate danger. Institutions should conduct context-sensitive data minimisation, allow safe asynchronous contact, provide low-bandwidth resources and avoid unnecessary geolocation collection. Where cross-border data storage, professional clinical training or controlled research materials are involved, lawful arrangements must be checked. Humanitarian imperatives support flexibility in educational delivery, not indefinite suspension of academic and legal safeguards (UNESCO, 2023a; UNHCR, n.d.).

Institutional independence is also at stake. Conflict may create pressure to alter scholarly teaching, silence research, politicise curriculum or present doubtful claims as established facts. A resilient university protects academic deliberation and records the reasons for any exceptional restrictions. Academic freedom is not a blanket entitlement to expose people to identifiable harm; nor is a genuine security concern a sufficient explanation for unrelated censorship. Authorities should distinguish physical protection, lawful restrictions, research-ethics decisions, sanctions compliance and academic disagreement. Documentation of the competent decision-maker and available appeal route reduces the risk of crisis being used to normalise opaque governance.

A useful comparative exercise is the continuity of a hypothetical cross-border public-health master's programme. Its faculty teaches in one country, students reside in several, and required field practica depend on a partner hospital in a region affected by insecurity. A responsible response would verify the site's safety, suspend hazardous visits, determine which conceptual modules can continue, make individual student plans, secure alternative placements with appropriate supervision and document any formal modification required. A questionable response would replace all practical assessment with unsupervised essays while publicly asserting that graduates have completed an unchanged professional qualification. The distinction is between adapting the route to valid competence and merely preserving the appearance of progress.

Recognition of interrupted prior study is especially consequential when displacement makes original documentation inaccessible. Article VII of UNESCO's 2019 Global Convention on the Recognition of Qualifications concerning Higher Education addresses fair assessment of qualifications and partial studies held by refugees and displaced persons, including circumstances in which conventional documentary evidence cannot be produced. The Convention is a treaty with obligations determined by state participation and applicable domestic arrangements, not an automatic transfer of credit between any two institutions. Its conceptual contribution is nevertheless important: institutions should distinguish lack of a

document from lack of learning and build a defensible route for alternative verification, conditional admission or further assessment where their national rules permit (UNESCO, 2019a).

Disruption also reveals a difficult balance between confidentiality and institutional accountability. A displaced learner may reasonably need special arrangements without disclosing a precise location, political associations or sensitive personal history to every lecturer. Yet examiners still require evidence that identity, learning and assessment conditions were adequately established. The institution should separate restricted safeguarding records from the academic decision record, using a narrowly framed verification statement where appropriate. This protects personal security while allowing moderation, appeal and regulatory review to examine the basis for academic credit.

10.6 Climate change, extreme weather, flooding, drought, heat stress, and infrastructure vulnerability

Climate-related risks are not hypothetical background issues for African universities. The IPCC's Sixth Assessment identifies observed and projected changes in African heat extremes, drought conditions and intense precipitation, with variation across regions and confidence levels. In particular, its Africa assessment attributes increases in mean and extreme temperatures to anthropogenic climate change with high confidence and projects increasing extreme heat and many forms of heavy rainfall risk as warming progresses (Trisos et al., 2022). The WMO's *State of the Climate in Africa 2024* documents the interaction of extremes with livelihoods, water, health, displacement and educational conditions (WMO, 2025a). These regional findings justify systematic planning; they do not prove that the cause of any particular storm or campus flood can be inferred from its occurrence alone.

Climate vulnerability is an institutional design problem. Flooding can damage libraries, workshops, electric substations, archival storage and laboratory equipment. Heat can impair concentration, create occupational hazards and affect the safe storage of biological samples or chemicals. Drought can reduce access to water needed for sanitation, residences and research facilities; disrupted hydropower or food supply may increase operating costs. Storms and landslides may render roads unusable even when campus buildings remain intact. A university's asset map should therefore include off-campus dependencies such as municipal water, electricity supply, transport corridors, internet exchange routes and partner sites. Climate risk cannot be evaluated solely from the resilience of the central teaching building.

Local hazard analysis must be geographically and technically specific. Institutions should consult authorised national meteorological and disaster-management services, municipal land-use records, credible spatial risk information and engineering assessments appropriate to their campuses. A continental climate projection cannot establish the flood depth expected at a particular library entrance. Equally, an absence of recent building damage does not prove future safety when land use, drainage, infrastructure or climate conditions change. Risk

decisions should record whether the supporting information is observational, modelled, geographically downscaled, institutionally verified or simply a preliminary screening assumption.

The educational consequences differ by programme. Agriculture students may lose field trials to drought or extreme rainfall. Biology and chemistry departments may experience refrigeration failure and contaminated samples. Architecture and engineering departments may be unable to use workshops safely. Nursing cohorts may face pressure on placement sites during weather-related public-health emergencies. Postgraduate research involving a multi-season ecological dataset may be scientifically compromised even if the student can write a dissertation from home. Such differences make programme-level hazard mapping indispensable. Institution-wide statements that classes can move online are not a substitute for showing what happens to equipment-dependent achievement.

Infrastructure adaptation should be prioritised against critical educational functions and whole-life cost. Relevant measures may include safe site selection, drainage maintenance, flood barriers, protected document storage, efficient ventilation, heat-sensitive scheduling, secure water provision, alternative power, tested backup connectivity and appropriate insurance. Not every university can afford a second campus or full equipment duplication. Nonetheless, relatively inexpensive measures such as locating backups off site, protecting ground-floor archives, maintaining asset inventories and rehearsing alternative examination arrangements can materially reduce avoidable losses. Investment decisions should consider who benefits, what risks remain, and whether a proposed engineering control is independently suitable for the location (UNDRR, 2015; WMO, 2025a).

The distinction between adaptation and mitigation matters. Adaptation reduces vulnerability to actual or anticipated consequences, whereas mitigation addresses greenhouse-gas emissions or their drivers. Universities may legitimately pursue both through building design, energy efficiency, procurement, transport arrangements and research. Neither should be portrayed as a guaranteed solution to every climate hazard. A campus can have low operational emissions while remaining exposed to flash flooding; an energy-intensive backup generator may temporarily protect research samples while creating sustainability costs. Responsible governance makes those trade-offs visible rather than presenting environmental virtue as evidence of physical resilience.

Climate resilience should also be embedded in teaching, not only estate management. Curriculum designers can examine the implications of changing hazard patterns for public health, construction, business, agriculture, information technology and governance, while preserving the discipline's evidentiary standards. A university that teaches disaster-risk analysis but does not assess its own critical dependencies misses an opportunity for meaningful institutional learning. Student and faculty research can support adaptation when methodologically sound and ethically governed; it should not substitute for qualified engineers, meteorologists or emergency authorities in decisions affecting immediate safety.

Rwanda's National Disaster Risk Reduction and Management Policy supplies a more directly relevant national planning reference than generic global hazard terminology alone. The policy organises its approach around understanding risk, strengthening institutional governance, investing in resilience, and enhancing preparedness and recovery. It expressly addresses the integration of disaster risk reduction into the education system and assigns roles to academia and research institutions within a broader national coordination architecture (Ministry in Charge of Emergency Management [MINEMA], 2023). The document is a national policy framework; its existence does not establish that a particular campus has completed a site assessment or that every proposed university contingency is legally mandated. The practical implication is that institutional continuity planning should be informed by nationally recognised hazards and public emergency structures while translating those priorities into the specific learning, research and record-preservation needs of each programme.

A practical Rwanda-focused review should therefore test exposure beyond the university's property boundary. The reviewer may need to examine whether students can cross vulnerable access roads during a heavy-rainfall warning, whether an off-site data centre and the campus depend on the same power or telecommunications route, whether the designated emergency gathering area is itself exposed, and whether a partner hospital or research farm has a credible independent continuity arrangement. These are questions for current local hazard mapping, qualified technical judgement and recorded consultation with competent authorities, not conclusions that can be extracted from national averages. Where local information remains insufficient, the institution should disclose the uncertainty, take proportionate temporary precautions and commission the assessment required to justify a durable decision.

10.7 Environmental intervention and geoengineering: Scientific evidence, uncertainty, governance, and potential educational implications

Environmental intervention encompasses diverse deliberate efforts to influence environmental conditions, from ordinary land management and ecosystem restoration to techniques intended to alter atmospheric processes. The umbrella term *geoengineering* is used inconsistently and should therefore be specified rather than treated as a single technology. Carbon dioxide removal seeks to reduce atmospheric carbon dioxide through biological, geochemical or engineered processes. Solar radiation modification (SRM), by contrast, proposes increasing reflection of incoming solar radiation or otherwise altering the Earth's radiative balance to limit warming. SRM does not remove the underlying accumulation of greenhouse gases and cannot be described as equivalent to emissions reduction or climate adaptation (UNEP, 2023, 2026).

Within SRM, proposals include stratospheric aerosol injection and marine cloud brightening. Much of the evidence consists of climate-model simulations, theoretical analysis and limited field or laboratory research, not operational demonstration that large-scale deployment is safe or desirable. The 2023 UNEP expert review identified substantial uncertainties concerning

environmental consequences, governance and the interests of vulnerable populations. UNEP's 2026 working paper expressly concludes that current scientific evidence does not support SRM as a viable response to climate change, emphasising unresolved environmental and social risks, absence of an adequate global governance framework, and its inability to remedy the underlying cause of warming (UNEP, 2023, 2026). A proposal being technically imaginable is not evidence that its consequences have been satisfactorily established.

Critical evaluation should avoid two opposite errors. The first is assuming that because proposals remain uncertain, governments, scientists or companies have never investigated them. The second is treating research activity, atmospheric measurements or patent claims as proof of operational large-scale deployment or responsibility for a particular drought or storm. A laboratory experiment, an atmospheric simulation, a published proposal, a bounded field trial and an operating planetary-scale intervention are different evidentiary objects. They differ in scale, physical effect, authorisation, independent observation and potential consequences. Conflating them prevents both scientifically justified concern and accountable public oversight.

Several unresolved issues deserve substantial scholarly attention. Regional climatic effects could differ even where a global average temperature changes; impacts on precipitation or ecological systems may be difficult to attribute; initiation and termination of an intervention might generate additional risks; and international decisions about research or deployment would have distributive implications for countries with differing exposure, technical capacity and political influence. Ethical concerns include consent, environmental justice, asymmetries of decision-making power, moral hazard and the possibility that technological promises weaken efforts to reduce emissions. The proper response is not to declare one predetermined geopolitical narrative established. It is to examine the scientific assumptions, governance proposals, affected interests, independent monitoring and the possibility of irreversible consequences (UNEP, 2023, 2026).

Universities have legitimate roles in researching atmospheric science, modelling, environmental law, ethics, risk communication and governance. They should cultivate the capacity to distinguish observations from models, to identify assumptions and uncertainty, and to evaluate evidence in politically contentious environments. Public communication should not imply that a simulation establishes an observed intervention or that a correlation between unusual weather and aircraft activity proves causation. Equally, universities should not dismiss all questions about atmospheric intervention as inherently illegitimate: documented weather modification exists, and research into SRM is a genuine scientific and public-policy subject. Scholarly responsibility requires evidence-specific criticism, not either credulity or categorical silence.

The practical implications for university continuity are principally indirect but important. Institutions should prepare for actual climate hazards using authoritative forecasts and their own exposure analyses, rather than rely on speculative causal explanations. Research

institutions contemplating environmental field experiments need appropriate ethics, safety, environmental and legal review, meaningful community communication, competent technical oversight and preservation of underlying data. Curriculum in environmental studies and public policy should teach students to distinguish weather modification, emissions mitigation, adaptation, carbon removal and SRM. None of those fields should be awarded academic credibility through unsupported claims about a particular extreme weather event.

10.8 Weather modification, environmental modification technologies, international law, and evidentiary limitations

Weather modification is more limited in scale and purpose than proposals to change global climate. The World Meteorological Organization defines it as deliberate intervention intended to influence local weather conditions, frequently through cloud seeding. The WMO's June 2025 statement reports physically plausible and, for certain circumstances, observationally supported effects on cloud processes, including progress in glaciogenic seeding of suitable winter orographic clouds. It also emphasises that outcomes depend on cloud type and environmental conditions, that many effects remain difficult to quantify, and that results from one setting cannot automatically be transferred to another. The WMO specifically cautions that technologies claiming to create large weather systems or eliminate severe weather events lack a sound scientific basis, and reports no demonstrated method for modifying hurricanes, tornadoes, floods or similar major phenomena by cloud seeding (WMO, 2025b).

Consequently, an evidence-based account can affirm the existence of deliberate, bounded precipitation- or fog-related interventions without inferring regional weather control from the existence of aircraft trails, patents, cloud-seeding contracts or a single extreme event. Causal attribution requires a technically credible mechanism, evidence that a specific activity occurred in the relevant time and place, adequate meteorological observations, comparison with expected unmodified conditions and careful consideration of natural variability. Even where an operation is documented, its incremental effect may be uncertain. A credible report should distinguish the verified action from any claimed result and should not exaggerate the capacity of a technique because it is described using militarised or commercially impressive terminology.

International law introduces a separate question. The 1976 *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques* (ENMOD Convention), which entered into force in 1978, prohibits States Parties from engaging in military or other hostile environmental-modification techniques having widespread, long-lasting or severe effects as a means of destruction, damage or injury to another State Party. Its operative terms and party-specific legal effect must be read from the treaty. The Convention is not a general declaration that all weather modification is prohibited, nor does its existence establish that a prohibited operation has taken place. Article III addresses the distinction between prohibited hostile use and environmental modification for peaceful purposes, subject to the treaty's terms and other applicable law (United Nations, 1976).

For legal analysis, at least four questions must remain distinct: whether a technique is scientifically possible; whether a state or actor actually undertook a particular intervention; whether the alleged act falls within the treaty's definitions and thresholds; and whether the relevant state is bound by the applicable instrument. A fifth concerns whether another body of law, such as environmental protection, aviation regulation, domestic authorisation or general principles of international responsibility, is relevant. Inferring international illegality from the existence of ENMOD's prohibition skips the factual and jurisdictional elements that legal adjudication requires. Nor is the absence of a publicly verified intervention sufficient to establish that every secret action is impossible. It means that a specific allegation has not been adequately demonstrated on the evidence available.

Table 10.2. Scientific and legal evidence-grading guide for atmospheric intervention claims

Claim type	What the evidence can establish	What remains unproven without further evidence	Credible verification route
Weather-modification research exists	Documented experiments, methods and publications	That any particular event was deliberately caused	Original study; methods; observed conditions
Local cloud seeding occurred	Verified operator, location, schedule and materials	Precise added rainfall or broad regional control	Regulatory records; operational logs; independent observations
SRM could alter climate in models	Conditional simulated outcomes and uncertainties	Safe, effective or actual planetary deployment	Model assumptions; replication; empirical monitoring
A specific flood was engineered	Nothing from timing or visual association alone	Causation, intent, mechanism and operation	Physical evidence; attribution study; reliable corroboration
ENMOD prohibits defined hostile uses	Treaty language and obligations for applicable parties	That a particular state committed a violation	Treaty-party analysis; legally sufficient incident evidence

Note. Original author-developed evidence taxonomy informed by WMO (2025b), UNEP (2023, 2026) and United Nations (1976). Evidentiary categories are reasoning aids, not an international legal tribunal's findings.

A mature university should teach environmental controversy with intellectual openness and evidentiary discipline. Students may analyse historical experimentation, military interests, geoengineering governance and public trust without being required to accept unsupported allegations. Equally, they should be free to criticise opacity, conflicts of interest and scientific uncertainties with properly founded arguments. The governance conclusion is practical: no institution should predicate campus flood preparedness, water planning or examination continuity on an unverified assumption that a particular actor will control regional weather. It should plan around measured exposure, scientifically grounded forecasts, critical dependencies and reversible protective measures while remaining attentive to verified new information.

10.9 Centralisation of educational technology, concentration of platform ownership, digital sovereignty, surveillance risks, and vendor dependence

Digitally transforming universities can unintentionally concentrate educational authority and operational risk. A learning-management system (LMS), cloud identity service, virtual library, student-information system, video provider and automated assessment application may depend on a small number of technology firms, even when the university purchases them through different resellers. A provider outage, account suspension, restrictive licence change, price increase or cross-border data-access dispute can consequently affect multiple university functions simultaneously. Technological centralisation is not inherently undesirable: shared services may improve availability, professional maintenance, security and interoperability. The governance problem arises when concentrated dependencies are inadequately understood, contractual protections are weak, and the institution cannot exercise its educational responsibilities independently of a vendor's unilateral decision (NIST, 2024; UNESCO, 2023a).

Digital sovereignty should be understood precisely. It concerns an institution's practical and lawful ability to determine how its educational data, essential processes, scholarly records and technological choices are governed. It does not require that every server be physically located on campus or that locally developed software be preferred regardless of quality. Institutional sovereignty can be undermined by opaque data-processing terms, inaccessible export formats, restrictive intellectual-property arrangements, reliance on a single administrator account, unilateral artificial-intelligence model changes or an inability to recover grades after a subscription ends. Conversely, a well-governed external service with auditable controls, secure exports, contractual rights and tested continuity may protect autonomy more effectively than an under-maintained local server.

The assessment of dependency should begin with a service map, not the vendor's marketing claims. Universities need to identify who hosts and administers each critical system; what educational records it controls; which sub-processors or identity providers it depends on; what happens when payments are delayed; whether data can be retrieved in usable formats; what service restoration commitments are contractually stated; and which institutionally controlled alternatives remain possible. Contractual recovery promises are relevant evidence but weaker than a tested retrieval and restoration procedure. A backup stored in the same compromised account or administered through the same disabled identity provider is a common-mode failure, not meaningful separation.

Surveillance-related risks require equal attention. Digital classrooms can generate detailed logs of attendance, clicks, locations, keystrokes, identity documents and behavioural profiles. AI-supported proctoring and learning analytics may create additional inferences about students. The availability of such data does not establish that their collection is proportionate, scientifically valid or lawful. Rwanda's Law No. 058/2021 relating to the protection of

personal data and privacy imposes relevant data-protection obligations, whose precise application depends on the processing, actors and context (Republic of Rwanda, 2021b). A resilience plan should not increase intrusive monitoring in the name of continuity without examining lawful basis, necessity, minimisation, access restrictions, retention, student notification and avenues to contest harmful inferences.

An institution's right to govern technology is also shaped by staff and student skills. An export function that no responsible employee understands cannot be treated as a dependable exit plan. Likewise, openly licensed content may be technically portable while associated assessments, feedback, discussion histories and learner records are locked into proprietary formats. Procurement and renewal decisions should require participation by academic leaders, security and privacy personnel, the library, accessibility specialists, finance and the quality unit. Their evaluation should include total lifetime cost, pedagogical fit, standards-based interchange, provider concentration and the university's ability to continue essential teaching during a contractual dispute or infrastructure outage.

The most resilient architecture is not necessarily one with the highest degree of decentralisation. Duplicated local platforms may create weak security, incompatible assessments and inequitable support. The appropriate objective is *governed diversity*: sufficient common standards to protect legality and academic quality, combined with alternative channels, accessible data, portable content and institutional decision authority. This distinction is significant for universities with limited budgets, where a carefully managed shared platform may be valuable but must not become an unexamined single point of academic failure. The provider relationship should be reviewed periodically as a material institutional risk, rather than negotiated once as a purely technical purchase.

The independence of a university's essential digital processes must also be distinguished from the geographic location of its servers. In some circumstances, a securely contracted multi-site service can offer stronger protection than locally hosted equipment; in others, cross-border dependencies, untested export rights, fragile account ownership or unclear sub-processing arrangements can make an apparently distributed system operationally concentrated. Contract review should therefore ask which institution holds the cryptographic or administrative ability to retrieve authoritative records when the ordinary supplier relationship fails. Institutional control is a verifiable combination of governance, legal rights, technical access, documented procedures and exercised competence, rather than a slogan about technological self-sufficiency.

10.10 Cyberattacks, institutional data loss, platform failures, and digital infrastructure resilience

A cyber incident can be an academic emergency even when no building is damaged. Ransomware can make examinations inaccessible, corrupt research datasets, delay transcripts or expose confidential student information. Credential theft can allow unauthorised changes

to grades; compromised accounts can distribute false institutional announcements; and denial-of-service attacks can disrupt admissions, teaching and assessment. Loss of data integrity may be more consequential than temporary service unavailability, because a university must ultimately justify which student completed which work under which assessment conditions. The academic significance of a breach should therefore be assessed alongside technical indicators such as system uptime or the number of affected devices (NIST, 2024; Republic of Rwanda, 2021b).

NIST's Cybersecurity Framework 2.0 organises governance around six functions: Govern, Identify, Protect, Detect, Respond and Recover. This voluntary technical benchmark is useful for university risk architecture, but it does not constitute a Rwandan legal code. Its educational application begins with identifying critical academic services, assigning ownership and setting acceptable recovery objectives. Protection may involve multifactor authentication, least-privilege access, patch management, secure backups, staff training and supplier assurance. Detection requires meaningful monitoring and incident reporting; response requires accountable coordination, evidence preservation and communications; recovery requires more than switching computers back on. Academic records and decisions must be reconciled and verified (NIST, 2024).

The distinction between *recovery time objective* (RTO) and *recovery point objective* (RPO) is particularly valuable. RTO describes the intended maximum time before an essential service is restored to an agreed level, whereas RPO describes the maximum tolerable period of data loss measured in time. An examination platform may warrant a short RTO around scheduled assessment, while a research-data repository containing irreplaceable daily measurements may demand a very small RPO. These are managerial design parameters, not universally prescribed statutory limits. They must be derived from a business-impact analysis and tested against actual system capabilities. Publishing an ambitious RTO without financing redundant infrastructure or rehearsing restoration merely creates a new institutional promise without evidence.

Cybersecurity incidents also introduce a chain-of-custody problem. When assessment files, timestamps or grade records are suspected of manipulation, the university must preserve relevant evidence, distinguish confirmed corruption from mere uncertainty and decide which educational claims can still be supported. Some students may have verifiable submissions cached locally; others may possess receipts but not assessable work. An equitable response should avoid blanket penalties, establish secure alternatives, document authorised decisions and permit appeals. Restored databases should be validated against trustworthy backup states, reconciled with examination and finance records where relevant, and protected from reinfection before ordinary operations resume.

Communication under cyberattack is especially vulnerable to impersonation. Universities should establish pre-agreed secondary communication channels, verify official messages, identify an authorised spokesperson and avoid exposing incident details that would

compromise containment. Staff and students need to know where trustworthy updates will appear when normal email or the LMS is inaccessible. External notifications, including those potentially required by privacy law or contracts, require competent legal and data-protection assessment; a chapter cannot substitute for incident-specific statutory interpretation. Sensitive details should be restricted to authorised responders while affected persons receive appropriately timely and accurate information about risks and remedies.

A resilience-oriented cybersecurity exercise should test both technical restoration and an academic decision. Imagine that the LMS and marking system become inaccessible three hours before a final assessment. The university must decide whether learners can safely access a legitimate alternative, whether identity and equal conditions can be preserved, whether the question paper was exposed, and whether postponement is less harmful than an insecure substitute. Its recovery evidence should include technical test logs, authorised academic minutes, affected-cohort communications, reconciliation of submissions and a post-incident check of assessment validity. A functioning server is not evidence that the resulting degrees remain academically trustworthy.

Incident response now has a more specific professional reference than a general cybersecurity checklist. NIST Special Publication 800-61 Revision 3 integrates incident-response recommendations across the functions of Cybersecurity Framework 2.0 and supersedes the earlier revision (Nelson et al., 2025). Applied to higher education, this supports joint exercises in which the information-security lead can isolate affected services while academic authorities decide whether an examination is compromised, the registrar preserves grade provenance and student services manage equitable communication. No technical incident commander should unilaterally determine the validity of a qualification, just as an academic committee should not override urgent containment without competent security advice.

Post-incident recovery needs an explicitly independent integrity test. A restored database may be readable yet contain unverified changes, and recovered student submissions may no longer demonstrate authorship if timestamps, identity events or assessment instructions were lost. A suitable protocol reconciles multiple evidence sources, preserves the basis for any necessary reassessment and separates records that are validated from those still disputed. Formal closure should be conditional on competent technical assurance and academic verification, with unresolved individual cases retained under an appropriate appeals and records-management process (Nelson et al., 2025; Swanson et al., 2010).

10.11 Financial shocks, supply-chain disruption, energy insecurity, and institutional sustainability

Educational continuity ultimately depends on money, people and physical inputs as well as information systems. Tuition interruptions, currency volatility, inflation, donor withdrawal, procurement delays and reductions in public allocations can undermine an institution's ability to provide salaries, licences, laboratory consumables and essential services. A university can

survive a temporary revenue shock while experiencing lasting educational degradation if it reduces tutorial support, postpones equipment maintenance or hires staff whose contractual availability is insufficient. Financial resilience must therefore be assessed in relation to *educational obligations already assumed*, not merely whether the institution has produced a balanced accounting statement.

Business-continuity planning should identify what expenditure cannot be deferred without threatening learner protection or the integrity of a qualification. Examples include secure records management, essential assessment moderation, qualified clinical supervision, laboratory safety maintenance and provision of disability accommodations. Other activities may be postponed with less direct academic harm, depending on the institution's context. Governing bodies need information about operating reserves, restricted funds, debt service, contingent liabilities, outsourced service exposure and realistic cash-flow scenarios. An institution that depends on one external sponsor or a small number of fee-paying cohorts should assess concentration risk transparently, without treating diversification as proof that all programmes are financially sustainable (ISO, 2019).

Supply chains create less visible but consequential dependencies. Laboratory reagents, proprietary medical equipment parts, prescribed texts, controlled substances, specialist software and energy infrastructure may have long lead times. A university that advertises a practical engineering award must establish whether equipment can be maintained and replaced across the cohorts it admits. Procurement decisions should consider suitable substitutes, stock rotation, supplier diversity, regional availability and quality assurance of replacement materials. Academic staff must determine whether a substitute preserves the learning outcome and safety requirement; purchasing officers cannot decide that an alternative reagent, device or clinical instrument is pedagogically equivalent without qualified review.

Energy insecurity is both a standalone threat and a multiplier of others. Power failure can interrupt virtual teaching, damage refrigeration-dependent samples, stop water pumps, disable access-control systems and compromise data backups. A backup generator that cannot obtain fuel during regional supply disruption may offer little protection. Alternative energy investments need to be matched to the loads they will actually sustain, the duration of interruption expected, maintenance and battery replacement requirements, and the availability of technical personnel. The resilience test is not the presence of solar panels or generators but successful operation of prioritised academic functions during an appropriate test or event.

Financial sustainability also raises distributive questions. Universities may respond to shocks by increasing fees, reducing bursaries, transferring data costs to students or suspending support services. Such measures may preserve short-term cash while impairing access and completion among vulnerable cohorts. A balanced risk decision should identify whose burden increases, whether student contracts and applicable regulations permit the change, which

educational services are protected and what alternatives have been considered. Governing councils have legitimate responsibilities for institutional survival, but survival through unannounced deterioration of an approved programme is not responsible stewardship.

The educational portfolio itself may require risk-sensitive planning. Programmes with exceptionally small enrolments, one specialist teacher or costly placement arrangements need realistic multi-year forecasts. Abrupt closure can produce serious hardship for students who entered on legitimate promises. Institutions should therefore maintain financial early-warning thresholds, academic continuity reserves where feasible, approved teach-out routes and transparent decision records. An institution can make a responsible decision to close an unsustainable programme; it cannot ethically use financial uncertainty as a reason to disappear from its obligations to current learners. Credible sustainability includes a defensible exit, not only a strategy for growth.

A financial continuity plan is incomplete unless it can distinguish the institutional cost of prevention from the educational liability created by unpreparedness. UNDRR's Global Assessment Report 2025 emphasises the relationship among disaster losses, fiscal vulnerability, risk-informed financing and long-term investment (UNDRR, 2025). Its global estimates are not university balance-sheet forecasts, but its framework reinforces a relevant institutional question: whether deferred maintenance or narrow annual cost savings could create disproportionately larger liabilities through ruined equipment, repeated teaching, interrupted cohorts or forced programme closure. Financial committees should accordingly consider the full cost of student protection and completion across a qualification lifecycle, not merely the current year's operating expenditure.

The strongest financial resilience decisions are conditional and transparent. An institution facing a liquidity constraint may rationally defer a new programme launch to protect existing cohorts, or may suspend admissions while negotiating a properly authorised teach-out. Such measures can be academically responsible when students receive accurate information, essential teaching and support are funded, governing decisions are recorded, and the regulator is notified or approval sought where required. By contrast, increasing recruitment to cover an existing shortfall without demonstrating the capacity to teach the added students can compound the risk. The decisive test is not optimism about future income but the evidentiary plausibility of the commitments made to those already enrolled.

10.12 Academic continuity for laboratories, clinical placements, fieldwork, internships, and research programmes

The weakest point in a generic university continuity plan is often the assumption that learning can be transferred between media without a corresponding change in the evidence of competence. Lecture-based conceptual instruction can sometimes move successfully to text, audio, video or virtual seminars. Laboratory technique, clinical decision-making, practical engineering operations, artistic performance, field observation and work-based professional

judgement may have non-substitutable elements. A digital simulation can be valuable preparation while remaining insufficient to demonstrate safe performance with real equipment, patients, clients or environmental conditions. Curriculum continuity therefore requires *learning-outcome-level analysis*, not an institution-wide declaration that all modules have an online alternative.

Laboratories require hazard-specific protocols for emergency shutdown, chemical and biological storage, preservation of valuable samples, evacuation, equipment calibration and controlled reopening. For some research activities, continuity means safely suspending work and protecting records rather than continuing experiments. A science faculty should maintain a register of irreplaceable samples, time-sensitive measurements, specialist equipment, responsible technical personnel and partner facilities that might support lawful alternative access. Recovering electricity does not establish that instrument calibration or the integrity of experimental conditions has been preserved. Recommissioning should be documented before results generated after the incident are treated as reliable.

Clinical and other practice placements create shared responsibilities between institutions and hosts. The university retains obligations concerning curricula, academic supervision, assessment and learner support while the host exercises operational responsibilities appropriate to its environment. A hospital or partner enterprise may understandably prioritise core services during a pandemic, insecurity or disaster. Placement agreements should therefore address contingency communications, supervision capacity, safeguarding, evidence of learning, insurance and appropriate alternatives. Credit should not be awarded for required clinical or professional competence solely because the original placement became unavailable. Universities may re-sequence theoretical units, use simulation for designated preparatory tasks and arrange later observed practice, but must retain the substantive award requirements and seek external authorisation when a material programme change legally requires it.

Fieldwork presents additional complexities. Research in remote areas can be endangered by flooding, political violence, infectious disease, transport loss or communications failure. Supervisors and field coordinators must assess site safety, the availability of reliable check-in systems, emergency evacuation, informed consent, field data security and the ethical treatment of community participants. Researchers should not be pressured to complete data collection under unacceptable conditions because a grant deadline or thesis timetable is approaching. Where relocation or remote data collection is methodologically defensible, the change should be approved, documented and considered when interpreting findings. A new method may answer a modified research question, not necessarily the original one.

Postgraduate and doctoral research continuity must distinguish interruptions to supervision from damage to the research design itself. Loss of laboratory materials, longitudinal observations, access to archives or research participants may require a revised protocol, not merely an extension. Ethical approvals and data-access permissions may need amendment;

research sponsors may require notification; and examination committees should know which changes occurred because of disruption. A candidate should not be penalised for unavailable facilities beyond reasonable control, but academic standards must still govern the evidence supporting the eventual award. Transparent adjustment is preferable to retrospective fiction that the original research was completed unchanged.

Internships and work-integrated learning need further scrutiny because unpaid student labour, insecure accommodation and employer dependence may become especially acute in a crisis. Programmes should specify essential competencies, acceptable supervision ratios, financial and safety arrangements, and the means of verifying genuine work undertaken. A portfolio of reflection can support professional learning but cannot always replace verified practice. The institution should consider a broader network of approved hosts and should maintain a procedure for resolving an unsafe or prematurely terminated placement without transferring unreasonable costs to the student.

Table 10.3. Educational substitutability and evidence requirements during disruption

Learning requirement	Potential temporary adaptation	Irreducible verification question	Likely post-event action
Conceptual seminar	Text-guided study, live or recorded discussion	Was demanding reasoning demonstrated fairly?	Review samples and feedback
Laboratory practice	Virtual demonstrations; delayed supervised sessions	Did each student perform essential techniques safely?	Practical completion and equipment checks
Clinical competence	Simulation and supervised case analysis	Were specified real-world competencies observed by an eligible assessor?	Rebook approved placement and assessment
Field research	Desk-based reanalysis; permitted remote methods	Does revised evidence answer the approved research question?	Method amendment and supervisor approval
Internship	Alternative host; structured project where valid	Is required workplace performance evidenced?	Verify host and student evidence
Doctoral supervision	Remote meetings; extension and revised milestones	Is research integrity and progression independently documented?	Revised plan and ethics review as needed

Note. Original academic-continuity matrix. These options are illustrative, subject to discipline-specific academic judgement, programme rules, professional-body requirements and competent regulatory authorisation where applicable.

An evaluator should consequently ask a set of linked questions for every interrupted programme: which intended competencies were affected, which are non-substitutable, what interim activities were approved, who authorised the change, what learners actually completed, which requirements remain outstanding, and what evidence supports final closure. This approach prevents a university from equating a full academic calendar with a complete educational award. It also protects legitimate flexibility: programmes can adapt

substantially without losing integrity when they preserve the meaning of the qualification and make their reasoning inspectable.

10.13 Business-continuity planning, emergency communication, alternative delivery, and teach-out arrangements

Business-continuity management provides a systematic means of identifying activities whose interruption would cause unacceptable consequences, specifying alternatives, assigning responsibility and testing the institution's ability to respond. ISO 22301:2019 establishes internationally recognised requirements for business-continuity management systems, but a university should not confuse adoption of its terminology with certification to that standard or with conformity to Rwanda-specific academic requirements (ISO, 2019). Its value for educational institutions lies in the disciplined connection between the activities at risk, their social and academic consequences, the arrangements selected to protect them and evidence that the arrangements can function. A university-wide continuity plan must be complemented by faculty, programme and essential-service annexes because their disruption tolerances differ.

A business-impact analysis should identify the institution's *minimum viable academic functions*. These normally include authoritative communication, access to students and staff, safe teaching environments, protected assessment and award records, critical library services, lawful student support, necessary research and laboratory protections, and finance sufficient to meet immediate obligations. Each function requires an owner, dependencies, a restoration priority and an acceptable interim service level. A registrar may need read-only access to essential records when the main information system is unavailable; a final-year medical programme may need priority access to approved practical assessment facilities; and an academic senate may need an emergency method for recording a legitimate decision. The goal is to maintain decisive functions, not every routine administrative convenience.

Emergency decision-making requires an explicit chain of command and bounded delegation. A crisis committee may coordinate operational response, but should not acquire unlimited academic or statutory powers merely because it has been convened. A faculty may authorise temporary teaching arrangements under an approved delegation, while a material alteration to programme structure or accreditation conditions may require further institutional or external approval. Relevant public authorities retain responsibilities assigned by law. The emergency decision log should record the triggering event, competent source of authority, facts reasonably available, options considered, protective measures, affected students, review date and the means of appeal. Decisions should be periodically revisited as the emergency changes.

Communication is an academic control, not an afterthought. Learners need timely, accurate and accessible explanations of what has changed, which commitments remain, how they will submit work, whom they can contact and when a further decision is expected. A continuity

strategy should maintain at least one channel independent of a vulnerable primary platform, taking into account students with limited data, disabilities and language needs. Messages must separate confirmed facts from provisional estimates. Declaring that all examinations will resume within two days before restoration has been tested may undermine trust and create avoidable harm. Where information is incomplete, a clear next update time and explanation of protective interim measures are more credible than certainty unsupported by evidence.

Alternative delivery should be academically authorised, accessible and demonstrably equivalent in relation to the outcome actually assessed. Institutions need a controlled set of available modalities, such as downloadable learning packs, secure asynchronous submission, temporary partner classrooms or scheduled make-up practical sessions. The selection must consider device availability, bandwidth, academic interaction, learning materials, assessment security and staff workload. A programme may need several simultaneous pathways because a single remote-delivery solution cannot suit every learner. These arrangements should be designed into programme risk registers and practised in manageable exercises, not improvised entirely after the primary channel fails.

Teach-out becomes necessary when continued delivery of a programme is no longer viable or lawful, rather than merely inconvenient. A teach-out plan identifies how currently enrolled students will be enabled to complete legitimately, including through a properly authorised transfer or partnership where available. It should specify affected cohorts, remaining modules, academic leadership, resource commitments, award authority, protection of prepaid fees and deposits where relevant, records custody, student advice and arrangements for those requiring reasonable accommodation. A transfer of students to another institution does not automatically transfer award authority or guarantee equivalence of courses. Academic mapping, recognition decisions and the receiving provider's capacity must be demonstrable and approved as required.

A useful continuity plan has four time horizons: **immediate protection**, **stabilisation**, **controlled educational resumption** and **verified recovery**. The first protects persons and critical records; the second establishes safe minimum services and communication; the third authorises and monitors adapted teaching and assessment; and the fourth determines whether all required educational and institutional obligations have been fulfilled or appropriately remedied. These phases may overlap, but the distinction prevents administrative reopening from being misreported as complete academic recovery. After-action review should be compulsory for material disruption and should feed lessons into curricular, staffing, technology and capital decisions.

Exercises should distinguish communication performance from decision competence. An institution may deliver alerts to every enrolled student yet still fail to establish a lawful alternative assessment or a safe laboratory shutdown. A useful sequence begins with a documented business-impact analysis, moves to a desk-based assessment of roles and delegated powers, and then tests one or more critical functions in a limited live exercise.

Findings should be linked to funded actions and retested before the university describes the original vulnerability as resolved. Swanson et al. (2010) treat contingency planning as a cycle of requirements analysis, strategy, planning, testing and maintenance; the educational extension is to require programme teams to verify the academic integrity of whatever is restored.

10.14 Scenario planning, institutional risk assessment, recovery indicators, and continuous learning from disruption

Scenario planning is valuable where universities face interacting threats that cannot be captured reliably by a single forecast. Its purpose is not to predict exactly what will happen. It is to expose assumptions, stress critical dependencies, compare feasible responses and establish decisions that remain defensible across plausible futures. A scenario might combine regional transport closure, prolonged electricity interruption and a final examination period; another might combine cyberattack with an impending student-record submission deadline; a third might involve flooding that simultaneously affects the campus and a hospital placement partner. Such exercises reveal consequences that separate hazard checklists overlook (ISO, 2019; UNDRR, 2015).

Scenarios should be realistic enough to guide decisions and severe enough to challenge habitual assumptions. Participants should not be handed complete information or perfect resources. They should receive a progressive series of credible events, including contradictory reports, loss of a key decision-maker, student safeguarding concerns and an unexpected vendor failure. Academic and technical participants should be required to state which decisions they would make, their authority, the evidence on which they rely, and which claims they cannot safely certify. An exercise that ends when participants locate the continuity manual has not tested institutional resilience.

Recovery indicators must distinguish technological service from educational result. System restoration time, incident response time and the proportion of records recovered are important; so too are the number of learners unable to access alternatives, postponed practical competencies, unresolved safeguarding cases, assessment validity concerns, student complaints, delayed thesis milestones and completion of compensatory instruction. Indicators should be disaggregated where lawful and practical so aggregate success does not conceal concentrated disadvantage. Raw rates should be interpreted against cohort size, event exposure and possible missing data. A low complaint count after an outage may indicate successful support or simply the disappearance of the complaint channel.

Table 10.4. Proposed recovery and assurance dashboard

Domain	Suggested indicator	Evidence source	Decision concern
Safety and communication	Affected persons contacted through accessible channels	Contact log; delivery checks; safeguarding referrals	Are uncontacted students being overlooked?

Domain	Suggested indicator	Evidence source	Decision concern
Access and inclusion	Learners unable to use the interim modality	Student support register; sampled accessibility tests	Is continuity creating unequal exclusion?
Teaching	Essential learning activities delivered or validly deferred	Revised teaching plans; activity and feedback samples	Is the advertised curriculum still achievable?
Assessment	Interrupted assessments with a verified remedy	Moderation, authorisation, appeals and assessment records	Can resulting grades be justified?
Practical competence	Outstanding non-substitutable skills	Skills register; assessor sign-offs	Has the qualification's meaning been protected?
Information systems	Restored critical services and validated data	Technical recovery tests; reconciliation logs	Is restored information trustworthy?
Governance	Material exception decisions reviewed and closed	Decision register; independent verification	Were temporary powers and changes controlled?
Sustainability	Funded plan for remaining cohort obligations	Cash-flow evidence; board decisions; teach-out plan	Can the institution complete its promises?

Note. Author-developed professional dashboard informed by ISO (2019), NIST (2024), HEC (2021a, 2026a) and the evidence-traceability principles of Sangwa (2026a). Institutions should define baseline and targets with reference to programme needs and applicable requirements; no universal numerical thresholds are asserted.

The use of indicators raises a methodological issue. A recovery measure should have a stated numerator, denominator, reporting period, accountable owner and source limitations. For example, the proportion of assessments rescheduled means little unless it distinguishes assessment opportunities provided from completed, moderated and valid outcomes. Similarly, elapsed time to restore a system does not indicate whether all users regained access. A quality unit should challenge indicators that merely reward speed while ignoring students who are still excluded. Independent sampling and student evidence are particularly valuable when senior managers face pressure to announce an early return to normal operations.

Institutional learning should go beyond assigning fault after an event. An effective review reconstructs the timeline, the assumptions guiding decisions, the resources actually available, the experience of affected students and staff, and the reasons for unexpected outcomes. It then asks whether response weaknesses arose from individual errors, unclear authority, unrealistic procurement, insufficient staffing, inaccessible designs or conflicting institutional incentives. Corrective actions require an owner, deadline, evidence of implementation and independent verification. A successful response should also be examined critically: favourable results may have depended on exceptional volunteer effort or a fortunate event duration that cannot be assumed to recur (Duchek, 2020).

Scenario appraisal should also make explicit the cost of false reassurance. A recovery exercise undertaken with additional consultants, unrestricted access to cloud administrators and unusually small participant numbers may demonstrate that a response is possible under

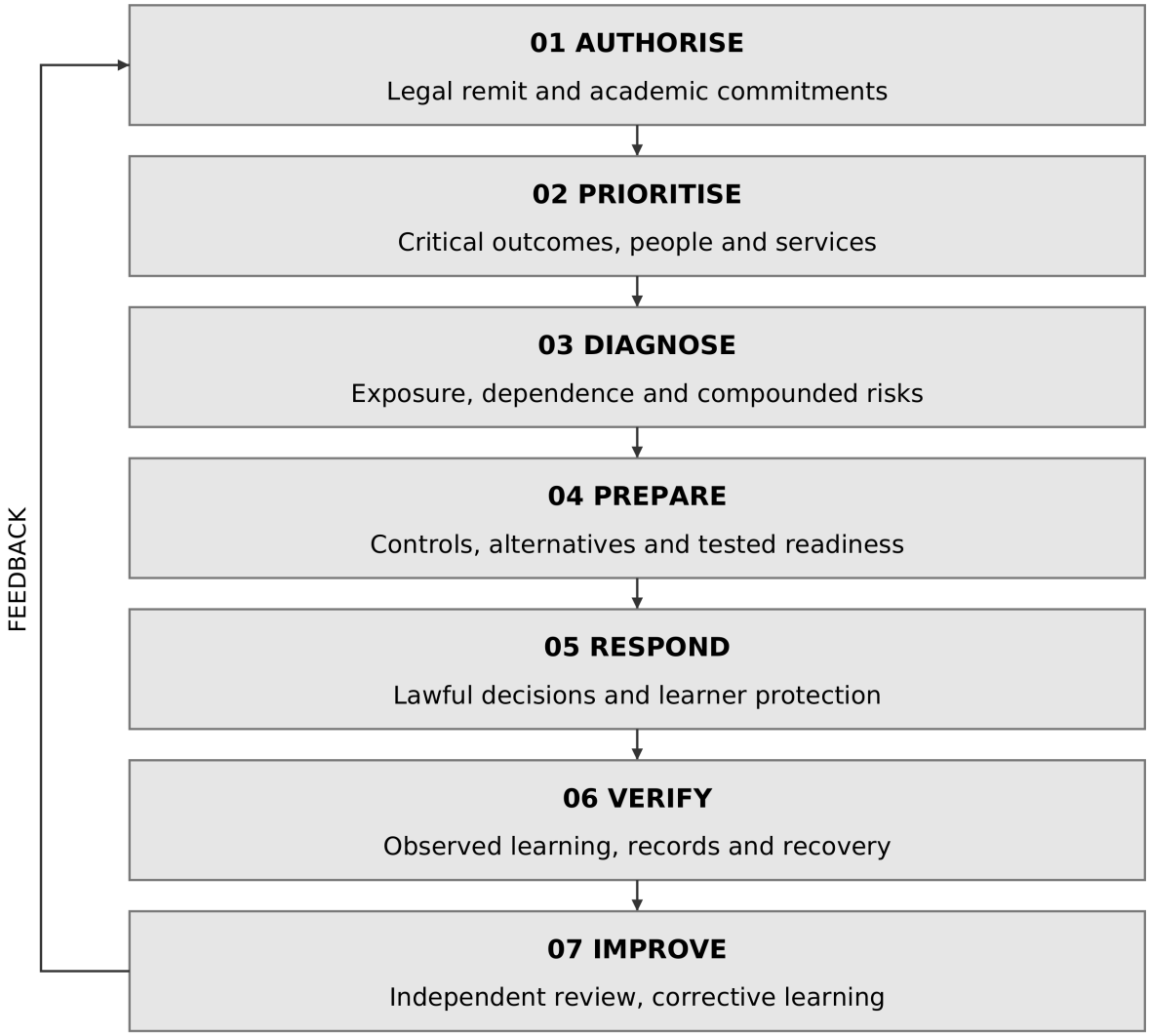
favourable conditions without demonstrating performance under the institution's ordinary staffing and financial constraints. Reviewers should record which resources were assumed, whether the exercise approximated realistic student access, which failures were introduced and how uncertainty was interpreted. Where a test cannot be conducted safely, a constrained desk study remains useful but warrants a correspondingly qualified claim.

10.15 A resilience-integrated institutional and programme quality-assurance framework

The preceding analysis supports a resilience extension of Integrated Evidence-Traceable Quality Governance (IETQG), understood in this volume as a proposed architecture linking institutional capability, programme assurance, evidence quality, reasoned evaluation and continuing enhancement. Resilience does not constitute an independent accreditation certificate or a score that can compensate for weak curriculum. Rather, it becomes an explicit test of whether a university can sustain its legitimate educational obligations through foreseeable and uncertain interruption. The extension is located at three interconnected levels: institutional capabilities that protect shared services, programme-specific arrangements that protect academic outcomes, and independently reviewable evidence that supports justified decisions. Evidence-Traceable Accreditation Judgement (ETAJ) then provides a reasoning discipline for reviewers considering what the evidence warrants under applicable authority (Sangwa, 2026a).

The proposed framework begins with *normative clarity*: identify the institution's lawful responsibilities, qualification standards, approved delivery arrangements and learner promises. It proceeds to *criticality analysis*: identify which functions and outcomes cannot be interrupted or replaced without material loss. *Dependency and scenario analysis* then examines plausible pathways by which disruption could affect those functions. *Control design and rehearsal* establishes affordable safeguards, alternatives, delegated authority and testing. *Event-specific decision and educational verification* record what happened, how the institution responded, whether learning and learner protection were maintained, and what remains unresolved. Finally, *independent review and adaptive enhancement* determine whether the system has genuinely become more capable. Each stage supplies evidence for the next, but none makes future performance certain.

Figure 10.1. Proposed resilience-integrated evidence-traceable quality governance cycle



Note. Original conceptual process model by the author. Arrows represent proposed accountability and learning relationships, not an empirically validated causal sequence. ETAJ evaluative reasoning examines the authority, claim, evidence, warrant, uncertainty and proportionate response at each material decision point.

A resilience review should avoid the false comfort of additive scoring. An institution might obtain favourable ratings for finances, information security and emergency communication while having no defensible way for final-year clinical students to complete compulsory supervised competencies. Averaging those ratings would conceal an academically decisive gap. The framework therefore treats critical safety, statutory compliance, academic-validity and learner-protection failures as non-compensatory matters requiring direct investigation. Other improvements can be prioritised according to exposure, consequence, feasibility and affordability without allowing a high overall score to negate a fundamental defect. This

principle follows the book's wider insistence that quality judgements are reasoned and criterion-referenced, not mere arithmetic (Sangwa, 2026a).

Table 10.5. Resilience-integrated quality-assurance review matrix

Review domain	Institutional or programme claim	Stronger evidence	Potential material deficiency
Authority and governance	Exception decisions are lawful and accountable	Current delegation; exercised decision trail	Emergency committee changes an award without authority
Learner protection	Alternatives are safe and accessible	Accessible communication tests; support cases and remedies	Vulnerable learners disappear from monitoring
Curriculum integrity	Essential outcomes remain demonstrable	Outcome-level continuity map; moderated work	Required clinical competence replaced by attendance
Staffing and partnerships	Critical delivery can continue	Cross-cover arrangements; signed host agreements; exercise results	Single specialist or placement host with no tested alternative
Digital independence	Core data and learning resources are recoverable	Independent exports; restoration test; supplier dependency review	Untested backup controlled by failed provider
Financial continuity	Existing student obligations can be honoured	Cash scenarios; funded contingency and teach-out	Enrolment growth masks inability to fund current cohorts
Monitoring and recovery	Deficiencies are detected and independently resolved	Incident chronology; corrective-action verification	Reopening announced while assessments remain invalid

Note. Author-developed instrument adapted conceptually from the IETQG and ETAJ architecture in Sangwa (2026a) and informed by HEC (2021a, 2026a), ISO (2019) and NIST (2024). It is not an official HEC compliance schedule.

The practical value of the matrix depends on competent professional judgement. Reviewers should assess different objects at appropriate points in time. For a new programme, a credible plan, named resources and a successfully tested limited rehearsal may be the strongest available evidence. For an established programme recovering from a documented incident, actual response logs, validated student achievement, independent moderation and closure evidence should be expected. A proposal to recover within 48 hours cannot justify the claim that the university *did* recover within 48 hours. Equally, a single untested risk should not be automatically converted into the claim that a university has already failed to educate its students. ETAJ requires a finding to state its evidentiary reach and uncertainty.

10.15.1 Higher Education Resilience and Academic Continuity Toolkit

The toolkit below is intended for institutional self-assessment, senate and council oversight, internal quality assurance, programme design, and preparation for external review. It is

purposefully compact enough to be adapted into a spreadsheet or case-management system, but it must be populated using institution-specific evidence. Its principal contribution is to connect vulnerability, response capability and eventual academic judgement. It neither authorises a programme change nor establishes compliance without reference to the competent authority and current applicable instrument.

Instrument A: Disruption-risk and critical-dependency register. Each entry should record a unique identifier, institution and programme affected, hazard or disruption scenario, specific educational function threatened, source of hazard information, exposed learner group, vulnerable dependency, plausible educational consequence, existing controls, residual uncertainty, named risk owner, planned treatment, resource commitment, next review date and documentary evidence identifier. The register should separate *risk exposure* from *demonstrated failure*: a hazard model establishes a planning concern, whereas a verified outage record documents an experienced event.

Instrument B: Scenario and decision-testing matrix. A structured exercise should record its scenario assumptions, the information revealed at each stage, choices available to the response team, the authority for each choice, people potentially harmed or excluded, minimum academic standards, information still missing and the evidence to be generated. Observers should record decisions actually made rather than merely noting attendance. The final exercise report should differentiate successful actions, uncertain performance, unacceptable omissions and proposed corrections, each with an accountable closure route.

Instrument C: Programme educational-criticality assessment. Programme teams should list every materially affected outcome and designate whether it is deliverable through an approved alternative, achievable with supervised later completion, or non-substitutable under available conditions. For each designation, they should provide the academic rationale, essential resources, responsible assessor, affected cohorts, expected evidence, learner accommodation procedure, approval status and completion deadline. Designation must be based on assessment validity and safety, not on convenience or the lowest-cost substitute.

Instrument D: Continuity-plan and communication record. A complete plan should specify the triggering conditions and source of reliable alerts; the crisis decision body and approved delegations; immediate safety responsibilities; critical academic and information-system services; temporary learning and assessment routes; safeguarding and accessibility; staff, students and partner communications; restoration dependencies; data-protection and security considerations; arrangements for high-risk laboratories and placements; the formal review of continuing exceptions; and teach-out or transfer contingencies. Document control should identify version, authorising body, effective date, exercise history and review cycle.

Instrument E: Platform and vendor-dependency assessment. Universities should identify the service owner, educational use, governing contract, data categories, hosting and sub-processing locations where known, access and administrator controls, exit rights, portable formats, common-mode dependencies, tested backup separation, restoration objectives,

vendor insolvency or suspension scenarios, accessibility implications, privacy review and procurement renewal decisions. A favourable supplier certification may support one aspect of control but cannot replace institution-specific recovery and educational access tests.

Instrument F: Post-disruption academic assurance record. For each affected cohort, the institution should document the event period, approved exceptions, delivered learning, omitted or deferred outcomes, assessment changes, actual learner access, unresolved complaints, moderation findings, transcript or grade reconciliation, actual recovery evidence, remedial instruction, financial or support remedies, independent verifier and the academic authority approving closure. The final decision should distinguish *fully recovered*, *provisionally restored with specified remaining obligations*, and *not yet adequately restored*. These are proposed internal reporting descriptors rather than legally defined accreditation categories.

10.15.1.1 Disruption-risk and critical-dependency register

An institutional disruption register should begin with the educational commitment at risk rather than with a generic category such as flood, illness or cyberattack. For each material exposure, the responsible office should record a stable case identifier, the affected campus or programme, essential learning or research functions, foreseeable failure route, exposed learner groups, the source and date of hazard information, existing prevention and continuity controls, and the people or systems on which those controls depend. The record should identify a named owner, a proposed treatment, its funding status, the latest supporting evidence and the time at which the risk must be reassessed. Clear version control is essential when a threat evolves during a semester or a supplier agreement changes.

The register's value rests on disciplined interpretation rather than numerical decoration. A risk assessed on the basis of a general regional flood map should not be described as the measured probability of inundation at a laboratory door. Likewise, a successfully restored test backup establishes that one restoration method has worked under the stated conditions, not that every student record is recoverable in any imaginable incident. Residual uncertainty, alternative explanations, dependencies and non-compensatory safety concerns should remain visible in the register. An institution may prioritise treatments using ordinal judgements of consequence and exposure, but should not average away a critical failure of academic validity or learner protection (MINEMA, 2023; UNDRR, 2015).

10.15.1.2 Scenario and decision-testing record

A scenario matrix should reconstruct not only an imagined disruption but also the institution's chain of decision-making. The exercise designer identifies the initial conditions, the educational functions exposed and successive information updates. At predetermined points, participants are asked to decide whether to suspend a service, contact affected students, activate a contracted alternative, defer an assessment or seek additional academic or regulatory authorisation. Observers record the decision actually taken, the person making it,

the invoked authority, the information available at that moment, the consequences anticipated and the evidence that would subsequently be necessary to verify a satisfactory result.

A strong exercise leaves room for incomplete or contradictory evidence, absent decision-makers and simultaneous threats. For example, the primary learning platform may recover while the digital identity service remains unavailable; the university must then determine whether new submissions can be authenticated safely. The post-exercise report should identify successes supported by observation, weaknesses requiring intervention, unresolved assumptions and actions needing independent retesting. Mere attendance at a simulation or the existence of meeting minutes cannot substantiate the claim that a continuity system has been rehearsed effectively. Its quality is demonstrated through defensible decisions and observable performance under stated conditions (ISO, 2019; Nelson et al., 2025).

10.15.1.3 Programme educational-criticality assessment

Programme-level analysis must start from the approved qualification and its intended learning outcomes. The programme team identifies each disrupted module component, determines the precise competence it contributes, and examines whether an alternative activity can produce comparably valid assessment evidence. Some theoretical understanding may be assessed through an accessible written explanation, while manipulative laboratory technique or supervised clinical judgement may remain unverified until appropriate practical conditions are restored. The record should make the academic justification explicit, identify the assessor competent to judge the outcome and show the cohort, deadline and resources affected.

An assessment should classify activities in meaningful rather than administratively convenient terms: outcomes demonstrable through an authorised alternative, outcomes requiring later supervised completion, and outcomes whose assessment cannot presently proceed without unacceptable risk or material loss of validity. For each case, the institution documents equitable participation arrangements, necessary decisions by the senate or equivalent body, any external authorisation required, expected evidence and arrangements for moderation. The designation should remain revisable as actual conditions change. A cancelled placement does not make the underlying competence optional; equally, a delayed practical requirement need not prevent a learner from progressing through genuinely independent theoretical modules when the regulations permit it.

10.15.1.4 Continuity-plan and student-communication record

A functioning continuity plan must join activation criteria to a legitimate decision structure and tested alternatives. Its core should specify trusted information sources, immediate safety roles, contact and delegation arrangements, the minimum academic services to be preserved, the available teaching and assessment substitutes, arrangements for students requiring support, and the procedure for confirming restored facilities or data. Separate programme annexes should identify vulnerable practical outcomes, while central service annexes address

the registrar, library, information systems, finance and emergency communications. The document must record its approving authority, effective version, training and exercise history, and the conditions for standing down temporary arrangements.

Communication should be evaluated as an educational safeguard. A message that reaches the main website but cannot be accessed by students whose connectivity has failed is not an adequate sole channel. Institutions should verify at least one feasible independent route, identify which affected learners cannot be contacted and communicate what is confirmed, what remains uncertain and when the next update will occur. Material changes to examinations or practical study should be described with their academic consequences and available remedies, rather than announced as vague reassurances. Exceptional decisions must be time-limited, logged and reviewed under the competent institutional and regulatory processes.

10.15.1.5 Platform and supplier-dependency appraisal

A credible vendor-dependency review follows essential academic records and functions through the entire technology supply chain. It establishes who holds the contract and administrative rights, the information processed and stored, the relationship among hosting, authentication and subcontracted services, the terms governing access and export, and the safeguards applying to confidentiality, integrity, accessibility and intellectual property. The evaluation should ask what happens after a supplier outage, price increase, account termination, data breach or prolonged payment interruption. The same identity provider or cloud account governing both production and backup systems constitutes a potentially decisive common-mode dependency.

The corresponding evidence should exceed a procurement officer's statement that the provider is reputable. Universities should conduct and record a usable export of authoritative grades, learning materials and essential student records, exercise restoration into an independently governed environment where practicable, and verify whether academic staff can actually operate the substitute. Recovery-time and recovery-point objectives should be established from educational criticality and measured against rehearsed outcomes. Contractual rights, privacy review, service assurances, staff competence and financial exit costs must be assessed together. No supplier certificate or service-level promise should be represented as proof of institution-specific recovery performance without corroborating tests (NIST, 2024; Swanson et al., 2010).

10.15.1.6 Post-disruption academic assurance and closure review

The final instrument should enable an independent reviewer to reconstruct the educational consequences of a specific event for each affected cohort. The record identifies the disruption period, approved exceptions, learning and assessment actually completed, outcomes deferred or lost, learner-access constraints, safeguarding concerns, moderated assessment evidence and the status of academic and financial remedies. Technical reports establish which systems and

records were restored; academic records establish whether students achieved the stipulated standard. The quality unit or equivalent verifier should reconcile these sources and identify any contradiction that prevents an unqualified conclusion.

Closure is consequently a reasoned judgement rather than the date at which normal lectures resume. A case may be fully verified, operationally restored with identified academic obligations still outstanding, or insufficiently restored for lawful or academically defensible completion. These are proposed internal reporting descriptions and must never be presented as HEC accreditation categories. The competent academic body should approve closure only when the evidence supports its scope, students have been appropriately informed and unresolved requirements have owners, deadlines and review routes. Where claims remain uncertain, the record should say so explicitly and preserve the right to supplementary verification or appeal. This is the post-event application of evidence-traceable accreditation reasoning, not a replacement for an authorised regulator's decision.

Table 10.6. An illustrative, explicitly hypothetical worked risk register for a Rwandan university

ID and scenario	At-risk educational obligation	Existing evidence in the scenario	Immediate judgement and required action
R01: Flooded access roads during examination week	Fair access to scheduled assessment	Road alerts; student reports; no validated alternative venue	Suspend unsafe attendance; authorise equitable alternative; preserve assessment security
R02: LMS account suspension for 72 hours	Access to teaching, submissions and feedback	Vendor notice; downloaded readings; no tested grade export	Activate offline materials; document grades separately; test independent restoration
R03: Clinical host closes unexpectedly	Supervised patient-care competence	Host letter; completed theory modules; no replacement placement	Defer missing competencies; contract eligible host; verify supervisor capacity
R04: Laboratory power loss and sample spoilage	Research validity and safe practice	Refrigeration alarm; equipment records; uncertain sample integrity	Stop affected experiments; preserve evidence; approve a revised research method
R05: Sharp tuition revenue shortfall	Ability to complete existing cohorts	Cash-flow scenario; unfunded final-year teaching	Ring-fence critical teaching; adopt board-approved contingency and teach-out options

Note. Entirely constructed illustrative case; no actual Rwandan university, incident, financial condition or regulatory finding is represented. Ratings are deliberately omitted because evidenced consequences and lawful controls are more informative than arbitrary numerical scores.

10.15.2 Worked case: Concurrent disruption at a hypothetical institution

Consider a hypothetical mid-sized Rwandan institution offering business, computing, agriculture and health-related programmes. After unusually heavy rainfall, access roads to its

principal campus become temporarily unsafe. The institution also loses its main internet connection and discovers that its LMS depends on a single cloud identity service. At the same time, a clinical placement partner suspends student attendance, and a finance forecast reveals that the institution could not comfortably fund an entire semester of parallel facilities. These are constructed conditions selected to expose interacting dependencies, not claims about an identifiable provider.

The initial response should protect people and secure trustworthy communication. Management suspends travel to unsafe sites under its applicable powers, publishes a verified alternative contact channel and asks programme teams to classify essential activities. The registrar preserves authoritative cohort and assessment records. The science laboratories are inspected by qualified personnel before reopening. Finance presents realistic costed alternatives, while the academic authority decides which assessment changes are defensible and which require further approval. The resulting decision log should be kept separate from unverified rumours concerning the cause of rainfall or the condition of damaged infrastructure.

The academic choices are programme-specific. Business students may continue through accessible readings, guided problem-solving and securely rescheduled assessment. Computing students may undertake locally executable coding exercises where software licences and academic integrity controls permit. Agriculture students whose field experiment was interrupted may need a revised research design or repeat observations. Health students cannot be certified as having completed supervised patient-care competencies merely because a virtual seminar was delivered. The quality unit therefore maintains a differentiated record of continuing, deferred and lost activities, and tests whether the institution's proposed remedies preserve the approved award standards.

An external reviewer applying ETAJ would not ask simply whether the university's website remained accessible. The reviewer would identify the governing standard, the specific claim of continuity, the supporting documents and verified actions, the inferential link between those actions and the claimed learning outcome, possible contradictions, and the lawful decision options. For example, a verified off-site backup supports confidence in records recovery but does not establish that every student's submission was restored. A hospital partner's general offer of assistance does not establish a signed, staffed and safely supervised alternative placement. The result may be a combination of favourable findings, evidence gaps, immediate academic protections and timed conditions, rather than a single overall label.

The hypothetical incident ends only when the institution can demonstrate that essential practical skills were completed, assessment anomalies resolved, affected learners offered appropriate remedies, data and transcripts reconciled, financial commitments sustained and material deficiencies independently reviewed. Some restoration may remain incomplete at the time normal classes resume. Publishing that distinction accurately would strengthen, not

weaken, institutional credibility. It would also give management precise evidence for subsequent investments in alternative sites, staffing, communication and digital portability.

The example also reveals why the sequence of decisions matters. Immediately after the transport warning, the university should classify safety and communications as urgent responsibilities, while postponing any decision that assumes damaged facilities are suitable. During stabilisation, each programme team should separate viable temporary academic activities from outcomes that genuinely require access to sites or people. Only after those distinctions are documented should management commit resources to revised assessment windows or partner facilities. Later independent verification should compare the originally promised competencies with what each affected cohort actually demonstrated, not simply compare the original and amended calendars.

The risk register in Table 10.6 is deliberately incomplete as incident evidence because a hypothetical case cannot supply authentic technical logs, learner records, signed contracts or demonstrated recovery outcomes. That limitation is analytically useful: it indicates precisely which documents would be needed before an institutional or external reviewer could reach a defensible conclusion. For example, an LMS outage lasting 72 hours may be manageable if trustworthy offline submissions, a valid alternate authentication route and reconciled grades are evidenced; the same outage may threaten awards if the only copies of examination work were lost. The relevant variable is not the incident's label but the relationship among interruption, academic obligations, protective decisions and verified learning.

10.15.3 Implementation sequence and implications for HEC and universities

Implementation should begin with a controlled baseline rather than immediate proliferation of new committees. In the first stage, the governing body identifies institutional risk appetite and non-negotiable academic safeguards; the senate or equivalent academic body identifies critical programme outcomes; and the quality unit maps existing risks, authorities and evidence registers. In the second, ICT, estates, finance, student services and academic departments carry out business-impact analysis and develop tested alternatives for priority dependencies. In the third, institutions rehearse compound scenarios, commission independent scrutiny where proportionate and revise the responsible budgets. In the fourth, actual incidents and exercises are connected to annual programme monitoring, internal audit, revised plans and external review preparation.

HEC and comparable regulators could consider resilience evidence within existing institutional capability, distance-learning, learner-protection and programme-review functions, subject to their actual mandates and consultation procedures. Useful questions concern continuity of qualified staffing, evidence security, practical learning, sustainable resources, digital-service recoverability and transparent programme modification. The proposal does not imply that HEC has formally adopted the matrix or that the 2026 governing order independently prescribes the exact tool. Any future regulator-approved indicators

would require policy development, proportionality assessment, disciplinary consultation, institutional piloting and explicit publication of legal or administrative status.

A research agenda should evaluate whether the proposed instruments improve the consistency of risk decisions, reduce preventable educational loss, protect equity and produce credible recovery evidence. Potential methods include comparative institutional documentary audits, anonymised incident analysis, scenario-exercise evaluation and independent reviewer calibration. Such work should examine the costs imposed on resource-constrained institutions, the possibility of false assurance through rehearsed performance, and the risk that an expanding documentary burden detracts from actual teaching capability. The present conceptual synthesis cannot establish causal effectiveness or continent-wide transferability. Its instruments offer a transparent basis for critical testing, not final proof of their own worth.

A feasible implementation plan should also allocate responsibilities at distinct levels. The council or governing board examines risk appetite, continuity financing and institutional commitments; the senate or corresponding academic authority establishes the safeguards protecting outcomes and awards; the registrar preserves authoritative academic records; ICT and estate functions establish tested technical and physical alternatives; student services identify exclusion and safeguarding consequences; and programme leaders justify discipline-specific adaptation. In each case, the actual powers must be confirmed against applicable national law and institutional statutes. The quality unit should coordinate documentation and independent challenge without being permitted to certify work it cannot inspect or approve qualifications outside its competence.

For external quality assurance, a resilience enquiry should be proportionate to the programme's real exposure and stage of implementation. Initial accreditation may legitimately examine prospective capability through approved arrangements, committed resources and controlled exercises; an established provider that has experienced disruption should supply corresponding records of actual response and correction. Particularly material failures, such as missing clinical competencies, unverified examination records or absent learner protections, require distinct findings rather than a favourable overall score. Before embedding the suggested tools in national practice, authorities and institutions would need testing for inter-reviewer consistency, administrative burden, equity effects, feasibility across disciplines and concordance with the binding regulatory framework.

10.16 Conclusion: Resilience as the continuing integrity of educational promises

Higher-education resilience cannot be reduced to keeping classrooms open, migrating lectures online, purchasing cloud services or displaying a crisis-management policy. Its academic significance arises from the relationship between institutional disruption and the obligations that make a university credible: protecting learners, maintaining legitimate standards, producing trustworthy evidence of achievement, preserving records, exercising lawful

judgement and enabling students to complete worthwhile qualifications. Pandemics, conflict, climatic extremes, technological dependence, cyber incidents and fiscal instability differ in mechanism, yet each can expose the distance between an approved educational promise and an institution's capacity to honour it under pressure.

The chapter has shown why that distance must be examined through hazard-sensitive but evidence-disciplined reasoning. Scientific assessment supports serious concern about many African climate risks while leaving individual-event attribution to appropriate methods. Documented bounded weather modification does not establish the feasibility of broad weather control, and international restrictions on hostile environmental modification do not themselves prove that a particular prohibited act occurred. Equally, genuine uncertainty around proposed solar radiation modification warrants continued rigorous inquiry into scientific, ethical and governance questions. Universities best serve the public by protecting open scholarly investigation without sacrificing evidence standards or converting plausible suspicion into established fact.

The proposed resilience extension of IETQG joins institutional preparedness, programme-specific academic continuity and post-disruption verification to the evidence-traceable judgement already developed in the book. Its toolkit gives universities a practical route from risks and critical dependencies to authorised decisions, tested alternatives, learner remedies and defensible recovery findings. These are professional proposals whose effectiveness and regulatory suitability remain to be evaluated. The deeper principle is that *sustained quality includes the integrity with which an institution handles interruption, uncertainty and unavoidable loss*. A university demonstrates maturity not by asserting that disruption cannot harm it, but by knowing which promises remain, which capacities have failed, what it can responsibly adapt, and what evidence must be supplied before it declares those promises fulfilled.

This argument completes the volume's examination of quality assurance and resilience while preparing a distinct question about institutional mission. Universities differ in the ultimate purposes they profess, including those established upon explicit Christian commitments. Such differentiation may enrich educational practice, but it cannot remove obligations to academic honesty, learner protection, legitimate governance and responsible stewardship. The next chapter therefore considers how biblical mission and scholarly quality can be held together without substituting doctrinal affirmation for educational evidence or regulatory recognition.

PART IV

Christian Higher Education and the Future of Quality Governance

Integrated quality governance must be capable of respecting institutional purpose while preserving the evidence and authority appropriate to each public claim. Chapter 11 examines that responsibility within Christian higher education. Grounded in Sola Scriptura, it connects biblical mission, curriculum integrity, scholarly competence, digital formation and stewardship, while distinguishing theological judgement from educational assessment and legal recognition. Chapter 12 draws the volume together through the expanded IETQG architecture and its coordinated implementation handbook.

The concluding movement is from differentiated responsibilities towards accountable institutional action. The handbook connects authority registers, programme assurance records, evidence maturity, decision support, indicators, adaptation and phased implementation. It also preserves the need to test the proposed tools for relevance, feasibility, effects and unintended consequences. The book closes by treating its own framework as revisable scholarship: a contribution to educational reasoning whose practical value must be examined through responsible use and further research.

11. Christian Higher Education: Biblical Foundations, Curriculum Integrity, Digital Learning, and Quality Assurance

12. Towards an Integrated Framework for Quality, Innovation, and Sustainable Higher Education in Rwanda and Africa

CHAPTER 11

Christian Higher Education: Biblical Foundations, Curriculum Integrity, Digital Learning, and Quality Assurance

Integrating Faithful Educational Mission, Scholarly Excellence, and Institutional Accountability

Abstract

Christian higher education is simultaneously a confessional undertaking, an educational institution and, where it awards recognised qualifications, a subject of public academic accountability. Treating any one identity as sufficient weakens both institutional witness and learner protection. This chapter develops a biblically grounded, academically rigorous and context-sensitive account of quality governance for Christian universities, theological seminaries, ministry-training providers and faith-based programmes. A purposive critical synthesis of Scripture, historical and contemporary theological-education scholarship, curriculum and assessment theory, selected theological-education standards, and Rwandan regulatory instruments distinguishes theological commitments from empirically assessable educational claims and binding legal duties. It examines Sola Scriptura, hermeneutical competence, professional curriculum integration, doctrinal accountability, online formation, artificial intelligence, research ethics, governance, accreditation and transnational delivery. The central proposition is that mission fidelity does not substitute for educational effectiveness, and neither establishes legal recognition; instead, all three require distinct evidence and appropriate decision authority. The chapter advances a proposed Christian Higher Education Curriculum and Quality Assurance Framework situated within Integrated Evidence-Traceable Quality Governance and operationalised through a mission-alignment matrix, programme-design criteria, digital discipleship rubric, institutional self-assessment and worked hypothetical review. These instruments are neither regulator-approved nor empirically validated. The resulting approach treats faithful biblical teaching, scholarly competence, responsible stewardship and truthful public representation as mutually reinforcing obligations without confusing scriptural authority with the methods of empirical investigation or the powers of statutory regulators.

Keywords: Christian higher education; Sola Scriptura; theological education; curriculum integrity; digital discipleship; academic accreditation; evidence-traceable quality assurance

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11.1 Introduction: The distinct purpose and identity of Christian higher education

A Christian university may teach an uncompromising statement of faith while awarding degrees whose curricula lack sufficient disciplinary depth. Conversely, a secularly accredited institution may provide academically demanding programmes while making no claim that its graduates are formed through biblical teaching. A third institution may offer valuable ecclesial instruction but be neither authorised nor organised to confer nationally recognised academic degrees. These situations cannot be evaluated responsibly by asking only whether the provider is sincerely Christian, academically respected or institutionally registered. Each concerns a different claim and a different evidentiary test. Christian higher education is most credible when its religious mission is honest about what it promises, its pedagogy can substantiate what learners achieve, and its public communications accurately describe the legal and academic status of its awards.

The preceding discussion of educational resilience established that universities remain responsible for their academic promises when circumstances become difficult. Mission-specific institutions have an additional issue: which commitments define the education they must protect? For a Christian institution governed by Sola Scriptura, those commitments include fidelity to the biblical witness about God, Jesus Christ, salvation, human responsibility and the church, together with truthful teaching, intellectual diligence, care for students and accountable stewardship. These convictions do not release the institution from curricular coherence, academic integrity, qualified instruction, disability inclusion, sound finances, data security or applicable educational regulation. Indeed, the ethical force of biblical teaching creates stronger reasons for refusing deceptive advertising or hollow credentials, even where administrative loopholes might permit them (Proverbs 11:1; Luke 16:10; 2 Corinthians 8:20–21).

The chapter distinguishes four educational settings. A church-based discipleship programme primarily serves congregational teaching and may confer a completion certificate without claiming academic credit. A theological college or seminary may offer structured ministerial education at certificate, undergraduate or postgraduate level, depending on its actual authorisation. A Christian university may teach both theological and professional disciplines under a confessional mission. A conventional university may contain a Christian studies unit without confessional governance of the institution as a whole. Their purposes, expected learning, institutional rights and recognised awards differ. Applying one undifferentiated theology-school checklist to every provider would disregard both legitimate educational variation and national law. A university cannot, however, convert a non-degree ministry course into an academic doctorate merely by changing its title or adding a religious endorsement.

The argument is developed through critical documentary and conceptual synthesis. The author's doctoral framework and the preceding ten chapters establish the volume's intellectual architecture; selected Scripture passages are interpreted according to their literary and theological context; peer-reviewed studies illuminate historical and educational questions; and official national instruments determine the relevant regulatory categories. Sources are selected purposively for theological, explanatory or normative relevance rather than through a systematic database protocol. No original participant data, observed institutional cases, PRISMA screening counts or tested intervention outcomes are claimed. The practical instruments and all constructed examples are scholarly proposals, not Higher Education Council (HEC) forms or institutional endorsements. The chapter's methodological discipline rests particularly on not allowing confessional conviction, documentary existence or professional preference to masquerade as proof of a different kind of claim (Higher Education Council [HEC], 2021a; Sangwa, 2026a).

Three independent tests therefore organise the present inquiry. A confessional test examines whether what the institution teaches is defensibly related to its stated understanding of Scripture. An academic test examines whether learning expectations, disciplinary methods, assessments and research practices justify the qualification claimed. A public-authority test establishes which legal body may authorise the provider, programme, delivery mode and award. These tests must meet in governance but cannot substitute for one another: no accumulation of excellent Bible classes confers degree-awarding powers, while legal permission to award a degree does not authenticate a disputed doctrinal interpretation. This differentiation is especially significant when students encounter titles such as Bible certificate, ministry diploma, Doctor of Ministry or Doctor of Philosophy through international online advertising. The terms communicate different educational and legal claims whose meanings must be established rather than assumed.

The chapter asks a further question often neglected in mission statements: what happens when declared commitments conflict with actual decisions? A university may affirm generosity but impose opaque fees, proclaim scholarly truth while permitting fabricated references, or describe pastoral care while offering no confidential reporting channel. Such contradictions are not resolved by intensifying confessional language. They require governance capable of identifying discrepancies, giving affected learners a voice, recording corrective decisions and testing whether practice has changed. Accordingly, Christian educational quality is treated here as accountable faithfulness in the conduct of a real institution, not as an unobservable quality attributed to its founders' intentions (ATS Commission, 2020; HEC, 2021a).

11.2 Biblical foundations of knowledge, wisdom, truth, learning, teaching, and intellectual responsibility

Christian educational philosophy begins with a theological rather than merely instrumental understanding of knowledge. The biblical witness identifies God as the ultimate source of

wisdom and situates human intellectual life within a moral relationship to its Creator (Proverbs 1:7; 9:10; James 1:5). These texts should not be made to say that every scientific or historical fact is explicitly revealed in the Bible. Rather, they place knowledge in an ethical horizon that resists arrogance, dishonesty and the presumption of human infallibility. An engineering student must still establish material properties experimentally, while a biblical scholar must still interpret a passage according to its words, genre, argument and canonical setting. Reverence for God supplies a governing posture; it is not a substitute for the legitimate methods by which a discipline examines its subject matter.

Scripture repeatedly joins truthfulness with moral accountability. Jesus speaks of the Father's word as truth (John 17:17), Paul calls Timothy to handle the word correctly (2 Timothy 2:15), and believers are instructed to test claims rather than receive them without discernment (1 Thessalonians 5:21; Acts 17:11). The original contexts differ: Paul addresses doctrinal and ministerial responsibility; the Bereans examine apostolic proclamation in relation to Scripture; the Thessalonian command concerns discernment within the believing community. Their disciplined application to higher education therefore requires an analogical step. They provide a theological rationale for careful interpretation, accountable teaching and critical testing, but they do not prescribe a modern accreditation rubric, a university staffing ratio or an experimental design.

Teaching is presented in Scripture as both a duty and a weighty responsibility. The formative transmission of God's instruction appears in the covenantal life of Israel (Deuteronomy 6:6–7); Jesus commissions his followers to teach obedience to his commands (Matthew 28:18–20); and the New Testament associates teaching ministry with the growth of a mature church (Ephesians 4:11–16). James warns that teachers incur greater accountability (James 3:1), a warning especially pertinent to institutions that place students under the authority of lecturers, supervisors or spiritual mentors. The appropriate educational inference is not that teacher authority is unlimited. It is that teachers must be competent, answerable for their influence, ready to correct error and cautious about claiming spiritual certainty where Scripture has not spoken.

Biblical wisdom is also practical. The Hebrew wisdom tradition associates discernment with work, speech, justice, prudence and the disciplined examination of choices (Proverbs 12:1; 15:22; 18:13). The New Testament adds moral testing and responsible character to the conduct of believers (Romans 12:2; Philippians 4:8). Christian formation consequently cannot be reduced to memorising proof texts or reproducing institutionally preferred formulae. A learner should be able to trace an interpretation through a passage, acknowledge uncertainty, compare defensible alternatives, identify unsupported assertions and explain the ethical consequences of a proposed action. Assessing such capacities requires authentic intellectual performance. A student who can quote biblical words but repeatedly invents sources, misrepresents opponents or cheats on assessment has not demonstrated the integrity the curriculum professes to cultivate.

These foundations point to an important distinction between spiritual maturity and administratively visible attainment. The institution can assess exegesis, theological reasoning, professional conduct within appropriate limits and reflective application to case evidence. It cannot directly inspect the regenerate condition of the heart or guarantee the inward work of the Holy Spirit through the award of a degree (John 3:3–8; 1 Corinthians 2:12–14). A university may facilitate spiritual formation through biblically faithful teaching, prayer, worship, mentorship and responsible fellowship, but its formal academic reports should state what has actually been observed rather than claim to quantify holiness. The distinction respects both theological conviction and epistemic restraint.

The biblical account also places limits on educational authority. The teacher is charged to transmit truth, but both the instructor and the institution remain accountable to a norm beyond personal status. The Bereans' examination of the apostolic message (Acts 17:11) is not a modern charter of unrestricted individualism; its original significance lies in judging an extraordinary religious claim by the scriptural testimony. Its educational analogue is that students should not be penalised for a well-evidenced question simply because it challenges a popular lecturer. Conversely, responsible enquiry is not licence to present speculation as certain knowledge. The appropriate habits are careful reading, transparent argument, awareness of interpretive limits and willingness to correct error. These habits need deliberate instructional and assessment design, especially where students arrive from learning environments in which authority has been equated with unquestioned repetition.

A balanced biblical philosophy of work and service also resists the tendency to equate Christian higher education exclusively with preparation for church office. Teaching, research, enterprise, healthcare, law and public administration each present opportunities for diligence, justice and care, but biblical texts addressing discipleship are not automatically detailed policy manuals for each profession. The interpretive bridge must be argued openly. For example, the demand for honesty in weights and measures (Proverbs 11:1) can reasonably illuminate accurate financial reporting; it does not specify contemporary accounting standards, which require specialised professional knowledge and enforceable rules. The distinction matters for curriculum integrity: spiritual conviction should deepen the reasons for technical competence rather than function as an alternative to that competence.

11.3 Sola Scriptura and the relationship between biblical authority, theology, philosophy, and academic inquiry

Sola Scriptura identifies Holy Scripture as the final and sufficient norm for Christian faith and doctrine, not as the only source from which any legitimate information can be learned. The key biblical argument rests on the character and function of Scripture as God-breathed and useful for teaching, correction and training in righteousness (2 Timothy 3:16–17), read alongside the mandate to test teaching against revealed truth (Acts 17:11; Galatians 1:8–9). Properly understood, biblical supremacy challenges every theological authority, including church custom, theological fashion, charismatic personality and institutional branding. It is

not permission to neglect linguistic study, historical context or responsible reasoning. Human traditions and disciplinary interpretations remain fallible; Scripture itself is not thereby made dependent upon the prestige of a particular university, confession or commentator.

The hermeneutical task requires attention to canon, genre, authorship, audience, historical circumstances, grammar, literary context and progressive revelation. Biblical narrative, proverb, poetry, prophetic oracle, apocalyptic vision and apostolic instruction communicate in different ways. A proverb is not invariably an unconditional prediction, nor may an apocalyptic image be turned into a technical description without exegetical warrant. Interpreting Scripture by Scripture should not be confused with aggregating isolated verses while ignoring local arguments. Such failures are not merely academic mistakes: they can generate oppressive teaching, unfounded eschatological predictions, financial exploitation or misplaced theological certainty. A Sola Scriptura institution should therefore teach students both fidelity to the text and the intellectual humility to distinguish what a passage clearly affirms from what an interpreter infers.

Faith and disciplinary inquiry pose different, sometimes intersecting, questions. Biblical revelation supplies theological and moral norms; empirical science evaluates observations, mechanisms and hypotheses within the created order; historical scholarship assesses documentary provenance and plausible reconstruction; philosophical reasoning clarifies concepts, presuppositions and logical relations. A Christian biologist need not infer a laboratory result from a verse that does not address the experiment. Equally, a theologian should not present a sociological correlation as proof of a revealed doctrine. Where claims intersect, including debates about human dignity, origins, ethics or the interpretation of ancient events, scholars must identify the precise proposition at issue, evidence relevant to it and interpretive assumptions required to move from evidence to conclusion. Scripture and empirical investigation are not interchangeable instruments, even though Christian scholars may regard all truth as ultimately coherent.

A coherent Christian academic community must also distinguish confessional boundaries from arbitrary restrictions on scholarship. Institutions have legitimate reasons to define which doctrines constitute their educational identity and what lecturers are engaged to teach. They should state these commitments before appointment or enrolment, avoid retroactive tests of unspecified orthodoxy and provide fair procedures when disagreements arise. Serious textual criticism, questions about translation, debates over historical interpretation and the examination of competing arguments need not imply rejection of scriptural authority. Conversely, the expectation of academic freedom does not require a confessional institution to employ every possible theological position as its own normative teaching. The responsible resolution is transparent mission specification, competent scholarship, clear employment and curriculum expectations, and fair consideration of evidence, rather than either unbounded relativism or managerial suppression of honest inquiry (Commission on Accrediting of the Association of Theological Schools [ATS Commission], 2020; UNESCO, 1997).

A particularly difficult boundary concerns secondary doctrinal disputes. An institution may decide its confession on baptism, church government or eschatology without suggesting that every disagreement is an equal threat to the gospel. It should map its doctrines by degree of confessional centrality, teach the biblical case for its adopted position, represent significant alternative interpretations accurately and avoid conferring spiritual authority upon mere institutional preferences. Such prioritisation does not require adopting incompatible theologies as equally true. It acknowledges that the seriousness of a claim must be established through the whole counsel of Scripture and sound interpretation. In the practical framework proposed later, the doctrinal review tests identifiable biblical reasoning, explicit institutional commitments and procedural fairness; it does not attempt to convert the mystery of faith into a numerical accreditation score.

Sola Scriptura also entails a discipline of distinguishing revelation from interpretation. An institution may rightly hold that Scripture is sufficient for Christian doctrine while acknowledging that a lecturer's reconstruction of the historical setting, translation of a rare term or synthesis of an eschatological sequence remains a fallible scholarly act. The problem is acute where institutional teaching merges an explicit scriptural proposition with a much longer chain of inferences and then presents the entire chain as equally direct biblical instruction. A responsible teaching file should identify the primary passage, its immediate argument, corroborating canonical texts, major interpretive alternatives and the grounds for choosing among them. Such documentation does not subject Scripture to an external final norm. It subjects the teacher's claim about Scripture to disciplined scrutiny.

This distinction provides a safeguard against two intellectual extremes. A closed approach that mistakes existing institutional interpretations for the text itself leaves little room to identify translational, historical or logical errors. An unbounded approach that treats every interpretation as equally legitimate dissolves confessional identity and may erode confidence in the very standards a programme claims to teach. A principled institution can instead assess interpretation through disclosed criteria: linguistic and literary plausibility, contextual coherence, canonical consistency, treatment of counterevidence and argumentative candour. These are scholarly procedures by which a confessed biblical norm is handled responsibly. Their use cannot remove genuine doctrinal disagreement, but it can prevent disagreement from becoming arbitrary grading or coercive administration.

11.4 Historical development and contemporary challenges of Christian universities and theological institutions

The history of Christian higher learning is wider and older than contemporary degree-granting Christian universities. Biblical communities transmitted texts and practices through family, worship, teaching and apprenticeship, while the early church developed forms of catechesis, scriptural exposition and preparation for ministry. Important centres of Christian intellectual life emerged in North Africa, including Alexandria and Carthage, and later in monastic, cathedral and university settings. These histories should not be collapsed into a

single continuous institution or romanticised as a uniform model of faithful education. Christian schooling has served spiritual, literary, professional and political purposes under very different systems of patronage and public authority. It has produced major intellectual traditions while also encountering struggles over orthodoxy, power and access to learning (Walls, 2013).

The Reformation intensified arguments about scriptural authority, vernacular literacy and the education of pastors and ordinary believers. Subsequent Protestant schools, seminaries and missionary institutions developed different relationships with state universities, denominational organisations and emerging professional systems. Their educational significance cannot be described solely as the advancement of biblical teaching: particular settings also reflected class, gender, race, colonial ambition and unequal control of credentials. Some institutions broadened literacy, scholarship and professional opportunity; others reproduced social exclusions or trained learners for positions defined by external missionary priorities. An academically honest Christian history acknowledges both achievements and failures instead of treating an institution's Christian name as sufficient evidence of moral success.

African Christian higher education possesses equally diverse genealogies. Early Christian histories in North and Northeast Africa predate European colonial missions, while many modern theological schools in sub-Saharan Africa emerged through missionary networks, churches, Bible-training institutes and later indigenous leadership. Post-independence theological education increasingly faced questions of language, ecclesial authority, ministerial relevance, professional recognition and institutional self-governance. Amanze (2009) critically examines the inadequacy of some inherited Eurocentric arrangements for addressing African social realities; Wahl (2013) assesses the relationship between international theological-education debates and African contextual challenges; and Sanon (2024) describes movement from non-formal training towards university-level study in Francophone Africa. These analyses illuminate significant differences across countries rather than prove one uniform continental trajectory.

Contextualisation presents an enduring intellectual challenge. Responsible contextualisation enables learners to interpret Scripture thoughtfully in Kinyarwanda, English, French or other languages, examine social conditions and communicate the gospel intelligibly within the lives of communities. It should neither reproduce foreign theological assumptions uncritically nor allow cultural familiarity to override biblical teaching. African proverbs, histories, moral concepts, social structures and experiences may provide valuable objects of study and points of explanation; their status as contextual knowledge must be distinguished from the normative authority of Scripture. A curriculum that ignores African questions can become practically irrelevant, while a curriculum that baptises every local convention risks making context, rather than Scripture, its supreme doctrinal criterion.

Contemporary pressures include denominational fragmentation, variable levels of institutional recognition, under-resourced libraries, faculty dependence, unstable funding, multilingual instruction, long-distance study and rapidly expanding digital content. The proliferation of religious certificates and doctoral titles on the internet can also confuse the difference between advanced scholarly qualification, ecclesial honour and informal ministry training. These risks are not unique to Africa or to Christian providers, and no prevalence estimate is asserted here. They nevertheless warrant candid evaluation of curricular depth, qualified supervision, research facilities, integrity controls and truthful credential descriptions. Christian educational history offers no warrant for institutional complacency: faithful continuity requires discerning what must be preserved, what must be reformed and what evidence can justify either judgement.

The plurality of African Christian intellectual histories warrants a methodological caution. Egypt and Roman North Africa made formative contributions to early Christian theology, and African encounters with Scripture long precede colonial mission schools; nevertheless, the genealogy of a modern university charter cannot be inferred directly from the antiquity of Christianity in its region. Hanciles (2024) stresses the interaction of missionary projects, colonial power and African agency in the development of Anglophone theological education, while Sanon (2024) discusses the movement from non-formal ministry preparation towards university-level study in Francophone Africa. Together they illuminate institutional change without establishing that all contemporary evangelical colleges share the same history or standards. Documentary research should therefore distinguish religious continuity, educational continuity, corporate history and legally recognised awarding authority.

A curriculum that takes these histories seriously should introduce students to African exegesis and theological argument as substantive scholarly work, not simply as local colour inserted after an otherwise complete imported syllabus. It should ask how translation, social change, labour migration, poverty, governance, family responsibility, conflict and digital communication affect the questions posed by African learners. It must also test contextual claims against Scripture using the same interpretive discipline applied to European or North American theological traditions. Neither geographical origin nor the prestige of a famous theologian is decisive under Sola Scriptura. The educational task is to enable students to evaluate claims independently while understanding the historical forces that made certain questions visible and others neglected (Amanze, 2009; Hanciles, 2024).

11.5 Christian educational philosophy, curriculum purpose, worldview coherence, and graduate formation

The purpose of Christian higher education is best articulated through several distinguishable commitments: accurate transmission and critical understanding of Scripture; formation in truthful and responsible conduct; intellectual competence appropriate to academic level; preparation for specified forms of service or profession; and accountable contribution to church and society. These purposes overlap without being interchangeable. A Bachelor of

Biblical Studies should develop stronger exegetical and historical capability than a short discipleship certificate; a Master of Christian Business Administration should offer appropriate advanced management education in addition to explicit Christian ethical reasoning; and a research doctorate should demonstrate original, independent scholarship rather than simply lengthier devotional reflection. Qualifications must communicate the actual level and kind of learning expected (Biggs, 1996; HEC, 2021a).

An educational worldview is expressed not only through a preface announcing Christian values but through the questions the programme asks, the texts it treats as authoritative, the intellectual habits it rewards and the conduct it requires. Coherence can be tested at three levels. Normatively, the curriculum's doctrinal commitments must be explicit and biblically reasoned. Pedagogically, outcomes, teaching activities and assessment must make those commitments intellectually accessible and appropriately demanding. Institutionally, governance, learner relations, financial arrangements and publicity must not systematically contradict the virtues taught. A compulsory ethics course cannot compensate for knowingly deceptive fee policies; similarly, a ministry programme preaching care for the vulnerable undermines its witness if students with disabilities cannot access basic learning materials (James 2:1–9; 1 Peter 3:15).

Graduate formation must not be reduced to a list of personality traits supposedly produced by enrolment. Character develops in many settings and cannot be attributed causally to a course without evidence. A defensible profile specifies both academically assessable capabilities and non-certifiable spiritual aspirations. The former might include accurate biblical interpretation, historical and theological reasoning, ethical case analysis, competent communication, scholarly writing, prudent management, research literacy and professional practice under supervision. The latter may include prayerfulness, love, humility, perseverance and devotion to Christ. Institutions can describe their encouragement of the latter and establish standards of observable conduct, but should not certify spiritual regeneration as though it were an examination result.

Constructive alignment supplies a strong educational tool precisely because it prevents mission rhetoric from standing apart from course design (Biggs, 1996). Consider a programme claiming that graduates will critically interpret difficult New Testament passages. An outcome referring only to recall of gospel events is insufficient; teaching must introduce literary, historical and linguistic reasoning, and assessment must require students to defend an interpretation with evidence and address credible objections. Similarly, a programme claiming ethical business leadership needs cases involving conflicts of interest, stewardship, labour relations and financial reporting, not merely a generic Christian values lecture. Alignment is necessary but still not sufficient: the intended competencies must themselves be appropriate to the qualification and worthwhile within the university's declared mission.

Table 11.1. Biblical mission-alignment and educational evidence matrix

Commitment	Biblical or theological anchor	Curriculum and verifiable evidence	Invalid inference
Scriptural integrity	2 Timothy 2:15; Acts 17:11	Exegesis outcomes, annotated assessments, internal moderation	Presence of verses proves correct interpretation
Truthful scholarship	Ephesians 4:25; Proverbs 18:13	Reference checks, research-integrity policy, checked student sources	Christian identity proves research honesty
Ethical professional work	Proverbs 11:1; James 5:4	Professional cases, technical performance and ethical reasoning	Devotional statements establish competence
Equitable learner care	James 2:1–9; Mark 10:13–16	Access audits, complaints resolution, documented accommodations	Good intentions remove access barriers
Stewardship and governance	Luke 16:10; 2 Corinthians 8:20–21	Budget controls, board oversight, conflict declarations	A charitable mission proves financial sustainability
Spiritual formation	Ephesians 4:11–16; John 3:3–8	Mentoring provision, reflective learning; clear limits of assessment	Grades certify regeneration or holiness

Note. Original professional instrument by the author. Illustrative criteria require institutional, theological and jurisdictional adaptation; not HEC-approved or empirically validated.

The proposed matrix makes this distinction operational. It resists the false inference that inserting biblical quotations in every module demonstrates Christian integration, and it avoids the opposite assumption that serious professional disciplinary education is inherently alien to a Christian mission. The relevant judgement concerns the intellectual and moral relationship among the programme's stated purposes, what it actually teaches, how achievement is assessed and how its institutional life bears witness to those commitments. This prepares the analysis of curricular design across theological and professional domains.

The framework also requires curricular discrimination among three commonly conflated outcomes: intellectual understanding of Christian belief, an observable ability to undertake responsible Christian service, and personal spiritual transformation. Examiners can legitimately judge a student's ability to interpret a passage, communicate an argument, protect confidentiality in a simulated pastoral encounter or disclose a conflict of interest. They may not infer conversion from course completion or infer inward holiness from compliance with institutional language. Even when the educational environment intentionally encourages worship and discipleship, spiritual self-reports should not be converted into a pseudo-psychometric index. In a degree programme, assessed outcomes must remain sufficiently observable, academically valid and accessible to appeal.

Consider how this distinction affects graduate descriptors. An undergraduate may be expected to present coherent scriptural interpretation with independent reading and

supervised application, while a master's graduate should evaluate competing scholarship, synthesise complex evidence and exercise responsible professional judgement. A doctoral candidate should demonstrate a defensible original contribution and the capacity to sustain scholarly argument under independent examination. These are educational expectations, not predictions that higher qualifications produce greater sanctification. The Rwanda Qualifications Framework and the Higher Education Council's postgraduate guidance should determine award-level and programme conditions where applicable, while the institution articulates its confessional purposes without treating them as substitutes for doctoral-level research (HEC, 2026b; Republic of Rwanda, 2021c).

11.6 Curriculum development for biblical studies, theology, Christian education, Christian leadership, and ministry

Curriculum development in Christian higher education begins with the intended qualification, rather than with a compilation of popular sermons or modules borrowed from a neighbouring seminary. Designers should establish the prospective learner population, entry profile, disciplinary purpose, institutional authorisation, award level, progression route and contribution expected of graduates. They must then select appropriate knowledge, methods, supervised practice and assessments. This process is compatible with a confessional commitment: biblical faithfulness concerns the content and interpretive obligations of the programme, while sound educational design concerns whether intended learning can be achieved and credibly demonstrated. The two become mutually reinforcing when Christian purpose is translated into assessable intellectual responsibilities rather than diluted into devotional slogans (Biggs, 1996; ATS Commission, 2020).

Biblical studies require a sequenced foundation in the canon, historical and literary contexts, genres, hermeneutical method, exegesis and theological synthesis. At an introductory level, students should distinguish narrative from law, poetry from prophecy and Gospel from epistle, describe major historical settings and learn to compare translations with appropriate caution. At advanced levels, programmes may require Hebrew and Greek, textual criticism, hermeneutical debates, ancient historical sources, theological argument and independent exegetical research. Language study should not be listed merely as a prestige marker: its proficiency claims must be calibrated to actual instructional hours, language expertise and assessment. Where a degree promises competence in original-language exegesis, it must test that competence directly. Where students rely on translations, the syllabus should state the limits of the claim and teach responsible use of language tools rather than exaggerating proficiency.

Theological study needs conceptual breadth and a defensible order. Biblical theology examines the canonical development of themes; systematic theology considers doctrinal relationships and the clarity or ambiguity of theological propositions; historical theology evaluates how interpretations and controversies developed; moral theology and Christian ethics assess the relation between biblical norms and concrete problems; apologetics examines

reasoned responses to objections. These areas must not be treated as identical. The history of a doctrine does not by itself establish its truth, and a systematic construction does not become Scripture merely by citing verses. Students should learn to distinguish direct textual claims, canonical syntheses, historical formulations, institutional confessions and contested extrapolations. Under Sola Scriptura, the existence of a venerable theological tradition does not remove the responsibility to test it against the biblical canon.

Christian education programmes additionally require learning theory, educational psychology, curriculum planning, teaching methods, assessment, learner inclusion, mentoring, safeguarding and educational technology. A teacher who understands biblical content but cannot design a coherent lesson or assess whether learners understand it is incompletely prepared for educational responsibilities. Programmes for Christian leadership and ministry require biblical interpretation, ethics, organisational governance, communication, care boundaries, financial stewardship and supervised practical responsibilities. Pastoral counselling must be distinguished from licensed clinical diagnosis or psychological treatment; ministers need competence to recognise risk and refer when their training is inadequate. Research degrees demand still more: a justifiable research problem, disciplinary methodology, scholarly literature, research ethics, capable supervision, independent contribution and examination procedures appropriate to doctoral standards.

The curriculum should be mapped across developmental stages. An illustrative progression for a theology award might move from scriptural literacy and academic reading to hermeneutics and theological foundations, then to specialised exegesis and contextual application, finally to an independently supervised dissertation or capstone. Ministerial practice should develop alongside, not substitute for, academic understanding. When practical activities occur in churches, schools or community organisations, the institution remains accountable for placement agreements, supervisors, risk controls, confidential information, feedback and assessment comparability. A charismatic or experienced pastor may be an excellent mentor without thereby meeting every academic requirement for supervising a research doctorate; the reverse is also possible. Responsibilities should be allocated according to demonstrated qualifications and competencies, not honorific titles or informal prestige.

Table 11.2. Proposed curriculum-design and programme-verification criteria

Review dimension	Evidence to examine	Characteristic insufficiency
Purpose and authorisation	Documented award identity, entry criteria, lawful approval and prospectus	Religious endorsement treated as academic degree authority
Doctrinal integrity	Confessional rationale, contextual interpretation and course mapping	Biblical citations without textual reasoning
Disciplinary breadth and depth	Sequenced biblical, theological, historical and methodological learning	Unconnected popular-topic modules

Review dimension	Evidence to examine	Characteristic insufficiency
Qualification-level demand	Appropriate originality, abstraction, independence and credit allocation	Identical tasks at certificate and doctoral level
Constructive alignment	Programme and module outcomes linked to teaching and assessments	Module titles used as evidence of achieved outcomes
Faculty and practical mentoring	Verified credentials, allocations, site agreements and mentor capacity	Honorific titles or unverified volunteers counted as staffing
Assessment and examination	Work samples, rubrics, moderation and independent research examination	Attendance or sermon delivery assumed to prove exegesis
Review and learner protection	Complaints, accessibility, cohort evidence and action closure	Policies mistaken for experienced service

Note. Original professional instrument by the author. Illustrative criteria require institutional, theological and jurisdictional adaptation; not HEC-approved or empirically validated.

This programme-design instrument is deliberately diagnostic. It does not prescribe identical credits, compulsory module titles or entry pathways across jurisdictions, all of which require examination under the applicable qualification framework. Its purpose is to prevent a common misalignment: a programme that promises formation in biblical scholarship and ministry but assesses primarily attendance, recollection or institutional conformity. Strong theological education enables learners to explain, defend and responsibly apply their learning, while protecting the difference between a faithful theological conclusion and an academically sufficient argument for it.

Programme review should go beyond course-title coverage to test the quality of intellectual sequencing. An introductory biblical survey should prepare students to recognise canonical organisation and major interpretive genres; intermediate hermeneutics should then require close reading, source comparison and disciplined reasoning; advanced modules should expose genuine interpretive controversy and require students to defend their own conclusions. An eventual capstone or dissertation should demonstrate integration under sufficiently independent assessment. A programme in which 'Hermeneutics I', 'Hermeneutics II' and 'Advanced Exegesis' all use virtually identical memorisation quizzes has repeated labels rather than progression. Conversely, it is unreasonable to demand original-language philology from students whose approved entry route and curriculum never provide the necessary language instruction. A credible design maps prerequisites, practice opportunities, assessment demand and appropriate faculty expertise across the award.

The postgraduate threshold makes this sequence particularly consequential. HEC's Postgraduate Degree Framework, dated July 2026 and published on its guidelines page, addresses programme accreditation, study pathways, research ethics, supervision, milestones, theses and examination, while explicitly distinguishing mandatory expectations from recommended practice and recognising the priority of higher-ranking law and programme

authorisation (HEC, 2026b). For a Rwandan provider, a proposed master's or doctoral qualification in theology therefore needs a programme-specific compliance analysis rather than reliance on the word 'biblical' or on the reputation of its ministry mentors. A doctoral-by-publication route, for example, still requires a lawfully approved pathway, suitable research standards, clarity over the candidate's original contribution and independent examination. No presumption should be made that one jurisdiction's pathway conditions are automatically transferable to another.

Library and research-resource adequacy should similarly be assessed at the level of the actual programme. Free Bible translations and public-domain devotional materials can be valuable, but they are not a complete substitute for critical commentaries, peer-reviewed journals, reliable bibliographic databases, appropriate language reference works and research-methods support. An institution may use well-curated open resources, interlibrary agreements and licensed digital collections instead of an expensive physical library, but access rights, continuity, discoverability and suitability must be demonstrable for the intended learners. The evidentiary question is not how impressive a library photograph appears; it is whether students and supervisors can reliably obtain and critically use the sources required by the qualification.

11.7 Integrating biblical principles into professional disciplines, including business, education, technology, research, and public service

Christian integration in a professional programme requires more than attaching a Bible verse to an otherwise unchanged syllabus. It begins by identifying which moral, anthropological or vocational question arises in the profession, what Scripture teaches that bears upon it, and what disciplinary knowledge and evidence are necessary for competent action. The analysis must also recognise that scientific, legal and professional standards cannot simply be bypassed by appealing to religious intention. A nursing programme must prepare safe clinical performance under applicable health regulations; a business degree must teach accounting, economics, strategy and responsible financial judgement; a computing degree must teach the mathematical, engineering and security knowledge its award promises. A Christian perspective can frame human purpose and ethical accountability without excusing inadequate mastery of the discipline.

In business and organisational leadership, biblical themes of honest weights, justice, fidelity in stewardship, fair treatment and resistance to greed illuminate questions about conflicts of interest, procurement, wage practices, corruption and financial reporting (Proverbs 11:1; Luke 16:10–13; James 5:4). Yet the translation into policy requires sectoral law, financial controls, reliable evidence and practical trade-offs. A lecturer should not claim that a single biblical principle determines every acceptable capital structure or pricing decision. Students should instead be trained to recognise morally relevant interests, analyse economic constraints, comply with applicable rules and justify their choices in light of both Christian commitments

and defensible professional knowledge. Assessment may combine balance-sheet analysis, stakeholder scenarios, risk evaluation and explicit ethical reasoning.

Christian teacher education can connect the dignity of learners, truthfulness, patience and protection of the vulnerable with inclusive curriculum, fair assessment, safeguarding and evidence-informed instruction (Mark 10:13–16; James 2:1–9). That connection does not make all pedagogical theories scriptural doctrines. Learning research provides fallible, context-dependent accounts of instructional effectiveness; Scripture provides theological commitments relevant to the moral conduct of education. A programme should examine both without confusing their authority. Teacher candidates should be able to design lessons, explain why chosen methods suit the learners and content, evaluate student evidence, identify inequitable barriers and respond appropriately to misconduct. Religious warmth alone cannot replace pedagogical competence.

In technology and scientific research, the moral questions concern truth, human welfare, surveillance, privacy, power, environmental stewardship, safety and the social consequences of innovation. A Christian computing student might evaluate an AI recruitment system through the lens of impartiality and accountability (James 2:1–9), while applying statistical fairness analysis, data-protection law and technical security testing. A researcher should avoid fabricating results because truthful witness is a theological commitment and evidence integrity is a scholarly obligation, not because the institution can infer the reliability of data from the researcher's profession of faith (Ephesians 4:25). In public service, the demands of justice and responsible power should be joined with administrative law, policy analysis, fiscal accountability and attention to competing legitimate interests (Micah 6:8; Romans 13:1–7).

A practical integration task should be assessed on at least four dimensions: adequacy of the relevant professional knowledge, accuracy of biblical interpretation, the transparency of reasoning that connects the two, and ethical or technical feasibility within the applicable context. Weak performance in a safety-critical professional component must not be offset by high marks for devotional expression. Conversely, students should not receive credit for nominal biblical citation when they have not examined the actual moral problem. This non-compensatory principle protects academic standards and prevents a Christian institution from producing graduates whose confessional vocabulary is stronger than their professional preparation.

For curriculum committees, the proper unit of faith-and-learning integration is the consequential professional decision. A business student might analyse procurement fraud using statutory compliance, accounting evidence, stakeholder effects and the biblical condemnation of dishonest dealing; an education student might examine whether a school discipline policy preserves academic expectations while protecting children; a computing student might test whether a biometric attendance product unjustifiably exposes sensitive data. In each case, the biblical premise must be interpreted rather than invoked decoratively, and the professional component must withstand discipline-specific scrutiny. Integration is

educationally substantive when students can explain what a scriptural principle illuminates, what the available empirical evidence shows, which legal or technical constraints remain, and why the proposed action is justified.

The use of case teaching also helps guard against moral oversimplification. Consider a university administrator facing a genuine budget contraction: stewarding resources, paying employees fairly, maintaining lawful student commitments and protecting a vulnerable programme may all be relevant, yet no single isolated verse supplies an uncontested budget equation. Students must learn to identify competing obligations without treating every trade-off as an excuse for moral compromise. A demanding case assessment should require credible figures, alternatives, a proportional response, acknowledgement of uncertainty and a coherent account of biblical ethics. This method cultivates judgement rather than rewarding the display of religious vocabulary.

11.8 Doctrinal integrity, institutional statements of faith, faculty qualifications, and academic responsibility

A statement of faith defines the theological convictions an institution undertakes to teach and uphold. To operate as meaningful governance rather than ceremonial branding, it must be available to applicants, employees, programme developers and reviewers, formulated in intelligible language, linked to the institution's curriculum and reviewed through an accountable process. Under Sola Scriptura, its standing is subordinate to the biblical text it seeks to summarise; publication does not make it infallible. The institution should therefore indicate which commitments are essential for appointment, which disputes permit scholarly examination, how doctrinal concerns are evaluated, and who possesses authority to make decisions. Silent or retroactive doctrinal tests expose staff and learners to arbitrary treatment and often weaken rather than protect confessional credibility.

Faculty qualifications require a dual examination. Academic competence concerns subject knowledge, the level of qualification taught, disciplinary scholarship, instructional capability and, where relevant, doctoral supervision. Confessional responsibility concerns truthful representation of the institutional statement of faith and the ability to teach with integrity within the agreed mission. A lecturer's Christian testimony cannot establish competence in ancient Greek, statistics or molecular biology; similarly, publication in a respected journal does not establish willingness to honour a legitimately declared confessional appointment. Institutions should document both kinds of criteria while respecting employment law, nondiscrimination duties as applicable, fair procedures and professional competence. The balance must be established through the governing legal environment, not assumed from the institution's religious identity.

Doctrinal governance becomes especially difficult when scholarly findings or changing institutional interpretations create tensions with earlier course materials. Suppressing all questions may appear to protect orthodoxy while preventing identification of errors.

Adopting every novel interpretation may instead hollow out the mission. A responsible review should identify the disputed proposition, relevant biblical passages, hermeneutical premises, competing arguments, academic evidence if applicable, and the decision-making authority. Affected faculty should have a fair opportunity to explain their interpretation and, where circumstances require, use the institution's documented appeal procedures. The theological decision remains normative within the confessional institution, while employment or accreditation consequences must also satisfy law and procedural fairness. A claim of being biblical should never be treated as exemption from giving reasons.

Academic integrity includes the proper attribution of others' scholarship, accurate quotations, justified citation, recognition of co-authors, avoidance of plagiarism and fabrication, and honest representations of scholarly credentials. Confessional theological writing is not exempt. A sermon manuscript, commentary, doctrinal essay or academic article must disclose when it adopts substantive arguments from another person; the moral injunction against falsehood cannot be compartmentalised away from scholarly publishing (Ephesians 4:25; 2 Timothy 2:15). Institutions should have policies governing intellectual property, authorship, research oversight, conflicts of interest, appeals and correction or retraction when claims prove unreliable. Doctoral supervisors should have sufficient disciplinary expertise and workload to provide substantial feedback and safeguard scholarly independence.

The deeper issue is institutional consistency. Staff should not be sanctioned for raising a documented safety concern while leadership publicly celebrates truthfulness; nor should theological loyalty protect a senior leader from investigation of financial impropriety or abusive conduct. A Christian institution's fidelity is credible to the extent that its actual governance affords scrutiny, proportionate correction and care for persons affected by error. Structural accountability does not replace spiritual responsibility. It supplies necessary conditions under which theological commitments are less likely to become shields for unanswerable power (1 Timothy 3:1–7; 1 Peter 5:2–3).

Academic employment and doctrinal review require attention to procedural scope. A public institutional statement of faith should identify what is expressly required of faculty, what must be taught accurately as part of the curriculum and where conscientious academic examination is permitted. These matters may be connected, but a student's ability to analyse an alternative doctrinal position should not automatically be marked as endorsement of it. Similarly, a scholarly dispute about textual evidence should be addressed through competent review of arguments before it is translated into an employment sanction. Where the institution takes a binding confessional position, its governing documents and applicable employment law must determine who can act and how affected individuals may contest factual or procedural errors.

A healthy research culture also requires mechanisms that senior leaders cannot override informally. A documented process for plagiarism allegations, supervisor conflicts, research-ethics review, examination independence and correction of published mistakes makes fidelity

to truth operational. The most difficult cases are those involving a prominent donor, respected preacher or powerful university officer. The quality of the system is shown not by how strongly it denounces misconduct in ordinary students, but by whether substantially similar evidentiary and due-process standards apply where institutional reputation is at stake. Christian witness and professional fairness are weakened when personal loyalty is treated as a stronger warrant than verified evidence.

11.9 Online theological education, blended discipleship, digital learning communities, and spiritual formation

Digitally mediated theological education can expand participation for learners who are employed, geographically dispersed, physically disabled or engaged in local ministry. It may provide accessible texts, recorded exegesis, multilingual explanation, asynchronous discussion, supervised assignments and contact with faculty across borders. But the existence of a digital platform does not establish an educational community, and unlimited access to lectures cannot by itself provide credible ministry formation. Research on intentionally designed online learning consistently emphasises purposeful interaction, well-structured learning, feedback, learner support and coherent assessment; those requirements apply to theological degrees no less than to other programmes (Garrison et al., 2000; HEC, 2026a; Hodges et al., 2020). The International Council for Evangelical Theological Education (ICETE, 2019) specifically treats online provision as an institution-wide educational responsibility, rather than a technical extension detached from mission and quality systems.

Theological courses must distinguish content transmission, intellectual dialogue, practical ministry competence and shared Christian life. Digital texts and recorded lectures can support the first; academically facilitated discussion, seminars and research supervision can support the second; mentored local placements and verified ministry activities may contribute to the third; and devotional fellowship, prayer and pastoral care can nurture, but cannot guarantee, the fourth. This distinction avoids an ungrounded promise that digital technology automatically reproduces every experience of a residential community. It also avoids an equally ungrounded assumption that all spiritual formation is impossible at a distance. Learners may participate meaningfully in local congregations while pursuing online academic studies, provided the institution explains which formation activities are expected, how they are supported and what can appropriately be assessed.

An effective blended or online theological course requires clear module purposes, regular intellectual interaction, access to credible biblical and scholarly resources, appropriately trained lecturers, reasonable turnaround for feedback, and mechanisms for students who cannot use continuous high-bandwidth video. Digital discipleship should not be measured by login frequency, compulsory public disclosure of personal struggles or the number of devotional messages posted. These indicators can reward visibility and conformity rather than meaningful learning or spiritual health. Academically assessable evidence includes quality of exegetical arguments, discussion contributions, teaching demonstrations, contextual

applications, supervised reflections and improvement after feedback. Personal pastoral disclosures should be protected by clear confidentiality and safeguarding protocols rather than converted into grades.

The design must also consider students who require screen-reader compatible materials, captions, mobile-friendly content, predictable schedules or accommodations for disability and work. Applying relevant accessibility standards such as WCAG 2.2 is a strong professional benchmark, but its binding force within a given jurisdiction must be determined separately (World Wide Web Consortium [W3C], 2024b). Low-resource strategies include carefully edited text, accessible downloadable materials, low-bandwidth audio, alternative participation windows and predictable tutor availability. Not every accommodation is equivalent for every disciplinary outcome: a course requiring observed public preaching, for example, must specify the essential performance and assess it through an accessible but valid route. Flexibility cannot silently erase assessed requirements or result in unequal standards for different modes.

A sustainable online theological programme further needs a governance arrangement for academic content review, staff training, platform dependability, secure records, student support, suitable local mentoring and continuity during disruption. Faculty cannot delegate their responsibilities to a church mentor without explaining supervision, accountability, assessment authority and student safeguarding. Likewise, a provider should not advertise entirely self-paced study while imposing undisclosed synchronous obligations, fixed placement milestones or mandatory attendance at distant sites. The practical rubric later in this chapter treats digital formation as a combination of accessible academic design, authentic scholarly interaction, credible supervised practice, ethical learner care and verifiable institutional capability. Each must be examined through appropriate evidence, rather than inferred from the provider's devotional language.

Digital theological formation needs an explicit account of relational responsibility. A lecturer can facilitate demanding seminar discussion and personal academic guidance remotely, while a local congregation may provide opportunities for service, prayer, accountability and mentoring unavailable to geographically distant faculty. These roles are complementary only when institutional agreements describe suitability, consent, safeguarding, supervisory competence and the difference between formative support and summative academic judgement. An untrained local mentor should not certify complex theological research competence, just as an excellent academic supervisor may have no standing to demand disclosure of a student's private spiritual life. Quality assurance should verify the actual capacity of each participant rather than rely on the reassuring language of 'community'.

An illustrative online course in biblical interpretation might make a carefully structured study guide available for mobile download, invite learners to submit an annotated passage analysis, provide moderated comparison of interpretations and require an individual oral defence by audio or low-bandwidth connection. The oral defence would not by itself prove that every written sentence is original, but it could add relevant evidence of independent understanding.

An equivalent opportunity should be provided to learners requiring alternative accessibility arrangements. The course team could then compare performance across participation modes, investigate barriers revealed by learner feedback and revise its materials before the next cohort. That is a demonstrable cycle of educational improvement, whereas counting devotional posts or hours spent on the platform measures little about interpretation or formation (Garrison et al., 2000; HEC, 2026a).

An institution serving learners across several African countries must pay particular attention to language and cost. A Kinyarwanda-speaking learner may read advanced theological scholarship in English or French, but disciplinary achievement should not be misrepresented by leaving specialist vocabulary unexplained or using machine translation without review. Well-edited multilingual glossaries, accessible transcripts, audio alternatives and moderated discussion can reduce barriers without weakening scholarly standards. Procurement must also account for recurrent data costs, device sharing, power interruptions and contractual access to electronic resources. A nominally affordable tuition fee cannot establish an affordable learning pathway when essential participation depends on expensive continuous video streaming.

11.10 Artificial intelligence, digital theology, responsible technology, authorship, and Christian ethical discernment

Artificial intelligence (AI) is increasingly capable of producing polished sermons, outlines, exegetical summaries, translations, discussion prompts, references and entire academic assignments. Such applications can be useful for initial exploration, accessibility, administrative work or pedagogical practice, but they can also supply false citations, confuse interpretive positions, flatten theological differences and produce confident claims unsupported by Scripture or scholarship. Christian educational governance should begin with the moral and epistemic status of the human task. A generated answer is not a revelation, a pastor, a spiritual witness or an accredited academic assessor.

The lecturer and student remain responsible for verifying claims and explaining their reasoning (2 Timothy 2:15; 1 Thessalonians 5:21; Miao & Holmes, 2023).

Educational uses differ materially. A learner may use AI to generate practice questions on Pauline epistles and then verify each against the text; a disabled learner may use speech-to-text tools to draft work while preserving independent intellectual authorship; an instructor may use AI to propose case-study scenarios before scholarly checking. In contrast, submitting an AI-produced exegetical essay as an independently researched interpretation misrepresents the student's demonstrated competence. An AI-generated pastoral counselling response may also be unsafe if it fails to detect an emergency or oversteps professional boundaries. Institutions should specify permitted, restricted and prohibited uses by task and risk, establish proportionate disclosure expectations, and require independent assessment of capabilities the award is intended to certify (HEC, 2025b; Miao & Holmes, 2023).

Theological risks deserve particular attention. Systems trained on mixed internet content can reproduce unacknowledged theological assumptions, invent patristic quotations, misquote original languages or present incompatible doctrinal interpretations as though they were a harmless composite. Algorithms may also reinforce popular interpretations through frequency rather than biblical warrant. Consequently, doctrinally sensitive AI material should be checked against the primary text and credible scholarship, with an explanation of where interpretation is involved. An institution committed to Sola Scriptura cannot delegate final doctrinal adjudication to a probabilistic text generator. A clear audit path should record the source of a claim, how it was checked and the human authority responsible for using it in instruction.

Data and privacy hazards are equally important. Learners may paste private prayer requests, disciplinary records, pastoral correspondence, health details or confidential research into commercial systems without understanding retention, training or sharing terms. Such practices can compromise trust even when no visibly false answer is produced. Institutional policies should therefore restrict uploading personal or confidential information to unapproved services; require contractual and data-protection review for institutionally procured tools; identify access controls and retention periods; establish escalation routes for incidents; and train staff on the difference between anonymisation and merely removing a person's name. In Rwanda, these measures should be mapped to the applicable data-protection framework and official AI or virtual-learning guidance rather than attributed indiscriminately to Scripture (HEC, 2025b; Republic of Rwanda, 2021b).

An additional problem arises when AI influences the preparation, marking and review of the same work. If a system writes a student's paper, a second system scores it and a third drafts an accreditation report based on the score, the chain may create an appearance of independent corroboration without genuine human assessment. Educational validity therefore requires evidence that essential thinking and performance remain attributable to the learner; human review must be competent, not merely nominal; and institutions should retain auditable decisions on consequential AI use. Neither universal bans nor indiscriminate deployment resolve these issues. The appropriate Christian response is disciplined tool discernment grounded in truthfulness, sound educational design, responsible care for persons and honest acknowledgement of technological limitations.

The most pressing curricular question is which part of theological reasoning students must perform independently. A language model can supply a plausible outline of Romans, a synthetic comparison of theological positions or a fluent reflection on pastoral care. None of these outputs, without verification, establishes textual fidelity or the learner's capacity to reason. Tasks should therefore separate legitimately assisted preparation from independently attributable assessment: source annotations, commentary comparison, brief process explanations, oral questioning and appropriately limited in-class tasks can each illuminate different parts of authorship and understanding. In disciplines that require responsible public

teaching, the institution should evaluate whether a candidate can correct a misleading generated assertion in the presence of contradictory primary evidence, rather than merely detect stylistic signs of AI use.

Pastoral applications demand a different risk threshold from ordinary study assistance. A synthetic devotional prompt may be low consequence when checked by a tutor; an autonomous system that responds to disclosures of abuse, self-harm, domestic violence or serious psychological distress creates significant safeguarding exposure. An institution should prohibit unsupervised high-stakes pastoral decisions by AI, establish clear referral channels, and prevent confidential student or congregant information from entering systems without authorised safeguards. The source of this professional restriction is the foreseeable risk to persons, applicable law and competent safeguarding judgement; the theological commitment to care reinforces rather than replaces those obligations. An acceptable procurement decision must consider data location, access permissions, human override, incident response and the institution's ability to discontinue a system safely (Miao & Holmes, 2023; Republic of Rwanda, 2021b).

Faculty development should include practical doctrinal verification exercises. A lecturer can ask a system to analyse a selected passage, check whether verse boundaries and translation claims are accurate, trace cited works to authentic bibliographic records and compare the resulting interpretation with an independent reading of the primary text. The exercise tests a replicable educational practice rather than trusting or rejecting AI on impression. Staff must also explain which prompts and outputs are retained, whether generated teaching text may contain copyrighted material, and how the institution corrects a misleading resource already distributed to students. A Christian academic publisher or journal should apply comparable controls to literature searches, abstracts, peer-review assistance and manuscript declarations.

11.11 Academic assessment, biblical interpretation, scholarly reasoning, research integrity, and educational accountability

Academic assessment should evaluate the knowledge and capability that a qualification actually certifies. In theological higher education, this demands distinguishing remembrance of biblical material, interpretation of texts, doctrinal reasoning, historical judgement, ethical application, ministry performance and original research. A closed-book examination may validly test certain kinds of scriptural familiarity, but cannot by itself demonstrate the ability to evaluate a contested passage. A polished sermon may indicate strong communication yet leave the accuracy of exegesis untested. A lengthy dissertation may appear advanced while making no original contribution. The assessment architecture should therefore map each claimed outcome to a task whose demands and conditions warrant the intended inference (Biggs, 1996; Kane, 2013).

For exegesis, a well-designed assessment may require students to delimit a passage, translate or analyse key terms at a level appropriate to the programme, explain historical and literary

context, identify the line of argument, compare plausible interpretations, evaluate competing evidence and defend a conclusion. A sound rubric separates fidelity to the passage, methodological transparency, the quality of reasoning, responsible scholarly use and communication. It should not award high grades merely because a learner reproduces a faculty member's preferred wording, nor should it treat all interpretations as equally defensible. A confessional university may legitimately assess whether students accurately understand its doctrine while distinguishing that understanding from agreement and from the independent justification of a biblical interpretation. The assessment brief must disclose which construct is being evaluated.

Ministerial and practical competencies require authentic demonstration. Preaching may be assessed through observed delivery, textual accuracy, theological coherence, pastoral sensitivity and communication appropriate to a defined congregation. Educational ministry can be assessed through curriculum design, supervised instruction and evaluation of learning. Leadership may require a governance case, financial integrity task or team project with identifiable individual contribution. Pastoral-care training should examine boundaries, listening, referral and safeguarding through appropriately designed simulations rather than improperly demanding disclosure of a student's or parishioner's intimate personal history. Supervisors should maintain consistent standards across placement sites and protect those served by trainee practitioners.

Academic research demands methodologically defensible inquiry and honest treatment of evidence. Historical and theological documentary research may use textual, conceptual, comparative or archival methods; empirical ministry research may involve interviews, observations or personal data and then requires relevant ethical review, consent and safeguarding. A Christian researcher should not claim that a favourable conclusion removes the need to disclose a weak search strategy, conflicting evidence or limitations. Nor should a university claim PRISMA screening, inter-rater reliability or field observations that were never conducted. Institutional research policies must address data provenance, quotation, reference verification, authorship, supervision, examination independence, conflicts of interest and responsible use of AI. Biblical injunctions to truthfulness reinforce these duties, but institutional compliance still requires explicit academic processes.

The integrity of an assessment system is visible not only in its rubrics but in how markers are selected, student identities are authenticated, differences between assessors are moderated and complaints are heard. A highly credentialed pastor should not mark work beyond their competence merely because of status; an examiner should not suppress an academically justified challenge because it questions a popular theological view. Automated plagiarism or AI-detection scores must not be treated as self-proving evidence of misconduct. Decisions should be based on the student's work, task rules, corroborating evidence, an opportunity to respond and proportional procedures. Retention of marked work and appeals records supports later internal review and authorised external assessment. In a Christian institution,

truthfulness must govern the treatment of accused students as well as the prevention of dishonesty (Proverbs 18:13, 17).

An assessment system should explicitly document its interpretation argument. The institution begins with a claim about graduate capability, specifies the observations that would warrant the claim, chooses tasks capable of generating those observations, and tests alternative explanations for a favourable result. For example, an exegetical essay may be well written because the student reasoned carefully, because a third party wrote it, or because an automated tool produced a plausible synthesis. A viva, staged drafts, independently inspected research notes or a new comparative task may narrow uncertainty, although none is infallible. Kane's (2013) validity argument is therefore pertinent to confessional programmes: evidence must justify the *use* of the assessment result, not simply produce a numerical grade. Theology does not warrant a lower standard of evidentiary reasoning than other disciplines.

For postgraduate research, evaluation must also distinguish a contribution to scholarship from a successful expression of spiritual conviction. A research candidate may hold a thoroughly orthodox conclusion but offer an inadequate method, omit important contrary sources or misstate the originality of co-authored publications. Conversely, a methodologically careful study may examine a theological disagreement that the awarding institution resolves confessionally. Examiners should have the competence and independence to evaluate the scholarly argument on disclosed criteria, while the institution should explain any separate doctrinal requirements in advance. Research-ethics oversight applies whenever human participants, confidential ministry records or sensitive digital data are involved; a doctrinally favourable research question is not an exemption.

11.12 The distinction between theological or ecclesial endorsement and nationally recognised academic accreditation

No issue is more consequential for the protection of students than the difference between a church's approval of ministry training and the state's recognition of an academic award. Theological or ecclesial endorsement may indicate that a church, fellowship, mission board or theological network regards an institution or curriculum as suitable for its religious purposes. It may provide valuable evidence of ecclesial relevance, doctrinal compatibility or ministry preparation. It cannot, by itself, establish that a higher-education institution is legally authorised to award a degree in a particular jurisdiction.

Conversely, statutory programme approval may demonstrate conformity with public academic requirements without certifying the institution's interpretation of biblical doctrine. These are different evaluative acts, undertaken by different authorities for different purposes (ATS Commission, 2020; Republic of Rwanda, 2026).

The language of accreditation is not globally uniform. Some jurisdictions assign authorisation directly to public bodies; others recognise independent accrediting agencies, provide specialised authorisation for theological schools or combine institutional and programme

oversight. In the United States and Canada, for example, the Commission on Accrediting of the Association of Theological Schools has a defined scope concerning graduate theological education, with separate recognition arrangements that differ across national jurisdictions (Association of Theological Schools, n.d.; ATS Commission, 2020). ICETE's Standards and Guidelines for Global Evangelical Theological Education are influential professional reference points, but citing that resource does not itself establish that ICETE has conferred state recognition on a specific institution or its degrees (ICETE, 2019). An evaluator must check the agency, programme, institution, jurisdiction, dates, delivery modes, scope and operative legal effect rather than accepting the generic word accredited.

In Rwanda, the public law governing higher education and the mandate of HEC must be identified from authoritative current instruments. Presidential Order No. 044/01 of 24 July 2026, published in the Official Gazette of 30 July 2026, provides the contemporary framework governing HEC's mission, responsibilities and powers, including relevant academic-programme and institutional oversight (Republic of Rwanda, 2026). The Rwanda Qualifications Framework and applicable educational law inform the conditions of awards, learning levels and recognition (Republic of Rwanda, 2021a, 2021c). HEC's internal quality-assurance guidance, distance-learning guidance and other instruments should be examined for their specific scope and status. None of these provisions should be casually applied to a foreign institution solely because it teaches Rwandan students online; the exact jurisdictional facts, delivery arrangements, partnerships and legal permissions must be established. Equally, an institution operating or advertising academic programmes within Rwanda should not assume that a foreign church's endorsement excuses domestic authorisation where such authorisation is required.

A transparent prospectus ought to distinguish at least six matters in straightforward language: the legal identity and domicile of the awarding body; the exact qualification and academic level; the authority under which it is awarded; the institution's accreditation or authorisation status and its scope; the nature of any church or theological endorsement; and the extent to which acceptance by employers, other universities, regulators or professional bodies is guaranteed or remains subject to their independent decisions. A religious doctorate, honorary doctorate, ecclesiastical title and research doctorate must not be advertised as interchangeable. Neither international partnership nor a DOI, university logo, digital transcript or elaborate graduation ceremony changes the legal nature of an award. Claims of universal recognition should be avoided unless the institution possesses a defensible basis for them. The responsible form of communication is precise, bounded and verifiable.

Table 11.3. Credential authority and recognition: A mandatory distinction

Claim or status	What may be established	What remains to verify
Church or denominational endorsement	Compatibility with specified ecclesial or doctrinal expectations	Statutory degree-awarding authority and transfer acceptance

Claim or status	What may be established	What remains to verify
Theological network benchmark	Reference against voluntary theological-education standards	Institution-specific decision and legal recognition
Legal institutional authorisation	Provider may operate within stated jurisdiction and conditions	Approval of the exact programme, mode and qualification
Programme accreditation	Award or programme meets specified criteria within stated scope	Current dates, sites, modalities and professional licensure
Foreign award or partnership	Specified institution issues or cooperates on a credential	Domestic recognition, equivalence and receiving-party decision
Honorary or ecclesial title	Religious recognition or an honour under defined rules	Equivalence to an earned research doctorate

Note. Original professional instrument by the author. Illustrative criteria require institutional, theological and jurisdictional adaptation; not HEC-approved or empirically validated.

The evaluative implication is non-compensatory. A programme cannot offset absent legal authorisation by earning high scores for biblical content, and academic accreditation does not remove the need for doctrinal clarity where Christian identity is advertised. Similarly, doctrinal similarity to a reputable seminary does not prove that credits will transfer or that an individual employer will accept the qualification. The Evidence-Traceable Accreditation Judgement (ETAJ) model developed earlier in this volume is especially relevant: the reviewer identifies the normative authority, institutional claim, documentary proof, independent verification, warrant, limitations and justified conclusion. The decision must be made by the legally competent actor. Christian humility in public communication should be measured not by rhetoric but by willingness to acknowledge the actual limits of institutional recognition.

Public verification should proceed in the reverse order of promotional confidence. Before accepting a description such as 'globally recognised', the evaluator identifies the awarding legal entity, the state or other competent authority governing it, the particular award and programme, the delivery site or modality, the effective dates of its authorisation, and any limitations stated in a decision letter. Only then should the reviewer consider specialised theological accreditation, voluntary quality networks, professional acceptability and the receiving institution's recognition rules. This process is not hostility to Christian providers. It protects students who may invest years of tuition and academic work based on a claim that cannot be substantiated by a logo or a broad membership certificate. No legally meaningful conclusion should rest on the domain name or marketing language of an institution alone.

The distinction is particularly consequential for doctoral titles. An honorary doctorate records an honour bestowed under the awarding body's rules; a church title may recognise ministry service; an earned doctoral qualification denotes completion of defined advanced scholarly or professional requirements under an authorised academic framework. Each may be meaningful in its own sphere. None should be represented as interchangeable with the others. Similarly, a theological accreditation agency may have legal recognition for certain purposes

in its home jurisdiction without possessing the power to guarantee equivalence in Rwanda, Kenya, Ghana, South Africa or another receiving state. Where the UNESCO Global Convention is relevant, it supplies a treaty framework for recognition procedures among applicable parties, not universal or automatic acceptance of any provider's degree (UNESCO, 2019a).

11.13 Christian institutional governance, transparent leadership, financial stewardship, and learner protection

Christian institutional governance ought to unite clear constitutional authority, academic independence within its lawful scope, fiduciary responsibility and religious accountability. Biblical instructions concerning faithful stewardship, leaders' character and transparent handling of shared resources provide theological reasons for such governance (1 Timothy 3:1–7; 2 Corinthians 8:20–21; 1 Peter 5:2–3). They do not prescribe the detailed structure of a contemporary university's board, senate, audit committee or legal corporation. These must be established through appropriate statutes, governing documents, public law and sound organisational design. A confessional university should therefore specify which body determines doctrine, which preserves academic standards, which approves budgets, which appoints faculty, which resolves appeals and who may authorise the granting of awards.

The concentration of spiritual, financial, academic and disciplinary authority in one unreviewable office creates substantial institutional risk. Such concentration may allow rapid decisions but also weakens challenge, conflicts-of-interest controls and the credibility of investigations. Good governance does not require replicating the entire structure of a large public university in a small seminary. It requires proportionate separation of critical functions and access to independent scrutiny. An academic appeal should not be decided solely by the marker whose decision is contested; an allegation against a chief executive should not be investigated exclusively by that executive's immediate subordinates; and a person benefiting from a supplier contract should not control its approval without disclosure and safeguards. These are professional governance propositions consistent with scriptural commitments to honest judgement and accountable stewardship, not claims that the Bible defines particular committee names.

Financial integrity is foundational because tuition, gifts and institutional resources create obligations to real learners. A credible budget addresses the full cost of teaching, student support, supervision, digital systems, library access, facilities, assessment and graduation, not merely the cost of enrolling the next cohort. Scholarship promises should state eligibility and available funding; financial reports should differentiate restricted gifts from discretionary funds; and related-party transactions should undergo appropriate review. If revenue unexpectedly declines, managers must identify which obligations can still be fulfilled, how students will be protected and whether a lawful teach-out, transfer, refund or service adjustment is necessary. The preceding chapter's resilience argument applies with particular

force to mission-funded institutions, where short-term donor enthusiasm may not establish sustainable academic capacity.

Learner protection extends beyond financial security. Admissions marketing should be truthful about entry criteria, instructional mode, required practical activities, workload, fees, qualification status and potential outcomes. Students need competent academic advising, reasonable accommodation, safeguarding, impartial complaints, timely assessment, secure records and freedom from harassment or spiritual coercion. A pastoral relationship is not a licence to extract private disclosure or override informed consent. Institutional policies should identify boundaries between spiritual support, academic evaluation, psychotherapy and disciplinary authority. Where a learner faces violence, exploitation or significant risk, staff should use appropriate protection and referral arrangements rather than presuming that exhortation alone is a sufficient professional response. A Christian university damages its witness when concern for institutional reputation takes precedence over credible investigation and protection of affected persons.

In digitally connected institutions, governance also covers access management, privacy, cybersecurity, records preservation and third-party dependence. A ministry platform, outsourced registrar or cloud-based assessment service may serve valuable purposes while creating critical dependencies. Institutions should maintain accountable contracts, secure backups, recovery procedures and transparent data-handling rules. Decision-making must be evidence-based: a signed cyber policy does not prove that student records can be restored after ransomware, just as a published pastoral-care policy does not prove that a complainant can safely report abuse. Evidence of tested procedures, staff competence, case handling and corrective action matters. Ethical institutional witness is sustained through repeated trustworthy practice, not the mere presence of Christian language on an official website.

The appropriate design of checks and balances depends upon the scale and legal form of the institution, but some separations are materially important regardless of size. Financial signatories should not be the sole auditors of transactions they authorise; staff accused of serious misconduct should not control the entire investigation; academic appeals should offer review beyond the original marker; and doctrinal oversight should not be used to conceal substantive student-safety concerns. Small institutions can sometimes obtain independent review through qualified external persons, shared services or formal partnership agreements. The existence of such an agreement is insufficient unless actual independence, competence, confidentiality and decision rights can be demonstrated.

Learner protection also entails a credible exit route. A student who discovers that the advertised award lacks necessary recognition must be able to obtain accurate transcripts, a clear statement of the award's status, a complaint route and any remedy to which law and contract entitle them. Where an institution closes or changes its delivery model, documented teach-out and transfer arrangements should identify academic ownership, available supervision, safeguarding of records and payment obligations. Spiritual appeals to patience or

trust cannot lawfully extinguish contractual or statutory student rights. Transparent governance treats difficult disclosure as an obligation of institutional truthfulness rather than as an avoidable reputational cost.

11.14 Cross-border Christian education, recognition of qualifications, academic partnerships, and legal compliance

Christian education has long crossed borders through the circulation of Scripture, missionary activity, academic exchange and institutional partnership. Contemporary online provision intensifies both opportunity and regulatory complexity. Students may study in Rwanda while an awarding institution is domiciled abroad, tutors are employed in a third country, student data are processed in another jurisdiction and church placements occur under local pastoral supervision. None of these arrangements is necessarily defective. Yet their combined legal, educational and ethical implications cannot be resolved by pointing to the religious purpose of the programme or the existence of a cooperation agreement. The institution must know who awards the credential, who teaches and examines, which law applies to delivery, and what students have been promised.

The first task is to map the entire educational transaction. An awarding-body register should identify legal status, permitted awards, qualification levels, delivery authorisations, teaching sites and conditions attached to recognition. A partnership register should identify whether the local entity recruits students, delivers teaching, supplies facilities, mentors practice, collects tuition, assesses learning or merely provides pastoral support. These functions have different legal consequences. A local church may be an appropriate partner for supervised ministry without acquiring authority to confer university degrees. An international university might legitimately accept transferred credit without thereby authorising the partner to advertise its own degree. Agreements should make academic ownership, examinations, fees, intellectual property, data protection, student remedies and termination procedures explicit.

Recognition of foreign qualifications is likewise a decision governed by the receiving system and institution. UNESCO's 2019 Global Convention on recognition establishes an international treaty framework for fair and transparent assessment among its parties, but membership, applicability and domestic implementation must be verified for the relevant states and circumstances (UNESCO, 2019a). Even a qualification lawfully awarded in one country may require additional examination for access to a regulated profession or further study elsewhere. Learners deserve to know that recognition is not identical to authenticity, academic quality or automatic equivalence. A document may be genuine and still insufficient for a particular purpose; conversely, distance-learning status is not a sound basis for assuming inferiority without examining the recognised award and applicable standards.

Cross-border doctoral provision requires especially careful scrutiny. Programmes by thesis, publication or published works can be academically legitimate when the relevant awarding authority permits the pathway, doctoral learning is independently examined and the

candidate meets the applicable standards. They are not legitimate simply because an established scholar has publications or a ministry leader has many years of service. Institutions must specify admissions evidence, research preparation, supervision, contribution to knowledge, treatment of prior co-authorship, examination independence, publication quality and any residency or attendance requirements attached to that specific recognised degree. Doctorates by published works should distinguish genuinely prior independent scholarship from material retroactively assembled without a coherent doctoral argument. A cross-border programme's affordability or religious accessibility cannot replace doctoral-level methodological rigour.

The final safeguard concerns continuity and exit. International partners can change ownership, policy, technology, finances or accreditation status. Responsible agreements should protect records, provide teach-out or transfer options where lawful, specify the arrangements for students already enrolled and state which entity remains accountable for academic complaints. A university that cannot explain what happens if a partner withdraws is not fully prepared to assume the educational obligations it markets. Such risk-sensitive planning builds on the institutional resilience and evidence-traceability principles already developed in this volume, while requiring jurisdiction-specific legal analysis before actual implementation.

A cross-border agreement should be read as a functional allocation of activities rather than proof of academic recognition. If one entity admits students, another hosts modules, a local church supervises placements and a foreign institution awards the degree, the agreement must make explicit who validates entry qualifications, controls assessment, handles appeals, stores evidence, processes personal data and remains accountable for the final award. A ceremonial memorandum that says the partners will 'collaborate in theological education' answers none of these questions. Nor does a partner's authority to teach imply its right to use the awarding body's seals or make unlimited accreditation representations. Reviewers should inspect the operative contract, actual workflows, student disclosures and the competent authorities' requirements for the specified jurisdiction and cohort.

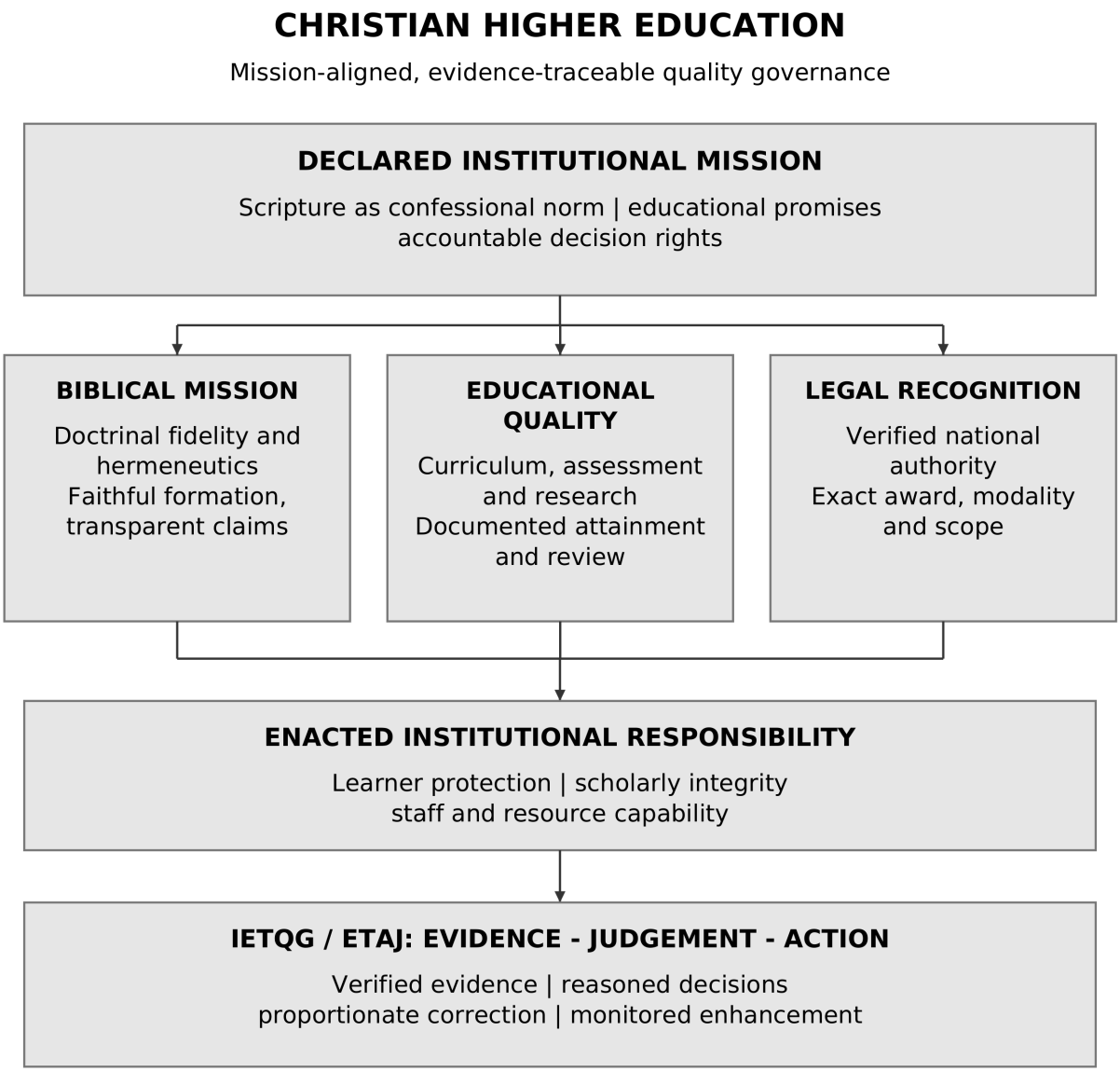
For research degrees, cross-border supervision must also be intellectually real. A named overseas professor whose responsibilities, availability and examination role are unclear is not credible evidence of supervision capacity. The programme needs planned academic contact, research support, attainable milestones, access to appropriate literature and examination safeguards. Where staff have multilingual supervisory duties, their linguistic and methodological competence should be examined rather than assumed. Institutional affordability is an important access objective, but a low-fee doctorate must still be able to provide the specialised scholarly labour its promises require (ATS Commission, 2020; HEC, 2026b).

11.15 A mission-aligned quality-assurance framework for Christian higher education

The distinctive contribution of this chapter is the proposed **Christian Higher Education Curriculum and Quality Assurance Framework (CHE-CQAF)**. Its purpose is to help Christian institutions examine five connected, yet irreducible, claims: biblical mission fidelity, educational and scholarly quality, legitimate recognition, learner protection and sustainable institutional capability. The framework is intentionally compatible with the Integrated Evidence-Traceable Quality Governance (IETQG) architecture. IETQG connects institutional capability, programme assurance, evidentiary maturity, justified judgement, monitoring and improvement; CHE-CQAF specifies what confessional mission contributes to that architecture and why doctrinal judgement cannot be substituted for statutory or empirical verification. ETAJ remains the method for structuring warranted external accreditation findings, rather than a theological referee or a replacement for the competent regulator (Sangwa, 2026a). Figure 11.1 depicts these three different sources of authority in relation to their common institutional obligations.

The framework operates through a sequence of explicit reasoning. The institution first records its biblical and educational mission in sufficiently precise language to establish which commitments can be tested. Next it determines the legal and qualification requirements applicable to the particular institution and programme. It then maps the intended graduate capabilities, curriculum, pedagogy and assessment; documents staffing, learning resources, safeguarding and finance; and distinguishes prospective readiness from achievement after delivery. Internal quality assurance evaluates performance over time, records contradictory evidence and assigns corrective action. Where an external review is required, the competent evaluator connects findings to operative standards through a recorded claim-evidence-warrant chain. The institution closes the cycle only when it verifies the consequences of corrective action rather than merely approving a new policy.

Figure 11.1. Mission-aligned, evidence-traceable quality governance in Christian higher education.



Note. Original conceptual framework by the author. The model distinguishes theological norms, academic and empirical evidence, and legally operative requirements. Connections indicate proposed governance dependencies, not empirically demonstrated causal effects, regulatory approval or a claim that all domains can be collapsed into one numerical score.

11.15.1 Biblical mission-alignment and evidence

The biblical mission-alignment record traces each programme claim from an identified confessional principle through its responsible scriptural interpretation, a justified educational expectation, a suitable learning activity and evidence capable of supporting or challenging the resulting claim. A reviewer should test whether the biblical principle has been interpreted in context, whether the proposed learning outcome genuinely follows, whether teaching and

assessment offer a credible opportunity to demonstrate it, and whether contradictory evidence has been acknowledged. Table 11.1 supplies a concrete record for this evaluation. The instrument discourages proof-text compliance by requiring an explicit interpretive and academic rationale. It also differentiates convictions central to institutional mission from administrative preferences that must not be misrepresented as scriptural commands.

11.15.2 Programme verification and evidentiary maturity

Table 11.2 provides a compact diagnostic for proposed and operating programmes. Each row identifies a quality question, principal evidence and a common invalid inference. It is intended for faculty curriculum committees, internal validators, theological reviewers and preparatory self-study. Institutions should adapt its scope to qualification level and applicable requirements, attach evidence IDs and record the specific page or record inspected. For a new programme, a verified timetable rehearsal or functioning learning-platform sample may support readiness; for an established programme, actual assessed student work and moderation records should be required. The distinction is indispensable because plans and implementation are different evidentiary objects.

11.15.3 Digital theological learning and formation

Table 11.4 provides an ordinal review rubric for purposeful theological learning, student interaction, supervised practice, accessibility, pastoral-care boundaries, valid assessment and platform governance. At its lowest level, the criterion is absent or unsupported. A higher but still limited level records that a practice is formally documented but has not been tested. The next level requires credible evidence of functioning provision, while the most developed level requires monitoring and verified enhancement over time. These proposed descriptions provide a shared language for qualitative judgement, not a psychometrically calibrated instrument. A strong score in a well-functioning learning platform cannot cancel an unresolved safeguarding failure, and the separate criteria must not be added into a purported accreditation percentage. Reviewers should identify the specific records supporting each classification, note unresolved uncertainty and state the action required.

Table 11.4. Proposed digital discipleship and online theological-education rubric

Criterion	Evidence for operating practice (level 2)	Priority concern
Learning architecture	Accessible course sequence with tested activities and assessment links	A content repository mistaken for a complete course
Scriptural scholarship	Annotated exegesis, credible scholarly sources and formative critique	Unverified AI-produced teaching accepted as authority
Human academic interaction	Tutor responses, moderated discussion and student access	Only generic auto-messages or no interaction

Criterion	Evidence for operating practice (level 2)	Priority concern
Local practice and mentoring	Verified placement agreements, observations and supervision	Unassessed or unsafe ministry activity
Learner inclusion	Captioning, structured documents, device-sensitive alternatives	Mandatory costly streaming without alternatives
Spiritual support boundaries	Opt-in fellowship, trained support and confidentiality procedures	Coerced disclosure made a condition of a grade
Assessment integrity	Verified authorship, authentic tasks, moderation and appeal routes	AI detection score treated as decisive proof
Technology and data stewardship	Approved access controls, backups, contracts, tested recovery	Confidential pastoral data exposed to public AI tools

Note. Original professional instrument by the author. Illustrative criteria require institutional, theological and jurisdictional adaptation; not HEC-approved or empirically validated.

11.15.4 Institutional review and corrective accountability

A board or academic senate can apply the diagnostic in Table 11.5 annually, recording the criterion, accountable owner, relevant legal or internal requirement, current evidence, known exceptions, student consequences, proposed response, deadline and verification record. The review should distinguish doctrinal claims from academic performance and legal authorisation. Where an institution lacks a sufficiently independent assessor for doctrinal or academic decisions, it should disclose that limitation and obtain qualified external advice. The review is a governance instrument rather than an audit opinion; individual claims warrant varying confidence according to evidentiary quality.

Table 11.5. Christian higher-education institutional QA self-assessment

Domain	Accountable evidence owner and example	Escalation trigger
Doctrinal and biblical mission	Theological committee: statement, curriculum mapping, disputed-text review	Unstated or contradictory commitments
Legal authority and disclosure	Registrar/legal officer: permits, approval letters, prospectus verification	Unsubstantiated recognition claim
Programme academic standards	Senate/faculty: outcomes map, credit register, assessment samples	Wrong level or unverified award competence
Faculty and research	Academic dean: contracts, staffing plan, qualified supervisors	No credible research supervision or teaching capacity
Learner care and accessibility	Student services: accommodations, case resolution, support records	Serious unresolved harm or exclusion
Online and AI governance	Digital lead: course testing, tool approvals, incident logs	Unsafe confidential data or invalid assessment

Domain	Accountable evidence owner and example	Escalation trigger
Finances and continuity	Board/finance: cash-flow, reserves, teach-out contingencies	Material inability to fulfil obligations
Internal QA and action closure	QA lead: review cycles, findings, remedy and repeat check	Recurring risk left administratively open

Note. Original professional instrument by the author. Illustrative criteria require institutional, theological and jurisdictional adaptation; not HEC-approved or empirically validated.

11.15.5 Worked evaluation: a hypothetical blended degree

Consider a wholly hypothetical provider, Covenant Valley Institute, proposing a three-year blended Bachelor of Biblical Studies for employed adult learners. It has an articulate biblical confession, a faculty handbook and 30 titled modules. Its published prospectus describes the award as 'internationally accredited' but identifies only an endorsement letter from a church network. The curriculum includes survey courses and ministry practice, yet no verified programme-level map demonstrating advanced exegetical progression. The learning platform contains downloadable lectures for the first term, but little evidence of purposeful interaction, accessible materials or moderated assessment. Three lecturers are named, though no workload allocation demonstrates capacity for the advertised enrolment. These are constructed conditions used to show how an assessment should proceed, not allegations about an actual institution.

An internal review applying CHE-CQAF would reach differentiated conclusions. Confessional identity is adequately documented as a stated commitment but remains only partially tested as enacted education. Academic readiness is not established because learning outcomes, progression, valid assessments and staffing capacity require verification. Digital readiness is limited because technical content availability does not show functioning academic interaction, accessibility or learner support. The accreditation claim is not substantiated by the supplied ecclesial endorsement; the institution must identify the exact competent authority and its lawful scope before using recognition language. None of these findings requires a judgement about the sincerity of the provider's faith. Each identifies the specific claim, appropriate evidence, limitation and proportionate next step.

Table 11.6. Illustrative evidence-traceable review of a hypothetical blended biblical-studies degree

Institutional claim	Available or missing evidence	Warranted judgement	Appropriate corrective route
Accredited degree	Church endorsement; no identified statutory decision	Not substantiated as public academic accreditation	Correct marketing and verify competent authority
Exegetical graduate competence	Survey modules; no progression or direct assessment map	Curricular validity uncertain	Reconcile outcomes, curriculum and authentic exegesis tasks

Institutional claim	Available or missing evidence	Warranted judgement	Appropriate corrective route
High-quality online learning	Lectures uploaded; little interaction or accessibility testing	Technical access does not establish pedagogy	Pilot accessible modules and test academic interaction
Qualified faculty availability	Three names; workload and teaching availability unverified	Staffing readiness not established	Document qualified allocation and succession plan
Student protection	No demonstrated appeals and practical placement safeguards	Critical safeguards require evidence	Implement and test accessible complaints and supervision

Note. Original professional instrument by the author. Illustrative criteria require institutional, theological and jurisdictional adaptation; not HEC-approved or empirically validated.

The proposed action would be to correct public claims immediately, reconcile the programme and qualification architecture with the governing jurisdiction, strengthen outcomes and exegesis assessments, secure documented faculty allocations, demonstrate accessible functioning modules, and submit the appropriate authorisation evidence before academic recruitment where required. Student protection cannot be left to a distant enhancement plan when misleading qualification information is already public. After implementation, the next review would examine samples of marked work, student experience, staff delivery, complaints and actual outcomes. Replacing the website wording and uploading policies would count as necessary corrective steps, but not proof of full educational effectiveness. This is a reasoned hypothetical assessment; its classification and timetable would require adaptation to the competent national authority's procedures.

11.15.6 Limits, testing and research priorities

CHE-CQAF is a conceptual and professional framework, not a statistically validated instrument or an officially approved accreditation standard. Its dimensions arise through theological argument, documentary synthesis and adaptation of the volume's earlier analytic architecture; their relative weights, reliability, consequences and cross-cultural functioning have not been empirically established. Future research could conduct multi-institutional usability studies, blinded reviewer exercises, agreement analysis, longitudinal programme assessments and student-outcome studies in different delivery settings. Such work would need defined sampling, ethics where human participation is involved, preserved review protocols and careful separation of improvement after implementation from causally attributable effects. The current contribution is a transparent method of inquiry and professional action, not a claim that the framework has already improved measured learning or accreditation consistency.

The framework also has principled boundaries. It must not become a mechanism for state regulators to judge the spiritual authenticity of persons where law assigns no such role, nor

for religious leaders to override statutory minimum standards. Doctrinal fidelity requires theological interpretation by those authorised within the institution's confessional mission; academic adequacy requires qualified scholarly evaluation; learner protection requires procedures that affected students can actually access; and accreditation status requires a decision by the relevant legal authority. The domains meet in institutional responsibility, but their authorities and evidentiary demands remain distinct. The value of CHE-CQAF lies precisely in making that separation visible and then requiring institutions to govern the connections honestly.

CHE-CQAF is best interpreted as a structured conversation among authorities rather than a universal index of institutional virtue. Its five domains are analytically distinct, and at least three decision gates are non-compensatory: legal permission to offer the claimed qualification, educational conditions needed to make the award credible, and fundamental learner-protection safeguards. A confessional review may find sound biblical teaching while a curriculum review finds inadequate doctoral supervision; an academic review may find excellent student work while a legal review identifies misleading recognition claims. Both findings must be recorded. Averaging them into an attractive overall percentage would erase the very distinctions the framework exists to preserve.

Implementation should begin with a controlled evidence register. Each material claim needs a unique identifier, its responsible owner, the doctrinal or legal authority applicable to it, the exact programme and cohort concerned, the underlying record, the verification undertaken, known contradictory evidence, the qualified judgement and the action owner. At subsequent review, the institution should record whether the corrective action actually reduced the problem and whether unintended learner effects emerged. Where a standard is normative but not empirically observable, such as a confession's account of revelation, the register should record the quality of interpretation and institutional coherence rather than falsely claim a quantitative measurement of theological truth.

An institutional decision should be accompanied by a proportional response: inaccurate accreditation advertising warrants prompt factual correction and competent legal verification; an untested digital programme warrants a supervised pilot or delayed recruitment rather than a claim of demonstrated effectiveness; missing research supervision warrants revised staffing and student protection before doctoral expansion; and safeguarding failures warrant immediate protection and lawful escalation. Corrective closure must be supported by newly verified evidence, not by the existence of an action plan. Table 11.7 translates these decision gates into a usable governance record. Its examples are deliberately non-exhaustive and must be adapted to the authoritative legal and academic conditions applicable to a programme.

Table 11.7. Non-compensatory quality gates and proportionate institutional decisions

Essential gate	Evidence needed	Response if not established
Authority to award	Current legal instrument, approved programme and modality; reliable prospectus	Correct claims; obtain competent determination before unauthorised recruitment
Academic validity	Qualification-level outcomes; sequenced modules; assessed work or tested readiness	Redesign and moderate; restrict delivery until essential conditions are verified
Staff and doctoral supervision	Verified expertise, workload, milestones, independent examiner arrangements	Allocate qualified capacity; protect enrolled researchers and defer expansion
Safeguarding and accessibility	Confidential reporting, tested adjustment route, placements and incident controls	Protect affected learners immediately; investigate, remedy and independently check
AI and data stewardship	Approved tool and processing basis, authentication, human review, recovery test	Suspend unsafe processing or high-stakes automation until controls are demonstrated
Financial and continuity duty	Funding evidence, records continuity, realistic teach-out and remedies	Escalate to governing authority; plan lawful protection and accurate disclosure

Note. Original non-compensatory professional decision aid developed for this chapter. Neither a prescribed HEC checklist nor an empirically validated rating system; decisions require the relevant authority and applicable law.

11.16 Conclusion: Faithfulness, scholarly excellence, and responsible institutional witness

Christian higher education occupies a distinctive place within the broader landscape of African academic provision because it joins claims about divine revelation and Christian formation to public promises about teaching, knowledge, qualifications and professional preparation. This combination need not be intellectually incoherent. It becomes credible, however, only when each claim is advanced through an appropriate authority and evidence base. Sola Scriptura governs the institution's theological doctrine without replacing sound linguistic, historical, scientific and professional inquiry; academic quality assurance tests what students are taught and what they demonstrably learn without claiming access to the spiritual condition of their hearts; and public accreditation determines lawful academic status without certifying theological orthodoxy. Confusing these categories permits impressive language to hide educational or moral deficiencies.

The chapter has shown that faithful purpose entails demanding responsibilities rather than exemptions. Biblical integrity requires contextual interpretation, honesty about uncertainty, careful handling of Scripture and accountability for teachers. Curriculum integrity requires progressive intellectual depth, valid assessment, qualified faculty, authentic supervised practice and defensible research standards. Digital teaching and AI require meaningful learner participation, verification of sources, protection of confidential information and competent

human judgement. Governance must translate confessional commitments into transparent leadership, prudent finances, complaint handling and protection of vulnerable learners. Cross-border provision must add precise statements of legal authority, award status, institutional responsibility and limits of recognition. These are not isolated administrative domains: their interaction determines whether a Christian institution is actually capable of keeping the promises its mission makes.

The proposed CHE-CQAF gives these obligations a coherent and reviewable form within IETQG and ETAJ. It is deliberately non-compensatory where essential legal, safety or academic conditions are at stake, and it refrains from reducing faithfulness to a numerical maturity score. Its tools are offered for critical use, jurisdictional adaptation and future validation, not as substitutes for Scripture, statutory requirements or qualified professional judgement. Christian institutional witness is strongest when a university neither hides behind its religious identity nor abandons it in pursuit of recognition, but subjects its teaching, research, decisions and public claims to accountable examination. This mission-specific application prepares the book's final synthesis, which will translate evidence-traceable governance into an adaptable implementation architecture for higher education across Rwanda and comparable African settings.

CHAPTER 12

Towards an Integrated Framework for Quality, Innovation, and Sustainable Higher Education in Rwanda and Africa

Translating Scholarship into Institutional Practice, Regulatory Improvement, and Future-Ready Educational Governance

Abstract

A higher-education system can possess regulations, curriculum standards, quality units, digital platforms, and accreditation procedures without reliably connecting them to educational achievement or institutional learning. The concluding challenge of this volume is therefore operational: how can legitimate academic purposes become coordinated, evidence-supported decisions that remain credible through technological, financial, and social change? This chapter synthesises the volume's theoretical, regulatory, curricular, digital, evaluative, and resilience arguments into an expanded application of the Integrated Evidence-Traceable Quality Governance (IETQG) framework. Using a critical, purposive synthesis of the author's doctoral architecture, the preceding eleven chapters, selected peer-reviewed scholarship, and identifiable Rwandan, African, and international reference instruments, it specifies interfaces among institutional capability, programme assurance, evidence maturity, and lawful accreditation judgement. Evidence-Traceable Accreditation Judgement (ETAJ) remains the framework's nested reasoning model rather than a separate accreditation regime. The chapter introduces a coordinated Higher Education Quality Governance Implementation Handbook, including an authority-to-evidence register, quality-threshold protocol, programme assurance record, differentiated implementation pathways, decision-support worksheet, indicator dictionary, dashboard rules, adaptation protocol, and phased implementation roadmap. A fully hypothetical programme example demonstrates how these tools prevent favourable averages from concealing material academic deficiencies. Legal requirements, professional benchmarks, conceptual proposals, and future research hypotheses are distinguished throughout. Neither IETQG nor ETAJ is represented as officially approved, causally validated, or proven to improve inter-rater agreement. The central contribution is a practical and revisable architecture for making educational quality claims inspectable, institutional improvement accountable, and innovation compatible with learner protection and sustainable academic standards.

Keywords: integrated quality governance; evidence traceability; programme assurance; accreditation judgement; Rwanda; institutional resilience; higher education innovation

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12.1 Introduction: From conceptual analysis to operational quality governance

At the end of an accreditation visit, a university may possess a detailed list of findings, an agreed timetable for action, and renewed confidence that its programme is ready for students. Six months later, however, the programme may still employ unavailable lecturers, use assessment tasks that do not demonstrate its graduate outcomes, or depend on an online learning platform that has never been tested under the anticipated cohort load. The problem is not necessarily that participants misunderstood the word *quality*. More often, responsibility, institutional capacity, programme design, evidence, judgement, and corrective implementation were never connected firmly enough to support the promise being made. Good scholarship explains why these connections matter; effective governance ensures that someone establishes, tests, documents, and improves them.

This chapter completes the volume by answering a difficult practical question: what would it mean to govern higher-education quality as an integrated, evidence-traceable and adaptive institutional system rather than as a sequence of separate compliance exercises? The preceding analysis established complementary foundations: educational purpose and multidimensional quality; the authority of national regulation; durable institutional capability; coherent curricula; intentionally designed digital provision; accountable artificial intelligence (AI); meaningful student inclusion; functioning internal quality assurance; defensible external accreditation judgement; preparedness for systemic disruption; and mission-specific responsibilities in Christian higher education. These arguments are not simply topics to be assembled in a concluding list. They imply an operational proposition: no consequential claim of educational quality should travel from institutional intention to public assurance without being connected to legitimate standards, programme-specific practice, suitable evidence, qualified reasoning, assigned responsibility, and continuing review.

Rwanda is the principal operational setting because the Higher Education Council (HEC) provides a defined national reference for institutional and programme oversight, while relevant qualifications, digital learning, AI, admissions, and internal-assurance instruments create concrete questions of authority and implementation. The country is not treated as representative of every African system. Kenyan, Ghanaian, and South African arrangements illustrate why functions may be comparable while legal mandates, qualifications, approval stages, and decision categories differ. Continental instruments can support mutual intelligibility without authorising a transnational reviewer to disregard national law (African Continental Qualifications Framework [ACQF], 2023a; HAQAA Initiative, 2018).

The method is an explicitly bounded critical documentary and conceptual synthesis. Its antecedents are the author's doctoral thesis (Sangwa, 2026a) and Chapters 1–11 of this volume. Additional primary normative materials include HEC's 2021 internal quality-assurance guidance, its 2025 virtual-learning and AI guidance, its March 2026 distance-learning

guidance, the 2021 Rwanda Qualifications Framework order, and the 2026 order governing HEC. Selected research and international standards are used for explanatory, critical, or comparative purposes. This chapter did not conduct a newly preregistered systematic review, new interviews, field observations, institutional audits, reviewer experiments, or a PRISMA screening process. The chapter reports no new database-search totals, empirical effect sizes, verified institutional successes or empirical validation. The documents establish stated provisions or scholarly arguments; the integration and instruments below are original proposals requiring scrutiny in practice.

The argument is deliberately non-technocratic. A university is not a perfectly observable machine in which a comprehensive dashboard reveals all that matters. It is a scholarly community and regulated organisation that exercises judgement under imperfect information. Indicators may expose problems, but they may also hide exclusions or encourage gaming. Institutions must determine which standards cannot be traded away, which educational ambitions remain open to reasonable disagreement, and when uncertain evidence calls for additional investigation rather than a confident conclusion. These principles organise the revised IETQG architecture and the accompanying implementation handbook.

The synthesis was conducted as a source-led interpretation rather than an exhaustive evidence census. The chapter first consolidated the propositions, definitions, acknowledged limitations and operational tools already developed in the thesis and earlier chapters. It then compared those propositions with identifiable official Rwandan instruments, selected African and international reference frameworks, and scholarship bearing directly on their explanatory or evaluative assumptions. Sources were considered according to their authority, relevance to the claim under examination, publication currency and capacity to challenge an attractive but unsubstantiated inference. Normative material was used to identify stated duties or standards; educational and organisational research was used to interpret mechanisms and limitations; and the handbook's forms were derived as proposed decision aids. No new coded corpus, independent screening ledger, exhaustive searches or observed institutional cases were produced for this editorial synthesis. This account makes the basis of the argument inspectable without claiming a degree of replicability or validation that the underlying work does not support.

12.2 Synthesis of the volume's principal theoretical, regulatory, institutional, and educational arguments

The volume began by resisting one-dimensional conceptions of quality. Institutional prestige, favourable graduate employment, procedural compliance, scientific publication, student satisfaction, and advanced technology can each communicate something valuable, but none alone establishes that an education is intellectually worthwhile, fairly delivered, validly assessed, or sustainable. The six-domain account developed in Chapter 1 distinguishes regulatory compliance, academic quality, educational effectiveness, learner protection, institutional sustainability, and public value. Its significance is evaluative rather than

cosmetic: the purposes of higher education and the reasons for a judgement must remain visible when competing priorities arise. Harvey and Green (1993) demonstrate why quality definitions embody different values, while Biggs (1996) shows how a curriculum's intended and assessed learning require deliberate alignment. Together, these perspectives discourage the reduction of education to what can be easily counted.

A second conclusion concerns the relationship between legality and academic quality. Applicable statutes, ministerial orders, official accreditation instruments, professional requirements, and institutional regulations constrain what a university may claim or do. Yet legality does not exhaust educational effectiveness. A programme may be properly authorised but provide weak feedback; a meticulously designed curriculum may remain unapproved; and a learner may complete useful non-formal study without having earned a recognised academic degree. Chapter 2 therefore required source provenance, current version, competent authority, scope, and the separation of legislative force from guidance or voluntary benchmarks. Rwanda's Presidential Order No. 044/01 of 24 July 2026, officially identified by HEC as its current governing instrument, is a particularly important example of why older authority maps must be revisited (HEC, n.d.-d; Republic of Rwanda, 2026).

The third conclusion is organisational. Academic promises are delivered through durable combinations of people, budgets, information, infrastructure, governance, professional expertise, and routines. Chapter 3 distinguished sustained capability from one-off implementation readiness. A university-wide library licence does not establish that the named students can access a programme's required books; a staffing policy does not prove that a qualified person has time to teach an assigned module; and the purchase of an AI system does not demonstrate that its output is safe to use for assessment. Institutional theory warns that formal structures can serve legitimacy without being coupled to daily activity (Bromley & Powell, 2012; Meyer & Rowan, 1977). Such warnings warrant testing rather than cynical assumptions: documentation is necessary, but an adequate evaluation follows documents into enacted practice.

Chapters 4–7 translated the argument into educational design and participation. Programme learning outcomes must express a defensible degree-level claim, supported by disciplinary content, coherent progression, meaningful learning activities, appropriately demanding assessment, staff allocation, and access to facilities. An online pathway needs more than an LMS login: it needs credible interaction, feedback, accessible materials, authentication arrangements, digital support, and mode-appropriate delivery of practical learning. AI changes both what students may learn and how authentic evidence of their individual attainment can be obtained. Accessibility and learner support complete the picture because formal availability does not establish that an eligible student can reasonably participate. Consequently, *programme assurance* must evaluate curriculum, provision, assessment, inclusion, and evidence as one educational undertaking rather than as files held by separate offices (Biggs, 1996; Miao & Holmes, 2023; UNESCO, 2023a).

Chapters 8–10 added time, independent scrutiny, and disruption. Internal quality assurance concerns repeated institutional discovery and correction of weaknesses, not merely annual reporting. External review asks an appropriately authorised evaluator to appraise a specific claim against a particular requirement, disclose contrary material, and distinguish advice from the lawful decision of the competent body. Resilience extends this assessment beyond normal operating conditions: quality must survive foreseeable pressures or be restored through academically defensible alternatives. The capacity to reopen classrooms after flooding, for example, does not prove that deferred laboratory competence has been achieved. Evidence of recovery must concern the educational obligation itself (Duchek, 2020; HEC, 2021a).

Chapter 11 demonstrated how institutional mission changes the substantive purposes that governance must protect without removing common academic and public responsibilities. Christian higher education may be committed to biblical doctrine and discipleship, but confessional fidelity, academic achievement, and legal recognition remain distinct claims. The same logic applies beyond religious institutions: a research-intensive university, a regional teaching university, a professional college, and a specialised arts institution may pursue different legitimate missions while remaining accountable for the claims attached to their qualifications. An integrated framework must therefore protect meaningful institutional differentiation without relativising minimum academic, legal, safety, or learner-protection obligations.

Table 12.1. The cumulative arguments of the volume and their implementation implications

Analytical contribution	Principal governance failure prevented	Operational requirement in Chapter 12
Purpose-referenced quality	Equating one metric with educational worth	Record programme purposes and the quality domain each claim concerns
Regulatory provenance	Treating historical or voluntary guidance as law	Maintain a dated authority and applicability register
Enduring institutional capability	Mistaking assets and policies for repeated performance	Verify allocations, routines, resilience, and responsible owners
Curriculum and delivery coherence	Treating module inventories and LMS access as learning	Test the complete programme-to-assessment-to-support chain
AI, inclusion, and learner protection	Allowing innovation to obscure validity or unequal access	Apply use-case risk, independent assessment, accessibility, and privacy tests
Internal assurance and accreditation	Replacing justified findings with checklists or averages	Require claim–evidence–verification–warrant– decision traceability
Continuity and institutional mission	Protecting operations while losing essential educational purposes	Use mission-sensitive safeguards, recovery evidence, and periodic adaptation

Note. Original synthesis of the author's Chapters 1–11 and doctoral architecture. Rows are conceptual integrations, not empirically derived causal findings or prescribed HEC standards.

Table 12.1 makes visible the project's central intellectual movement. The chapters do not culminate in an assertion that every university should use identical organisational structures. They establish a set of necessary questions that remain relevant across institutional forms: what is being promised, what authorises it, what must function, what evidence exists, what uncertainty remains, who may decide, and what happens afterward. The framework developed next is a disciplined way of preserving these questions throughout an academic programme's lifecycle.

12.3 Revisiting the Integrated Evidence-Traceable Quality Governance framework

The Integrated Evidence-Traceable Quality Governance (IETQG) framework was developed in the author's doctoral research as a three-level architecture linking *institutional capability*, *programme assurance*, and *accreditation judgement* through cross-cutting principles and a feedback loop (Sangwa, 2026a). Its distinctiveness does not lie in claiming to invent curriculum alignment, regulatory review, quality culture, or evidence-based decision-making. Those domains have substantial scholarly and professional histories. The proposed contribution lies in specifying the interfaces among them and preventing unwarranted inferences when evidence moves between institutional levels. The thesis was based on secondary documentary synthesis with Rwanda as the anchor jurisdiction and Kenya, Ghana, and South Africa as bounded comparators. Its findings warrant conceptual plausibility and professional investigation, not claims of tested causal effectiveness or generalisation to all African universities.

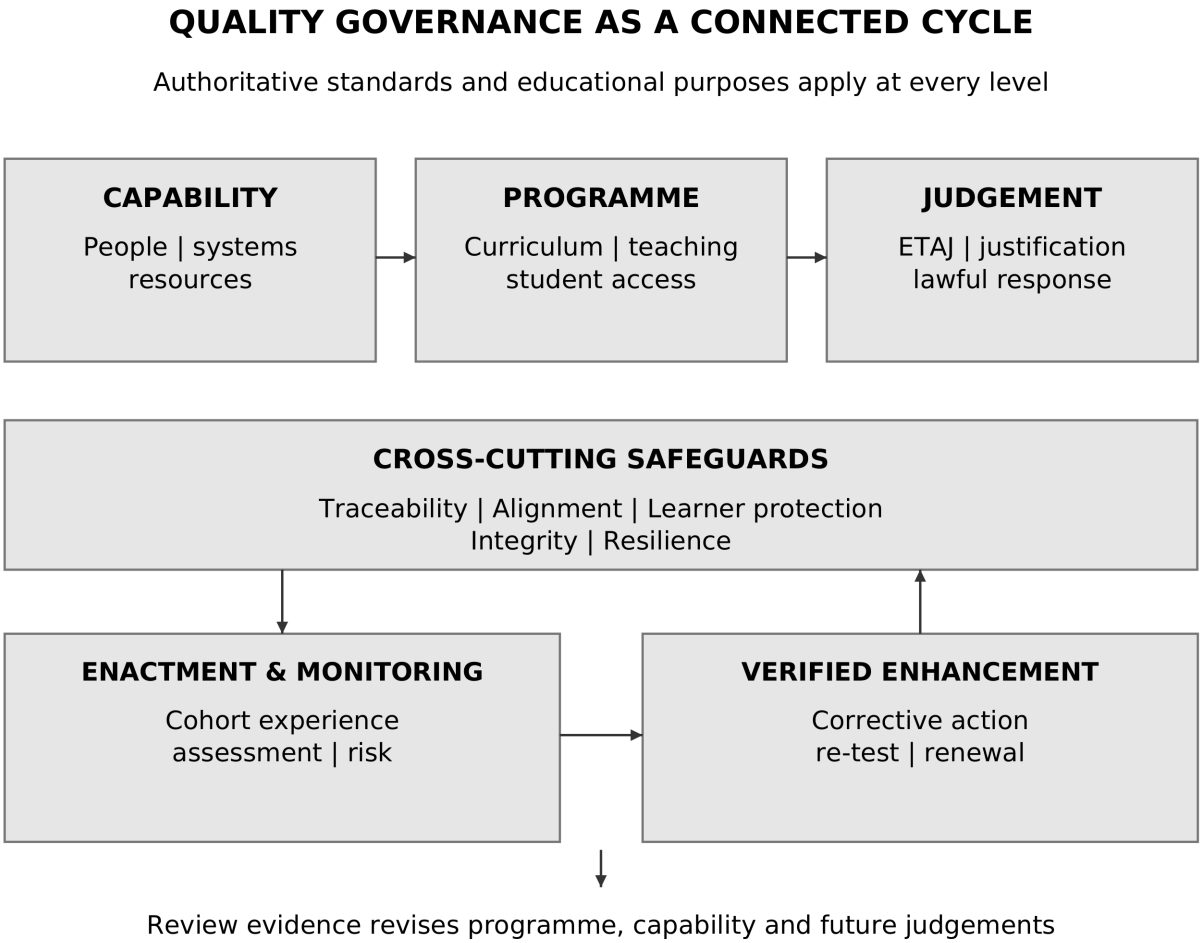
The theoretical integration is intentionally plural rather than the mechanical addition of familiar models. A critical realist orientation distinguishes observable records, actual educational practices and the institutional conditions that may explain them; institutional theory illuminates ceremonial adoption and decoupling; socio-technical reasoning examines how professional actors, technical systems and organisational routines interact; constructive alignment concerns the educational relationship between intended outcomes, learning activities and assessment; and argument-based validation examines the inference from limited evidence to consequential judgement. These perspectives address different failures and are not interchangeable. In particular, a valid curriculum map does not prove programme enactment, and a sound accreditation argument cannot repair an unlawful approval route. The point of IETQG is to locate such boundaries explicitly so that a conclusion is supported only by evidence relevant to the claim and decision at issue (Biggs, 1996; Kane, 2013; Meyer & Rowan, 1977).

The present volume extends the framework without changing its conceptual identity. The **institutional capability layer** asks whether a university can reliably mobilise governance, disciplinary expertise, finance, technology, learner support, data controls, academic resources, and risk-management functions. The **programme assurance layer** asks whether these capacities are allocated, configured, and enacted for a particular qualification, site, cohort,

delivery mode, and professional context. The **accreditation judgement layer** asks whether applicable norms and credible evidence support a finding and lawful response. An institution may meet the first test in one domain but fail the second for a new programme; a strong programme may still lack the regulatory authorisation required to operate; and a lawful favourable decision cannot transform untested assumptions into observed student attainment.

Evidence-Traceable Accreditation Judgement (ETAJ) sits within IETQG as its specialised model of justified evaluative reasoning. It does not confer accreditation, replace an authorised agency, generate a universal numerical pass mark, or decide legal questions without an applicable source. Its structure distinguishes normative authority, institutional assertion, evidence, verification, warrant, qualification or rebuttal, finding, regulatory response, and follow-up. Toulmin's (2003) analysis of the anatomy of argument and Kane's (2013) argument-based validation work support the epistemic importance of testing the inferences from data to conclusions. Their contribution here is an analogy and theoretical foundation, not empirical proof that ETAJ improves reviewer accuracy.

Figure 12.1. Expanded IETQG framework: capability, programme assurance, evidence-traceable judgement, and enhancement.



Note. Original extension of Sangwa (2026a). Directional links indicate proposed dependencies and review pathways, not statistically established causal relations. Cross-cutting conditions affect all layers. The arrows returning from monitoring show how implementation evidence may change institutional arrangements, curricula, and future evaluative standards.

The diagram's most important feature is not the number of labelled boxes but the fact that a connection itself requires scrutiny. A personnel office can establish that a lecturer is employed, while the programme office holds a timetable assigning the same person to incompatible commitments. Both documents may be authentic and individually accurate. The broken interface concerns workload allocation. Similarly, an approved programme specification can promise supervised laboratory work while the learning platform contains a video demonstration offered as the only practical activity. A review that inspects staffing, curriculum, and platform files independently may overlook the contradiction. IETQG treats such discrepancies as important evidence rather than incidental clerical errors.

Six cross-cutting obligations guide implementation. **Traceability** requires reconstructable claims and decisions; **alignment** requires an enactable relationship among purposes, learning, assessment, and resources; **transparency and proportionality** require explicit reasoning and a response matched to consequence; **learner protection** requires accessibility, fairness, privacy, and continuity; **integrity and trustworthy technology** require valid assessment, responsible AI, and secure information practices; and **sustainability with organisational learning** requires resource realism and verified improvement. These are integrated design principles. They are not additional legal standards merely because they appear in a scholarly framework. Their regulatory implications depend on authoritative instruments in the relevant jurisdiction (HAQAA Initiative, 2018; HEC, 2021a).

The feedback relationship must also be specified. Quality is not a simple sequence in which a programme is designed, accredited, and then presumed sound indefinitely. Monitoring can reveal that the initial assumptions about staffing, student preparation, practical placement capacity, or digital access were incorrect. Follow-up findings may require module redesign, additional resources, changed risk controls, or, where applicable, formal regulatory action. A valid framework should make that learning possible without treating every deviation as misconduct. The test of integration is whether information from actual provision alters the relevant decision and whether the altered decision is subsequently checked.

A mature application also tests the quality of the quality-assurance process itself. Where one assessor consistently overlooks contradiction, where evidence requests disproportionately burden small programmes, or where student complaints are systematically converted into administrative closure statistics, the assurance system becomes an object of review rather than an unquestioned observer. Internal and external assurance therefore require proportionate independent challenge, periodic calibration and a record of revisions to their own criteria. This second-order scrutiny is not an invitation to endless audit: it should concentrate on consequential errors, disproportionate requests, recurring differences in judgement and failures to translate findings into safer or better education. Its value lies in exposing the possibility that a formally coherent assurance process may itself produce unreliable public conclusions.

12.4 Integrating institutional capability, curriculum design, programme assurance, and accreditation judgement

Operational integration begins with the *unit of claim*. “The university has adequate teaching capacity” is too broad for many programme-level decisions. A defensible proposition might instead state that named lecturers with specified qualifications and contracted availability can deliver and assess the modules assigned to the first cohort of a particular degree during a defined academic period. This revised claim identifies the qualification, staffing function, time, workload, and evidence required. Institutional capability informs the claim, but it cannot complete the demonstration without programme-specific allocation. Clear claims make

reviews more demanding and more efficient: reviewers can seek evidence capable of answering the question rather than demanding indiscriminate documents.

Curriculum design is the central translation device. Programme purpose and qualification level must be expressed through graduate attributes, learning outcomes, knowledge progression, volume of study, prerequisite structures, learning activities, assessment opportunities, work-integrated experiences where relevant, and appropriate academic resources. Constructive alignment makes these relationships intelligible, but it cannot determine independently whether an outcome is socially or intellectually valuable. A technically aligned programme could still be too narrow for the qualification advertised. Review must therefore test educational justification as well as formal alignment, and regard independent scholarly judgement as an essential complement to matrices (Biggs, 1996).

Programme assurance should distinguish at least four questions that are often compressed into a single "ready" label. First, is the **design academically defensible**? Second, are resources **actually allocated**? Third, are the relevant delivery and assessment processes **configured and tested**? Fourth, after launch, is there evidence that students **experience and achieve** the intended learning? The fourth question cannot be settled before the first intake. Conversely, a lack of graduate outcome data is not by itself proof that a new programme is inadequately prepared. The task is to apply the strongest evidence reasonably obtainable at each point in the lifecycle and to record residual uncertainties for subsequent monitoring.

The interface between programme assurance and accreditation judgement introduces legitimate authority. An internal curriculum committee may conclude that a proposal is coherent, but the power to authorise a programme depends on the governing national scheme. For Rwanda, current statutory and HEC instruments require examination of the competent body's functions and the programme's applicable procedures. A reviewer should never infer an external approval from senate minutes alone. Equally, the external review panel's recommendation should remain distinguishable from the final decision taken by an authorised official or body. ETAJ provides the template for reasoning, while domestic law supplies authority and permissible decisions (HEC, n.d.-d; Republic of Rwanda, 2026).

A worked chain clarifies the interface. A programme claims that students will demonstrate advanced data-analysis competence through a final-year project. The reviewer identifies the relevant curriculum and qualification expectations; examines the approved programme outcomes, module descriptions, assessment briefs, marking criteria, sample learner work, moderation records, and tutor allocations; verifies whether the project demands independent analytical reasoning; and considers rival interpretations. An impressive written submission may have resulted from unacknowledged AI generation, external support, or an assessment rubric that rewards presentation over analysis. The resulting warrant must explain why the selected evidence does or does not justify the competence claim. The finding should not be "quality satisfactory" merely because every dossier section is complete (Kane, 2013; Miao & Holmes, 2023).

Table 12.2. Interface-verification matrix for programme governance

Interface to verify	Minimum claim to test	Illustrative verification	Escalation when inconsistent
Authority → programme	The proposed award and mode may lawfully be offered	Current legal source, authorisation record, internal approvals	Hold external-status claims; request competent-authority clarification
Institution → programme	Resources are committed to this cohort	Named staff assignments, budget, library entitlements, signed agreements	Amend allocations or reduce intake before launch
Programme → teaching	Intended outcomes are actually teachable	Sequencing map, taught materials, timetable, accessible activities	Redesign learning pathway and retest
Teaching → assessment	Assessment is valid for the advertised outcome	Rubrics, assessment tasks, moderation, authentication and AI rules	Replace invalid tasks; protect current learners
Programme → student support	Learners can participate and obtain required help	Accessibility checks, helpdesk tests, adviser capacity, student information	Correct exclusionary design before scale-up
Evidence → finding	Verified material warrants the claimed conclusion	Claim–evidence mapping, contradiction test, reviewer rationale	Qualify finding or seek further evidence
Decision → improvement	Conditions are completed and educational consequences checked	Action owner, closure evidence, post-action student work or operational tests	Keep issue open; modify response and monitoring

Note. Original professional instrument. Each row is a proposed decision prompt, not a stand-alone statutory criterion. The evidence threshold depends on institutional context, claim severity, programme stage, and competent authority.

The matrix should be used as a conversation among academic, administrative, student-support, and regulatory professionals rather than as a scoring sheet completed in isolation. For each interface, the responsible officer must identify the specific claim, the evidence source, the verification method, the date, any contradictions, and the person who can approve or require corrective action. Where a potentially fatal academic weakness exists, a favourable score elsewhere cannot compensate for it. Where only a documentary inconsistency remains, the response may be proportionate correction rather than a presumption of substantive educational failure. This distinction is carried into the evidence-maturity and threshold rules developed below.

12.5 Extending the framework to AI governance, digital inclusion, risk, sustainability, and institutional resilience

Technological change requires IETQG to govern not only what the university possesses but what its tools *do* to educational claims. A system that generates feedback, marks essays, predicts withdrawal, flags misconduct, produces research prose, or makes admissions

recommendations participates in a consequential institutional process. The crucial questions concern its intended function, technical and educational limitations, lawful data use, independent oversight, and the ability to correct error. Rwanda's HEC virtual-learning and AI guidance addresses institution-wide policy, staff and student capacity, academic integrity, digital ecosystems, and assessment; UNESCO recommends human-centred governance; and NIST's AI Risk Management Framework provides a voluntary risk-oriented benchmark. These sources have different normative statuses and cannot simply be merged into a new compulsory national rule (HEC, 2025b; Miao & Holmes, 2023; Tabassi, 2023).

AI governance should proceed by use case, not by a single organisational declaration that AI is permitted or prohibited. Low-consequence use of a tool to brainstorm tutorial examples requires a different level of assurance from automated grading of final examinations or a model that can modify student records. Every consequential use should have a named human decision owner, documented purpose, data classification, procurement and contractual review, bias and error testing appropriate to use, learner notice where required, monitoring triggers, and a practical route for challenge or reversal. Agentic systems capable of initiating actions across multiple applications demand especially careful boundaries: tool permissions, authentication, logging, approval gates, and emergency suspension must be defined before deployment. No general benchmark can replace domestic privacy law or academic regulations (Republic of Rwanda, 2021b; Tabassi, 2023).

Assessment is a particular vulnerability because the same system may help construct an answer and assess its quality. A complete essay does not necessarily demonstrate a student's unaided analytic capacity, while appropriate AI assistance may support authentic professional work. Programme teams should decide which tasks require independent performance, which permit disclosed assistance, and which expect competent critical use of AI. The validation claim concerns the interpretation of the resulting assessment evidence, not the ability of software to label text as machine-generated. Where individual reasoning is crucial, oral explanation, monitored application, sequential drafts, authentic demonstrations, and calibrated moderation may provide mutually supporting evidence. These methods have burdens and limitations of their own and should be selected proportionately (Kane, 2013; Miao & Holmes, 2023).

Digital inclusion is inseparable from technological governance. A platform may be operational and yet inaccessible to students who depend on mobile devices, intermittent connectivity, screen readers, affordable data, or asynchronous study. A national digital strategy does not demonstrate that every enrolled learner can use a particular service. Institutions should test representative learning journeys, record material barriers, and distinguish essential academic standards from incidental demands created by delivery choices. Accessible assessment, responsive learner support, published technological requirements, and fair complaint mechanisms protect participation without automatically reducing academic demand. UNESCO's 2023 Global Education Monitoring Report cautions against treating technology

acquisition as a substitute for sound evidence of educational benefit or effective governance (UNESCO, 2023a).

Sustainability adds the question of whether educational promises remain deliverable over successive cohorts. A new online programme may appear inexpensive during its first intake because its content development, licences, faculty preparation, student support, cybersecurity, replacement equipment, and exit costs were underestimated. Sustainable expansion requires whole-lifecycle costing, realistic enrolment scenarios, attention to cross-subsidies, supplier concentration, staff succession, and the environmental demands of infrastructure. Sustainability is therefore not confined to carbon reporting or financial solvency. It concerns the intergenerational responsibility to maintain legitimate academic commitments, including the ability to complete the education already sold to learners if the institution changes strategy or experiences insolvency.

Resilience extends this obligation under disruption. A pandemic, geopolitical interruption, cyber incident, severe weather event, or loss of a clinical placement can simultaneously affect safety, physical access, finance, teaching, assessment, research and records. Quality governance should identify critical educational functions, recovery priorities, alternative arrangements, and the person authorised to approve temporary academic modifications. A continuity plan without a tested communication channel and realistic alternative supervision remains aspirational. A successful online switch that silently removes essential laboratory requirements remains academically deficient. The resilience test is whether learners are protected, legitimate standards remain intelligible, and postponed learning is restored and verified, not simply whether administrative operations resume (Duchek, 2020).

These extensions do not create an unlimited requirement that every institution purchase the latest software or duplicate the infrastructure of a wealthy research university. They identify critical functions that must be performed in proportionate, locally feasible ways. Open educational resources, shared facilities, accessible low-bandwidth content, robust partnerships, manual fallback procedures, and cautiously selected local technologies may be more effective than expensive systems without reliable governance. Conversely, resource constraints cannot justify unsafe practice, fabricated attainment, systematic exclusion, or claims of approval that the institution does not possess. The next section explains how evidence strength and minimum thresholds can differentiate these cases.

Institutional sustainability further requires a decision about dependence, not simply a procurement budget. An institution may be technologically sophisticated yet have little bargaining power over a foreign identity provider, proprietary grading software, cloud storage or specialist learning content. Vial's (2019) review of digital transformation underscores that new technologies trigger organisational responses and structural change rather than operating as isolated devices. Applied to universities, this means that procurement appraisal should examine interoperability, verifiable service obligations, continuity and exit procedures, data portability, staff competence, accessibility and total cost of ownership. A

shared service may reduce costs without reducing accountability if the institution preserves independent records, contractual safeguards and tested alternative arrangements. The reverse is also possible: apparently inexpensive software can create an academically consequential single point of failure when its export mechanism, renewal costs or decision logic are not understood.

12.6 Evidence maturity, implementation alignment, quality thresholds, and continuous monitoring

Evidence has no uniform strength independently of the claim it is used to support. A signed policy may be strong evidence of an adopted institutional intention, weak evidence of a functioning routine, and virtually no direct evidence of a student's attained competence. The thesis describes an evidence-maturity progression from declared intent through allocated resources, configured provision, testing, and enacted or monitored practice. This is not a ranking of institutional prestige or a guarantee that later records are infallible. A contemporaneous, well-observed readiness test can be more probative of a new service than several years of irrelevant operational statistics. Maturity is claim-relative, function-specific, risk-sensitive, and dependent on the programme lifecycle (Sangwa, 2026a).

The practical five-stage classification adopted here is **E1 declared**, supported by authorised policy or intention; **E2 allocated**, supported by identifiable staff, funds, licences or contracted responsibility; **E3 configured**, supported by completed learning environments, workflows and resources; **E4 tested**, supported by demonstrations, moderation, accessibility tests, simulations or verification; and **E5 enacted and monitored**, supported by appropriately sampled experience, performance, incidents, remedies and longitudinal review. A new programme may legitimately be evaluated primarily using E2–E4 evidence for future teaching, whereas a mature programme should normally provide relevant E5 evidence. Importantly, a later-stage artefact does not make earlier requirements disappear: an institution delivering excellent lessons without the lawful authorisation to offer the qualification remains vulnerable on the normative dimension.

Table 12.3. Claim-relative evidence-maturity protocol

Stage	Evidence state	Strongest justified inference	Limitation or next test
E1	Declared intention	The proposed policy or commitment exists	Cannot establish allocation or use
E2	Allocated capability	Identified personnel, money or services are committed	Verify access, workload, compatibility and continuity
E3	Configured provision	A concrete programme-specific arrangement is built	Check operability under representative conditions
E4	Tested or independently verified	A specified process worked in a bounded test	Identify untested scenarios and retesting triggers

Stage	Evidence state	Strongest justified inference	Limitation or next test
E5	Enacted, monitored and improved	Selected real practices and consequences are evidenced	Assess representativeness, change over time and rival explanations

Note. Adapted and operationally extended from Sangwa (2026a). Codes E1–E5 are the author's analytical conventions, not official HEC maturity grades. A programme can have different stages for teaching, assessment, accessibility, staffing, finance, and cybersecurity at the same time.

Evidence maturity differs from **implementation alignment**. The former concerns the evidentiary state of a function; the latter concerns whether interdependent arrangements agree and work together. A module could reach E4 in isolation but remain misaligned with an approved programme outcome or a student's accessibility needs. An implementation-alignment review therefore compares the approved curriculum version with the module register, timetable, assessment tasks, LMS configuration, staffing allocations, budget, learner information, and admission promises. It records not only discrepancies but which institutional actor has the competence to correct them. A quality office should never silently rewrite an academic standard to make administrative documents agree; substantive curriculum modification requires the appropriate academic and regulatory route.

Thresholds require special care. Some concerns are **non-compensatory**: a legally unauthorised programme, unsafe clinical activity, materially invalid assessment, serious discriminatory exclusion, or uncontrolled exposure of sensitive learner information cannot be offset by an excellent student-satisfaction average. Other weaknesses may be manageable through time-bound conditions or enhancement actions. The distinction should not be used to invent statutory prohibitions. It is a proposed decision discipline: first identify the applicable rule and essential academic obligation, then classify the consequence, immediacy, reversibility, available mitigation, and evidence quality. The legal authority decides which formal remedies or categories are available under its scheme.

A finding must also distinguish **not demonstrated** from **demonstrated deficiency**. When an institution cannot produce staffing records, the reviewer may reasonably conclude that adequate staffing has not been demonstrated; the absence of documents does not, without further examination, establish that no lecturer exists. Conversely, a verified timetable placing one person in incompatible concurrent teaching duties is substantive adverse evidence. An evaluator should record which state is supported, what clarification was requested, and how the uncertainty affects a proportionate decision. This distinction strengthens procedural fairness while avoiding the opposite mistake of crediting unsupported assertions (Kane, 2013; Toulmin, 2003).

Continuous monitoring should connect each material risk or approval assumption to an observable trigger and a review obligation. A first-cohort programme might monitor qualified teaching allocation, access to required learning resources, assessment moderation, accessibility barriers, complaint resolution, financial continuity, and evidence of intended learning.

Indicators alone do not answer why performance changes. They should initiate enquiries using appropriate qualitative records and independent professional judgement. A recurring weakness matters more when it remains unresolved after remedial promises, but historical performance must be interpreted in relation to cohort changes, curriculum modifications, assessment demands and disruptions. Evidence traceability protects both the urgency of correction and the validity of the claim that correction succeeded.

A practical threshold protocol should record the affected academic obligation, relevant source, type of evidence, likely consequence, scope of learner exposure, reversibility and person authorised to act. The classification 'critical' should be reserved for an identified situation that threatens an essential legal, safety, academic-integrity or learner-protection condition and requires immediate protective attention; 'material' should denote a demonstrated or unresolved weakness that could undermine significant programme claims and therefore requires a time-bound management or regulatory response; and 'improvement' should denote a justified enhancement opportunity without evidence that an essential requirement has been breached. These are proposed institutional triage terms, not HEC accreditation grades. A disagreement about the quality of supporting evidence must be recorded separately from the seriousness of the underlying risk. Where an issue is both severe and uncertain, protective action may be warranted while verification continues, provided competent authorities and procedural fairness are respected.

Sampling supplies a second safeguard. A university should explain why the selected modules, assessment scripts, placements, student pathways or system tests can sustain the conclusion being drawn. A purposive sample enriched for known risk may be appropriate for detecting serious weaknesses, but it cannot produce an unbiased prevalence estimate. A random or stratified sample may support broader description, but only when the population frame, selection procedure and non-response are known. Small professional cohorts may justify examination of every relevant assessment; much larger undergraduate provision may require combined risk-based and representative sampling. The review record should distinguish a finding about one tested artefact from an inference about a programme, faculty or institution, specify what remains unobserved and identify a proportionate trigger for further examination. This avoids the false economy of both indiscriminate data collection and convenient anecdote.

12.7 Rwanda-specific operationalisation: Regulatory requirements, institutional priorities, and implementation constraints

Implementation in Rwanda should begin with the current legal and regulatory environment, not with the handbook's forms. HEC identifies Presidential Order No. 044/01 of 24 July 2026, published in the Official Gazette special issue of 30 July 2026, as its present governing order. The institution must establish which provisions apply to its legal standing, proposed programme, mode of teaching, research activity, cross-border offering, or intended qualification. Ministerial Order No. 003/MINEDUC/2021 of 20 October 2021 concerning the Rwanda Qualifications Framework also requires attention to the qualifications framework

appropriate to the award. HEC's published guides and assessment tools provide further relevant official reference points, including its internal-quality guidelines, November 2025 virtual-learning and AI document, and March 2026 distance-learning document (HEC, 2021a, 2025b, 2026a; Republic of Rwanda, 2021c, 2026).

The legal hierarchy matters. An official guideline can contain important operational assessment expectations and may be relevant to decisions made within a regulator's mandate, but its title alone does not resolve whether every statement is independently binding. A ministerial order, an HEC administrative procedure, an internal senate rule, a voluntary international standard, and an author's diagnostic matrix must not be presented as legally equivalent. The handbook therefore requires a normative-authority record containing the issuing body, publication and effective dates, amendment or repeal status, document version, exact provision, operative wording, programme applicability, related professional requirements, and responsible verification officer. A legal uncertainty should be referred to the competent institutional or public authority; a reviewer cannot resolve it by adopting the most convenient interpretation.

A second feature of Rwanda-specific implementation concerns education policy in operation. HEC's published 2025–2030 higher-education strategic plan identifies a national policy-planning horizon, but a strategic objective is not proof that a particular programme is academically ready. Institutions should connect national priorities with defensible institutional missions and carefully specified programme needs: research capacity, employability, digital transformation, inclusion, disciplinary depth, regional contribution, and lifelong learning. Where a national ambition creates pressure to expand, resource modelling and admission governance must test whether the institution can sustain the teaching, supervision, assessment and support it promises. Public and private institutions may face different incentives, but learners should not bear hidden academic costs arising from untested expansion (HEC, n.d.-c).

Rwanda's recent digital guidance illustrates why implementation must be precise. HEC's November 2025 publication distinguishes several virtual-learning modalities and specifies expectations concerning digital infrastructure, course development, staff and learner capacity, assessment integrity, institutional policies, and AI use. Its March 2026 distance-learning instrument contains further assessment and review arrangements. Institutions should compare the programme's actual delivery model with the classifications and relevant sections of the operative guidance, resolve apparent overlap through the authority register, and retain documentary evidence of any clarification or approval. A programme described publicly as "fully online," "blended," or "self-paced" cannot assume that a marketing term determines its legal classification or exempts it from applicable assessment arrangements (HEC, 2025b, 2026a).

The protection of personal information requires separate treatment. Rwanda's Law No. 058/2021 of 13 October 2021 relating to the protection of personal data and privacy provides a

legal foundation relevant to educational records, learning analytics, student-support interventions, AI tools, and external data-processing agreements. A proposed student-success dashboard must therefore be reviewed for lawful purposes, access rights, retention, data flows, security, and safeguards for affected persons. An improvement agenda does not itself authorise unrestricted circulation of sensitive information to suppliers, reviewers, or institutional executives. The evidence-management design below deliberately favours role-limited access, pseudonymised analytic reports when appropriate, and preservation of personal records only according to applicable rules (Republic of Rwanda, 2021b).

The principal constraints are not merely financial. Institutions may face competing regulatory documents, concentrated expertise, limited instructional-design support, difficult data interoperability, uneven broadband access, specialist staffing shortages, legacy systems, and the costs of recurrent external review. These conditions make proportionality important, but they also require a distinction between essential functions and expensive organisational forms. A small institution may use a controlled shared register rather than a sophisticated enterprise platform, provided it can assure integrity, authorised access, reliable versioning, recoverability, and auditability. An institution providing clinical or engineering practice cannot replace a required safety demonstration with a spreadsheet assertion that its resources are limited.

Table 12.4. Rwanda standards-to-implementation control register: recommended fields

Field	Mandatory recording question	Example of acceptable record
Authority	Who issued the requirement, under which legal power?	Order, official HEC document, professional council rule
Status and currency	Is this law, delegated standard, guidance, procedure, or benchmark; which version applies?	Gazette reference, publication date, update log
Applicability	To which institution, award, mode, stage, site, or cohort?	Written scope determination with supporting provision
Academic obligation	What substantive standard is being protected?	Degree-level outcome, staffing, academic integrity, safe placement
Claim and evidence	What is claimed, and which trace proves or tests it?	Register IDs, source records, sample or test design
Verification and warrant	Who checked the evidence, and why is it probative?	Reviewer note, contrary evidence, qualified conclusion
Action and follow-up	Who decides, who remedies, and how is closure tested?	Approved action, deadline, verification record, next review

Note. Original proposed control structure, informed by Rwanda's HEC publications and the evidence architecture of Sangwa (2026a). This is not a reproduction of any regulator's official application form. Every institutional adoption must first verify source currency and legal status.

The significance of Table 12.4 is that legal conformity becomes a controlled, reviewable process. If a requirement changes after a programme was first approved, the university can identify affected claims, programmes, timetables, student communications, and prior decision assumptions. A regulator can similarly distinguish a new obligation from a retrospective expectation. Reliable change control is therefore central to both lawful accountability and academic continuity.

The currency of HEC's publicly available guidance requires continuing attention beyond the core instruments cited here. Its guidelines index lists postgraduate degree and research-and-innovation frameworks among items updated in October 2026, alongside distance-learning, programme and other subject-specific resources (HEC, n.d.-b). These publications are relevant especially to postgraduate supervision, research governance and institutional academic planning, but their location on a webpage does not establish whether each provision is presently binding on a specific institution or programme. Before conducting a doctoral or research-intensive programme review, the institution should retrieve the complete applicable framework, confirm its operative version and status with the competent authority where necessary, and cross-map its expectations to the programme's genuine award and supervision arrangements. The handbook should retain the source that was applicable at the time of a decision so that later amendments are not silently applied retrospectively.

12.8 Institutional implementation pathways for public, private, specialised, emerging, and digitally enabled universities

No single institutional operating model is appropriate for every African university. Public research universities, private teaching-focused providers, specialised medical or technical institutions, newly licensed colleges, transnational partnerships, and digitally intensive institutions possess different funding arrangements, missions, staff profiles, regulatory histories, and risk exposures. Uniformity of administrative structure is neither necessary nor sufficient for comparable academic quality. The relevant question is whether each institution can demonstrate equivalent educational functions through arrangements that are lawful, feasible, coherent, and adequately evidenced. A framework that favours only institutions able to buy complex assurance software would reproduce resource inequality without showing that expensive administration produces better learning.

A **public multidisciplinary university** may already have elaborate central structures while struggling to coordinate decentralised faculties, multiple campuses, research laboratories, and legacy datasets. Its first priority may be reducing contradictory programme records and clarifying who may change an approved curriculum. The most valuable initial application of IETQG could be a cross-faculty authority map, reconciliation of programme registers, and a coherent route from academic-board decisions to current delivered versions. A central dashboard that aggregates incompatible definitions of continuation or award classification would make the problem less visible rather than solve it. Data governance and academically informed local interpretation should precede executive-level comparison.

A **private or financially dependent university** may face especially strong pressure to recruit and diversify programmes rapidly. Its governance must connect admissions projections to lecturer contracts, scholarship availability, teaching loads, cash reserves, library subscriptions, and teach-out plans. A new intake should not be approved internally merely because forecast tuition exceeds first-year direct expenditure. Multi-year qualification delivery creates an obligation to future cohorts, including when revenue falls or a commercial provider withdraws. The implementation instrument should stress financial scenarios, commitment to teaching across the full award, internal independence of academic review, and accurate public disclosure of recognition status. These are professional priorities unless a specific requirement is independently established under applicable law.

A **specialised or high-consequence provider** requires discipline-sensitive thresholds. Health, engineering, aviation, teacher education, architecture, laboratory science, and comparable fields may involve statutory professional requirements, essential practical competencies, safety constraints, or external placement dependencies. The quality-assurance pathway should identify the professional body and current requirements, specialist reviewer competence, supervised practice capacity, risk controls, and methods for observing performance. A high overall rubric score cannot compensate for a missing clinical supervision arrangement or a demonstrated failure of essential safety teaching. The generic framework should support these specialist judgements while never substituting its own thresholds for authorised professional standards.

An **emerging institution** requires especially careful distinction between design quality and enacted institutional maturity. Absence of several years of graduate outcomes should not automatically count as failure at the initial-readiness stage; however, a plausible strategic plan without secured staff, usable learning materials, tested systems, or student protection may be inadequate. The initial pathway should emphasise staged launch, verified readiness, prudent cohort limits, contingency measures, and planned review after the earliest relevant milestones. After the first semester or year, evidence expectations should rise. Approval assumptions should be revisited through actual records of teaching, feedback, assessment, support, retention, and any reported harm.

A **digitally enabled or transnational provider** must demonstrate not only pedagogical competence but reliable identity, assessment, data custody, accessible course design, intellectual-property permissions, support across time zones, and a clear legal basis for each country or delivery arrangement. Outsourcing does not extinguish the university's academic responsibilities. Contracts should specify service continuity, security, data access and exit, audit rights, and responsibilities for students when a vendor fails. The institution should test whether its stated flexibility is compatible with supervision and assessment requirements and whether learners understand the implications of physical examination or practicum attendance. International recognition should never be implied solely from a platform's availability beyond national borders (HEC, 2026a; UNESCO, 2023a).

Table 12.5. Differentiated institutional implementation starting points

Institutional context	First governance emphasis	Programme-specific verification	Distinctive safeguard
Public, multicampus	Interoperability and decision rights	Reconcile curriculum and delivery versions across sites	Avoid misleading aggregate comparisons
Private, enrolment-dependent	Whole-award finance and academic independence	Test lecturer availability and full-cohort cost	Student protection and teach-out readiness
Specialised/high-consequence	Professional and safety thresholds	Verify authentic supervised competence	Non-compensatory professional safeguards
Newly established	Resource commitment and controlled launch	Test E2–E4 before recruitment; plan E5 monitoring	No claim of established outcomes before delivery
Digital/transnational	Modality, legal jurisdiction and service dependencies	Test remote assessment, accessibility, data and fallback	Clear authorisations and contractual exit routes
Mission-specific/ Christian	Mission fidelity alongside public academic duty	Test academic level, doctrinal claims where relevant, and legal status separately	Avoid substituting religious endorsement for accreditation

Note. Original differentiation of a common analytical architecture. Rows indicate starting priorities, not exclusive institutional categories or different minimum legal standards.

Across these pathways the principle remains consistent: context changes the necessary *evidence configuration*, not the obligation to make truthful qualification claims. Institutions should choose a bounded pilot portfolio rather than launching every instrument across every department simultaneously. Pilot selection should include at least one programme whose educational risks and operational dependencies differ meaningfully from the institution's most familiar provision. An institution that tests only its strongest low-risk programme may discover that its forms are easy to complete without learning whether the framework handles difficult decisions.

12.9 Adaptation to other African higher-education systems and cross-border provision

Cross-jurisdictional transfer is defensible only when the distinction between functional similarity and legal identity is preserved. Kenya's Commission for University Education, Ghana's Ghana Tertiary Education Commission, and South Africa's Council on Higher Education exemplify different allocations of regulatory functions. The African Standards and Guidelines for Quality Assurance in Higher Education provide a common reference for internal assurance, external assurance and agency governance, while the African Continental Qualifications Framework seeks transparency and comparison among qualifications systems. Neither initiative supplies a single continental licence permitting an institution to award

degrees in any African country without attending to domestic law (ACQF, 2023a; Council on Higher Education, 2020; HAQAA Initiative, 2018).

The thesis proposed a five-step jurisdictional adaptation protocol, retained and operationalised here. **Authority mapping** first identifies current legal, professional, qualifications, accreditation, privacy, and appeal sources. **Functional mapping** identifies which agencies and institutional actors perform the relevant roles, without assuming that the same body is responsible everywhere. **Evidence translation** selects locally valid documents, records, demonstrations, and verification methods capable of answering the same educational questions. **Threshold calibration** adjusts evidence depth to qualification, discipline, modality, institutional maturity, and risk while preserving genuinely non-negotiable standards. **Decision mapping** finally connects findings to the receiving jurisdiction's lawful categories, conditions, monitoring and challenge routes. The sequence is iterative: a problem encountered during threshold calibration may require renewed interpretation of the legal source (Sangwa, 2026a).

This approach supports cross-border provision because programme location, recruitment, teaching, practical activity, examination, data processing, award issuance, and student residence may occur in different jurisdictions. A university's authorisation in its home country does not automatically settle its host-country responsibilities, and a partnership agreement does not replace legally required approvals. The evaluation file should specify the awarding institution, teaching partner, learner location, physical sites, mode, award title, applicable professional recognition, quality oversight, complaint route, and contingencies if the partnership ends. The public-facing description should reflect those verified facts without using vague claims of worldwide accreditation or automatic equivalence.

Table 12.6. Five-stage IETQG jurisdictional-adaptation protocol

Stage	Questions requiring local determination	Required output
1. Authority	Which current instruments govern provider, award, delivery, privacy and appeals?	Dated local authority and legal-status register
2. Functions	Which body approves, audits, monitors, recognises and adjudicates?	Decision-rights and accountability map
3. Evidence	Which locally valid records demonstrate equivalent functions?	Translated claims and evidence specifications
4. Thresholds	Which safeguards are essential, and what lifecycle evidence is proportionate?	Locally justified threshold and risk protocol
5. Decisions	Which lawful outcomes, conditions, reviews and appeals are available?	Jurisdiction-specific ETAJ decision and follow-up guide

Note. Operational elaboration of Sangwa's (2026a) five-step adaptation protocol. International comparability is a purpose of adaptation, not proof of mutual legal recognition or uniform regulatory authority.

A further safeguard concerns translation across languages, systems, and qualification levels. Words such as *accreditation*, *validation*, *registration*, *licence*, *honours*, *doctoral*, and *professional degree* can have significantly different legal effects. African qualifications frameworks may employ different level numbering and award nomenclatures. Comparison should therefore focus on verified learning outcomes, qualification level, workload, entry and progression, awarding authority, and recognised status rather than on the superficial resemblance of titles. The ACQF's translation function is useful precisely because it does not require national frameworks to be identical (ACQF, 2023a).

The transferability claim must remain modest. The doctoral study's comparison of four jurisdictions was documentary and bounded. Broad agreement on governance functions supports the plausibility of a shared analytical vocabulary, not an empirical conclusion that IETQG performs equally well in every system. Francophone, Lusophone, Arabic-speaking, small-state, conflict-affected, and transnational contexts may reveal functions or safeguards underdeveloped in the present framework. This is a reason to evaluate adaptation openly rather than to declare the architecture universally valid.

Cross-border quality questions also arise when programmes are partly unbundled into recognition of prior learning, short courses, micro-credentials, work-based modules or externally hosted examinations. Portability of recorded credit is not the same thing as automatic recognition by another awarding institution or professional regulator. The quality file should distinguish evidence of individual competence, the assessment authority, credit level and volume, learning-outcome equivalence, currency of competence, academic decision rights and any maximum credit-transfer conditions that genuinely apply. Where recognition is refused, the decision should identify the unmet requirement and available review route, rather than dismiss prior experiential learning merely because it was obtained outside a conventional classroom. The ACQF is particularly relevant as a translation and comparability initiative; it should not be described as itself issuing qualifications or overriding national recognition powers (ACQF, 2023a).

12.10 Implications for HEC, ministries, qualification authorities, and external quality-assurance agencies

For HEC Rwanda and comparable agencies, the principal opportunity is not the wholesale adoption of the author's instruments but the use of their questions to examine gaps between regulatory intentions, evidentiary practice, and post-decision outcomes. A regulator must maintain lawful authority and procedural fairness while managing a potentially growing volume of programmes, increasingly diverse delivery modalities, and rapidly changing AI applications. A carefully defined evidence-traceability approach could support reviewer calibration, clearer requests for clarification, more proportionate conditions, and stronger monitoring, but whether these benefits arise should be tested rather than assumed.

Official **source management** is an early priority. Agencies can support institutions by publishing current standards, revision histories, dates of effect, distinctions among mandatory and advisory provisions, model templates, and unambiguous information about which earlier documents remain operative. This reduces avoidable errors caused by uncertainty rather than by deliberate noncompliance. Where multiple agencies or professional bodies have responsibilities, coordinated explanatory materials can identify boundaries without improperly merging their legal powers. Rwanda's 2026 governing order provides a clear reminder that historical regulatory documents must be interpreted through subsequent legal change (Republic of Rwanda, 2026).

A second priority is **reviewer competence and calibration**. Agencies can train panels to distinguish institutional and programme units of analysis, prospective readiness from retrospective outcomes, insufficient evidence from substantive deficiency, and justified academic variation from violation of a specific requirement. Calibration cases should deliberately include conflicting records and ambiguous evidence, rather than only straightforward positive and negative files. Independent reviewers can first produce their own reasons and then compare warrants, counterevidence, and consequences. The objective is not forced unanimity; justified disagreement is valuable when a standard requires professional interpretation. Improved decision quality must be assessed by independent methods, not asserted because panel members have completed a workshop.

A third priority is **proportionate post-decision monitoring**. Initial review consumes resources, but educational benefits depend partly on whether the institution implements conditions, reports material changes, protects learners during disruption, and responds to evidence. Monitoring should concentrate on consequential approval assumptions rather than repeatedly requesting unchanged documents. The agency should clarify who may require additional evidence, confirm closure, impose conditions or sanctions, and hear appeals under applicable law. An external evaluator's professional recommendation cannot substitute for the agency's authorised decision, and an institutional checklist should never enlarge the powers of either actor.

For ministries and qualifications bodies, a related policy agenda concerns consistency among strategic expansion, workforce needs, qualifications expectations, student financing, professional regulation, digital infrastructure and institutional viability. Quality reform should not create incentives to maximise easily reported indicators at the expense of fundamental teaching. A ministerial target for growing digital enrolment, for example, should be considered alongside access, student support, assessment standards, cybersecurity, electricity and long-term cost. Policies are strongest when their implementation conditions are recognised before numerical targets become governance commitments. The framework makes these trade-offs visible without supplying a universal formula for resolving them.

Finally, agencies should review their own operations. Useful indicators may include the proportion of decisions with identifiable criteria and warrants, consistency in communicating

evidence requirements, timeliness of condition closure, quality of appeal reasoning, and the educational relevance of requested material. These are not a proposed national league table. They are questions about public administrative performance and the costs that regulatory procedures impose on academic institutions. An improvement-oriented regulator should be open to the possibility that one of its own forms generates misleading evidence or excessive burden (HAQAA Initiative, 2018; UNESCO, n.d.).

An agency considering an IETQG-inspired pilot should separate procedural improvement from legal reform. Review-panel training, a standard evidence-index convention, or clearer written reasons may be piloted within existing lawful procedures, whereas new sanctions, revised approval categories or mandatory national evidence demands require the powers and processes provided by the governing framework. Regulators should publish accessible guidance on what an institutional submission must demonstrate, provide fair opportunities to respond to adverse material, and preserve independent decision authority. Any pilot should also measure workload and the experience of differently resourced providers. A template that improves the clarity of reports while multiplying mandatory paperwork without an educational benefit would be an incomplete policy success. Shared calibration cases and a bounded review of difficult decisions may yield a more economical initial experiment than compulsory institution-wide adoption.

12.11 Implications for university leadership, academic senates, curriculum developers, and internal QA units

University governing boards and executives must translate the framework into legitimate decision rights and resources. A strategic commitment to quality should identify the programmes and educational obligations that require attention, the capability gaps threatening them, the expenditure or organisational changes necessary, and the evidence by which the governing body will decide whether intervention worked. A council can scrutinise financial sustainability and strategic risk without replacing the senate's academic judgement. Conversely, a senate cannot protect programme standards adequately if essential resource decisions are taken without its informed participation. Responsibility must be distributed but connected.

The senate or corresponding academic authority has a distinctive obligation to safeguard curriculum coherence, award-level expectations, valid assessment, moderation, progression rules, academic integrity, and appropriate modification procedures. Programme boards should have clear authority to propose changes and responsibility to provide evidence, while institution-wide quality officers monitor whether the route from proposal to approval and implementation is followed. A quality office should challenge unfounded claims without becoming the author of every disciplinary judgement. Proper governance therefore requires a separation between making a programme case, verifying supporting evidence, independently evaluating material implications, and authorising consequential decisions.

For curriculum developers, the most important change is to treat a programme proposal as a testable set of educational commitments. A complete development record identifies the social or intellectual rationale, graduate outcomes, discipline standards, qualification level, workload, module progression, learning activities, assessments, staffing, specialist facilities, modes of access, learner support, and evidence that every critical relationship is feasible. Where the curriculum promises advanced research, digital competence, work-integrated learning or entrepreneurial capacity, the proposal should specify where those competencies are actually developed and evidenced. An attractive module title is not a substitute for an appropriate sequence of teaching and assessment.

Internal QA units should maintain *one reconciled programme evidence spine* rather than multiple independent spreadsheets with contradictory versions. The record should link current programme specifications and outcomes to taught modules, staff roles, moderation, student support, accessibility checks, risk registers, annual review and corrective actions. It should also preserve an auditable history of decisions and amendments. An assurance function becomes less credible when it cannot explain which curriculum version was delivered to a cohort or whether an identified weakness was corrected before the next intake. Strong internal systems generate the material that external reviewers need without requiring an institution to reconstruct its own history retrospectively (HEC, 2021a).

Governing bodies should require responsible disagreement to be documented. A finance director may support an enlarged intake, a dean may favour wider access, and a student-support manager may warn that advising capacity is already stretched. Rather than hiding the conflict behind a favourable composite score, IETQG calls for a record of consequences, uncertainty, mitigation options, affected students and the actor who may legitimately decide. If the decision proceeds, monitoring should focus on the assumptions that made it acceptable. This is accountability through reason-giving, not centralisation for its own sake.

Successful leadership also involves protecting institutional academic independence from narrow vendor interests or opportunistic income strategies. Partnerships and technology procurement may be valuable, but academic standards, lawful data use, assessment authority and student remedies cannot be silently outsourced. Contracts should allocate operational responsibility while preserving the institution’s capacity to verify performance and act when a supplier fails. Sustainable governance therefore depends on informed collaboration across professional boundaries, not on an executive dashboard that presents interdependent educational risks as if they were ordinary commercial performance indicators.

The quality-governance mandate should be accompanied by an explicit separation of duties. Programme directors own disciplinary designs and day-to-day corrections; the senate or corresponding body exercises academic approval and oversight according to institutional rules; registry maintains authoritative programme and student records; finance certifies full-cohort resource commitments; data and ICT personnel protect information and systems; QA staff scrutinise coherence and record follow-up; and executives or governing bodies exercise

the powers allocated to them by their constitutive instruments. Not every small institution can employ a different person for each responsibility, but it should still distinguish preparation, verification and final decision, and mitigate conflicts where one individual performs multiple roles. The result is not a universal organisational chart: it is a test of whether an important decision can be reconstructed, contested and corrected without the same actor exercising unchecked control over every stage.

12.12 Implications for lecturers, instructional designers, student-support professionals, and learners

The daily educational consequences of integrated governance are most visible in the work of teachers and learners. Lecturers determine whether a written outcome becomes intellectually demanding learning or remains an administrative declaration. They specify essential knowledge, invite reasoned enquiry, develop assessment tasks, interpret learner performance, provide useful feedback and document material difficulties. For IETQG, the lecturer's work is not simply a source of data to be captured by management. It is a form of professional academic judgement that requires time, disciplinary expertise, scholarly freedom and accountable moderation. Quality systems should enable that judgement, challenge its unsupported claims and protect it against inappropriate substitution by procedural or technological authority.

Instructional designers translate educational intentions into usable learning pathways, particularly in online, blended and AI-supported provision. Their responsibility includes logical navigation, media choice, interaction design, low-bandwidth alternatives, accessibility, feedback cycles, appropriate use of learner data, and alignment between assessment conditions and the competence to be certified. These functions do not make the designer the academic owner of disciplinary content. Rather, good provision arises through cooperative design in which subject experts, technologists, student-support personnel and assessors each examine the implications of their decisions for real learners. A high-quality design record should explain why each major learning activity exists and how its operation can be verified, not merely report that a platform feature has been activated.

Student-support professionals are often the first to discover an implementation problem. Repeated admissions enquiries may reveal misleading entry information; inaccessible readings may become visible through disability accommodation requests; clusters of academic appeals may indicate a defective assessment process; and complaints from employed learners may expose a timetable incompatible with the flexibility advertised. Such information should be handled confidentially and appropriately escalated as a quality signal without exposing affected individuals unnecessarily. Support units need authority to refer systemic concerns, defined times for response, and feedback about institutional correction. Merely counting helpdesk tickets as closed does not demonstrate that the underlying educational barrier has been removed.

Learners occupy two distinct positions in the framework. They are participants entitled to reliable information, lawful treatment, accessible provision and meaningful channels to raise concerns; they are also developing scholars and professionals responsible for serious study, truthful assessment and appropriate conduct. Their feedback is indispensable but should not be made to carry more inferential weight than it warrants. Student satisfaction can reveal conditions of experience, not automatically prove the correctness of grading or graduate-level competence. Equally, high completion or examination pass rates do not justify ignoring complaints about inaccessible resources or unsafe placements. Sound quality governance places learner voice alongside assessment evidence, academic standards, verified services and independent review (HEC, 2021a; UNESCO, 2023a).

Teaching teams should have access to a concise and usable *module quality record*: current module outcomes, links to programme outcomes, assessment construct, allowed AI assistance, required resources, accessibility arrangements, moderation decisions, major student-support issues, and changes arising from review. This record should be maintained as part of ordinary course development rather than introduced as an elaborate parallel reporting burden. An institution can then trace a reported problem from a student's experience through module provision to a programme-level decision, while protecting confidential personal records and preserving academic discretion about genuinely contestable educational methods.

Feedback should also be treated as educational activity rather than simply a service-level deadline. Boud and Molloy (2013) distinguish feedback models in which teachers supply comments from approaches that develop learners' ability to seek, interpret and use information about their own work. Consequently, a programme with exemplary turnaround statistics may still fail to improve achievement if comments are incomprehensible, arrive too late to inform a subsequent task or offer no opportunity for revision. The corresponding quality record should connect feedback opportunities to the curriculum's sequence, sample what students can do with the information received and consider whether large cohorts or inaccessible assessment interfaces impair participation. This gives academic staff an evidence-informed improvement question without reducing professional feedback to the speed of electronic marking.

12.13 Developing institutional indicators, dashboards, assessment tools, and evidence-management systems

A dashboard is a representation of selected observations, not an institutional theory of quality. Its purpose should be to help authorised people identify matters requiring attention, consider performance relative to legitimate expectations, and inspect the evidence behind an apparent signal. A dashboard becomes dangerous when users treat it as complete, mistake weak proxies for learning, or respond to targets in ways that improve the number while worsening the underlying educational condition. The strongest design begins with the decision to be made and works backward to a suitable indicator, data source, interpretation rule and protection against misuse. Indicators for admissions, staffing, assessment, student experience,

research, digital provision, finance and resilience should not be aggregated into an unexplained single quality score.

An **indicator dictionary** is essential before automated reporting. Each indicator should contain a precise name and definition; relevant educational purpose; numerator and denominator where applicable; collection unit; source system; population and exclusions; disaggregation rules; reporting period; data steward; permitted use; quality-check method; decision threshold or enquiry trigger; known interpretation limits; privacy classification; and revision history. For example, "on-time feedback" could refer to working days after original submission, days after a formally approved extension, or time from marking allocation. Inconsistent definitions can make the same performance appear high or low across faculties. A numerical dashboard is trustworthy only to the extent that its data semantics are controlled.

Consider a constructed indicator for the timeliness of feedback in a programme with 120 assessable submissions during one reporting window. If 96 received feedback within the locally approved interval, the descriptive rate is 96/120, or 80%. It is not an attainment score and it says nothing by itself about feedback usefulness. A reviewer would need to verify whether approved extensions were handled consistently, whether the counted items included drafts and resubmissions, and whether records excluded students who failed to submit. A stratified inspection of commentary and subsequent learner revisions might then establish whether feedback was intelligible and capable of informing learning. The institution should report the definition and relevant caveats alongside the percentage, rather than present an apparently precise but educationally unqualified green dashboard indicator. The hypothetical numbers illustrate a calculation only and do not describe any Rwandan university.

Public reporting intensifies the risk of distorted behaviour. Espeland and Sauder (2007) demonstrate how performance measures can become reactive, influencing the organisations they were intended to describe. Their study concerns law-school rankings and cannot be treated as direct empirical evidence about HEC regulation, but the conceptual warning matters: a target for rapid complaint closure can encourage premature closure; an outcome-mapping target can reward superficial mapping; and a completion target can create pressure to dilute assessment. For every prominent indicator, a quality system should therefore maintain at least one counter-check capable of exposing an adverse educational consequence. Such checks may include moderated learner work, randomly inspected appeal decisions, confidential student accounts, or evidence that corrective action changed an underlying problem. An indicator earns continued institutional trust through periodic challenge, not repeated display.

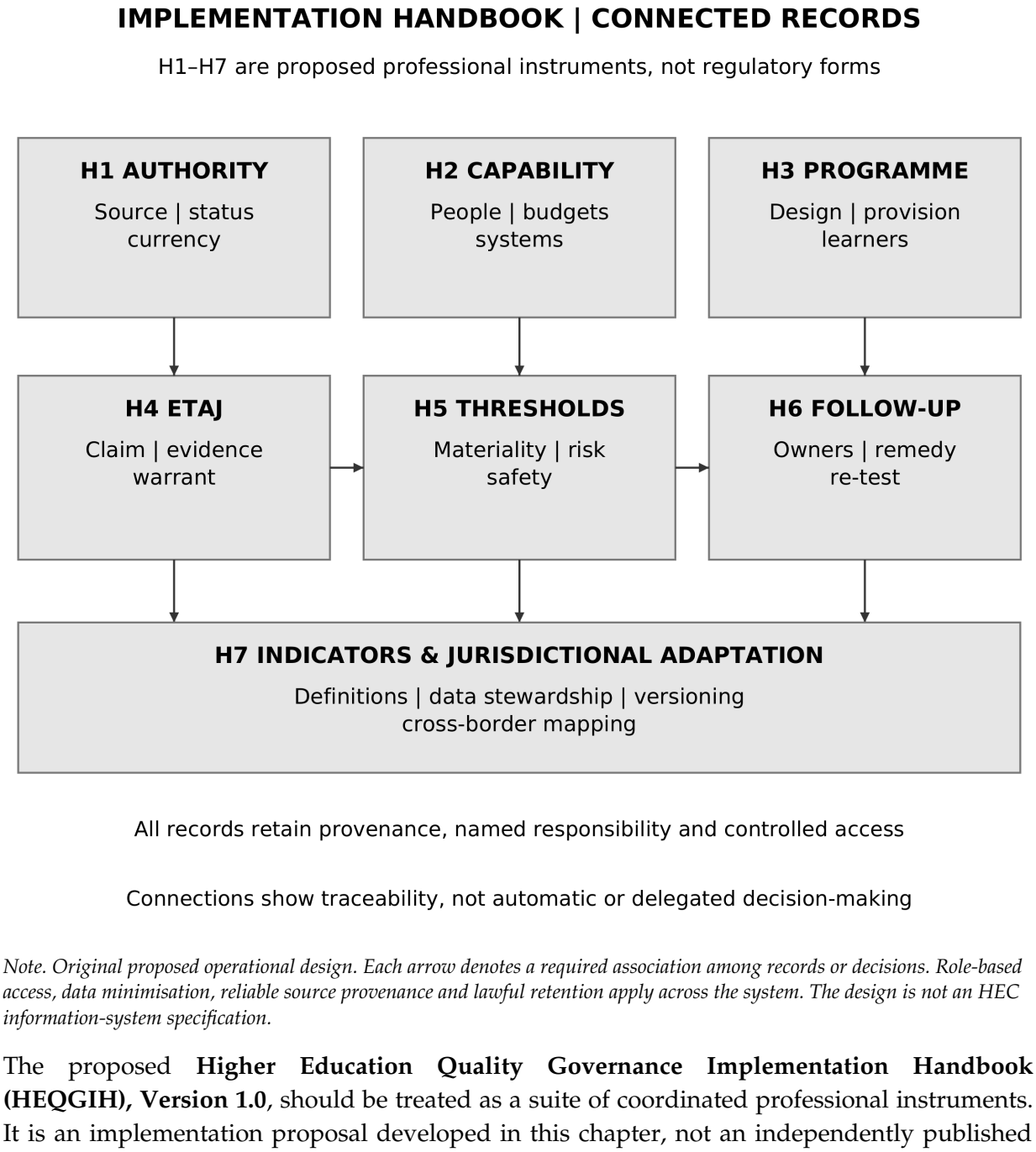
Table 12.7. Proposed institutional quality indicator dictionary and interpretive safeguards

Indicator or signal	Suggested evidence and denominator	Legitimate use	Essential qualification
Programme-outcome coverage	Mapped and moderated assessment of each required outcome	Detect unassessed graduation claims	Coverage alone does not prove attainment
Qualified staff availability	Verified allocation versus required teaching and supervision load	Detect staffing bottlenecks	Headcount or qualification alone is insufficient
Feedback timeliness and usefulness	Submission dates, returned feedback, sampling of commentary and revision	Test timely support for learning	Speed is not evidence that feedback is constructive
Meaningful accessibility	Representative journey tests, barriers raised, verified remedies	Identify exclusionary learning design	Compliance checklist cannot exhaust learner experience
Assessment integrity	Task validity, declared AI rules, moderation and documented cases	Identify threats to legitimate awards	Allegation totals do not measure cheating prevalence
Student progression and attainment	Defined cohorts, credits, withdrawal, distribution of assessed outcomes	Examine educational consequences and inequity	Cohort mix, selection and standards may change
Evidence and condition closure	Material findings with verified remedial records / findings due	Test whether corrective obligations are completed	Administrative closure is not proven improvement
Service and academic resilience	Tested restoration of essential teaching, records and supervised practice	Assess continuity and recovery capability	Platform uptime is not educational continuity

Note. Original proposed indicator dictionary. No universal numeric targets are claimed. Institutions must determine legal obligations, academic interpretation and appropriate thresholds before adoption. "Verified" requires testing appropriate to the claim, not merely a signed form.

A minimum evidence-management architecture can be implemented with controlled documents and secure registers. The essential objects are a **normative-authority register**, **programme and qualification register**, **claims and evidence index**, **verification and reviewer record**, **findings and decisions register**, **corrective-action and closure register**, and **indicator dictionary**. These need stable identifiers and controlled links. Each entry should preserve the accountable custodian, programme/cohort applicability, version, source provenance, date, confidentiality classification, retention rule, and status. An advanced software platform may integrate them, but institutions can begin with disciplined manual processes if those processes secure integrity, privacy, version control, backup and retrieval. Technology choice should follow information-governance needs, not determine them.

Figure 12.2. The Higher Education Quality Governance Implementation Handbook as an interoperable information and decision system.



Note. Original proposed operational design. Each arrow denotes a required association among records or decisions. Role-based access, data minimisation, reliable source provenance and lawful retention apply across the system. The design is not an HEC information-system specification.

The proposed **Higher Education Quality Governance Implementation Handbook (HEQGIH), Version 1.0**, should be treated as a suite of coordinated professional instruments. It is an implementation proposal developed in this chapter, not an independently published standard or regulatory form. Every institutional adaptation should identify the adapted version, approval owner, local authority crosswalk, review date, accessibility provisions and change log. The following instruments constitute the coherent suite rather than seven unrelated checklists.

Operationally, each H1–H7 record needs an immutable identifier or equivalently reliable reference, an accountable owner, a controlled version, an effective date, an applicable programme or institutional scope, access permissions and a disposition rule. The same evidence object may legitimately support several findings, but each use must identify the inference it is claimed to justify. A file labelled ‘faculty qualifications’ might support a claim that staff possess specified credentials; it does not establish their workload availability or successful pedagogical practice. Conversely, one finding may require several independently sourced artefacts. The information architecture should therefore permit many-to-many links between standards, claims, records, findings and corrective actions without duplicating confidential learner files into every programme dossier. A reviewer receiving an exported dossier should be able to follow a readable index to the authorised source and its date while being denied access to unrelated identifiable data.

Table 12.8. HEQGIH Version 1.0: interoperable professional instruments

Instrument / reference	Purpose and principal user	Essential evidence or fields	Decision or output
H1 Authority and standards register	Legal/compliance lead, HEC liaison	Source, status, article, version, scope, effective date	Current requirement and applicability decision
H2 Institutional capability profile	Governing body, executive, QA unit	Resources, allocation, routines, continuity, risk, maturity	Capacity gaps, responsible actions, E1–E5 level by function
H3 Programme implementation record	Senate, programme board, reviewers	Need, outcome map, workload, staffing, modes, assessment, support	Programme-specific readiness and alignment judgement
H4 ETAJ evidence-and-warrant sheet	External or internal independent evaluator	Norm, claim, evidence ID, verification, rebuttal, warrant, finding	Explicitly qualified professional recommendation
H5 Threshold and learner-protection protocol	Academic leader, risk owner, review panel	Risk severity, essential standard, consequence, mitigation, uncertainty	Non-compensatory stop/escalate or managed improvement
H6 Monitoring and condition-closure register	QA unit, programme head, competent decision-maker	Baseline, action, owner, due date, evidence, re-test, affected cohort	Verified closure or continued escalation
H7 Indicator and adaptation dictionary	Institutional research, digital systems, cross-border office	Definitions, denominators, privacy, data steward, local legal crosswalk	Interpretable dashboards and jurisdiction-specific revision

Note. Original, author-developed handbook architecture. The identifier H1–H7 is local to this chapter. Each institution should maintain a controlled document version and review schedule; no official certification or external validation is implied.

The **H4 ETAJ evidence-and-warrant sheet** is the handbook’s decision-support nucleus. Its fields should be completed in a fixed conceptual sequence: (a) the applicable normative source and its legal status; (b) the exact institutional claim and unit of evaluation; (c) identified

evidence and its provenance; (d) the method used to verify authenticity, representativeness and relevance; (e) the evaluative warrant connecting evidence to criterion; (f) credible rival explanations and counterevidence; (g) the qualified finding, including uncertainty and materiality; (h) recommended response within the reviewer's actual mandate; and (i) the monitoring and closure requirement. A reviewer should not substitute an overall score for the reasoning in fields (e)–(g). A lawful authority may adopt, modify or reject a professional recommendation using the procedures of its jurisdiction.

Consider an explicitly **hypothetical** Rwandan university seeking authorisation for an undergraduate programme in applied environmental data systems. Its programme specification contains the requisite graduate outcomes and an internally approved module register. A quality dossier reports that thirty lecturers are employed institution-wide, that an LMS is available, and that "all assessments are AI-proof." The review reveals four material facts: two advanced modules are assigned to one lecturer during a documented incompatible timetable; an essential field-practice module has no confirmed supervised sites; the final-year project rubric measures polished reporting but not independent analysis; and low-bandwidth students cannot access required high-resolution learning materials. These observations cannot be resolved by citing institution-wide staffing totals, an LMS procurement certificate, or a claim that a plagiarism detector is installed.

The H1 register first confirms which current rules and official instruments apply to the proposed award and mode. H2 examines the institution's overall staffing, placement agreements, instructional support and student-access arrangements. H3 identifies programme-specific inconsistencies. Under H4, the reviewer records each claim, independent verification and reasoned inference. The staffing and field-placement claims may be marked **not demonstrated** if the institution can provide no satisfactory allocations, while a directly observed impossible timetable establishes a more specific **demonstrated deficiency**. The final-year assessment may require redesign because the stated level of independent analysis is not validly tested. The accessibility defect requires a learner-protection response. H5 prevents the panel from averaging these findings against strong library holdings or favourable marketing materials; H6 requires evidence of revised timetables, signed placement capacity, a properly demanding assessment with moderation, and tested accessible alternatives before closure. The lawful decision remains with the competent authority; the example does not purport to predict how HEC would decide the case.

This illustration also shows why software should not automate professional judgement prematurely. A system can identify that some mandatory fields are missing, compare programme versions, produce alerts, and display open findings. It may not know whether an apparently reasonable alternative assessment genuinely tests a disputed disciplinary construct. If an AI summariser is used to assist document retrieval or draft neutral summaries, the record should identify that assistance and preserve independently verifiable source citations. Reviewers retain responsibility for evaluating the meaning of the material,

explaining contrary evidence, and protecting confidential records. Evidence automation should make judgement inspectable rather than render its human rationale invisible.

A complete worked determination for the hypothetical programme would separate four distinct outcomes. The conflicting staffing timetable is a directly verified inconsistency, not merely missing paperwork; the appropriate immediate institutional response is to resolve the collision with demonstrable changes to assignments before the affected modules begin. The absence of confirmed placement sites is a failure to demonstrate essential future delivery capacity; a proposed memorandum or telephone assurance is weaker than an effective agreement, named supervisors and verified student capacity. The project rubric is evidence of assessment-design inadequacy relative to the advertised analytic outcome and requires academically authorised revision and a renewed moderation test. The inaccessible media establish a specific barrier to the stated participation route; closure requires a student-perspective accessibility test of alternative materials rather than a declaration that files were compressed. Each determination should record the applicable current criterion, inspection method, contrary or mitigating evidence, affected students, residual uncertainty and person competent to accept closure. Neither an invented programme score nor an assumed HEC decision is necessary to reach these defensible professional conclusions.

12.14 Implementation roadmap: Initial diagnosis, capacity development, programme improvements, evaluation, and institutionalisation

Institutional adoption should be staged because an attempt to impose a complete quality system immediately can create compliance overload and resistance without improving educational understanding. A proportionate roadmap starts with the highest educational and legal risks, establishes a small set of reliable records, tests the interfaces between departments, and expands only after the institution has learned which procedures add value. The roadmap below is illustrative rather than a prescribed HEC calendar. Times depend on institutional size, existing systems, programme mix, urgent learner risks, and available staff; mandatory deadlines established by law or official decision take precedence over this indicative timetable.

Table 12.9. Suggested eighteen-month IETQG implementation roadmap

Phase and indicative period	Principal work	Responsible leadership	Exit evidence and decision gate
A. Mandate and diagnosis, months 0–2	Approve scope, verify authority, identify priority programmes and learner risks	Executive, senate, QA, legal and students' representatives	Agreed mandate, source register, baseline problem statements

Phase and indicative period	Principal work	Responsible leadership	Exit evidence and decision gate
B. Capability and data foundations, months 2–5	Reconcile programme records; assess staffing, finance, technology, support and evidence maturity	Deans, finance, ICT, registry, QA	H2 profiles, owners, baseline indicators, controlled data definitions
C. Programme implementation tests, months 5–9	Map outcomes and assessments; test delivery, accessibility, AI, placements and continuity	Programme leaders and specialist teams	Completed H3 records and critical gap corrections
D. Independent review and calibration, months 9–12	Trial H4–H5, compare reviewer judgements, refine ambiguities	Academic board, QA, independent reviewers	Reasoned findings, disagreements recorded, tool revisions
E. Monitored implementation, months 12– 15	Deliver corrections, evaluate learner consequences and conditions	Programme, student services, risk and data stewards	H6 closure evidence, unresolved risks escalated
F. Institutionalisation and revision, months 15–18	Embed in budget, approval, annual review and staff development; plan next validation	Council, senate and executive	Approved procedures, updated handbook version, evaluation report

Note. Original indicative implementation proposal. The periods are planning examples, not empirical durations, guaranteed completion times or formal HEC requirements. Critical learner and safety concerns require immediate intervention irrespective of phase.

The roadmap has three substantive decision gates. The first is **legitimacy**: the institution has confirmed the legal status of relevant standards and assigned responsibility before making new quality claims. The second is **operational readiness**: high-risk programme interfaces have been configured and tested at an evidence maturity suitable for their lifecycle. The third is **verified enhancement**: corrections have been implemented, consequential learner effects considered, and remaining uncertainty recorded. Passing the third gate does not mean all future risks have disappeared. It means governance has become capable of recognising change and updating its own evidence rather than preserving an outdated favourable report.

Implementation must also address the institutional budget. Each proposed action should be linked to a resource owner and realistic recurrent costs, not simply assigned to a committee. Professional development should be designed around actual decisions that staff must make, including identifying current regulatory sources, testing assessment validity, examining module accessibility, writing warrants, and escalating contradictory evidence. Training attendance may prove participation, but learning from training should be assessed through improved work samples or task performance. Programme-level pilot reviews should include frank feedback about administrative burden; unnecessary fields should be removed where their absence would not weaken evidence or protection.

A governing body should approve an indicative resource envelope at the outset, including staff time for curriculum mapping, professional development, source verification, secure record handling, accessibility testing and independent review. Opportunity costs require explicit attention: collecting additional data is not free merely because a spreadsheet licence is already purchased. A pilot could begin with two programmes selected for contrasting risks, review their baseline evidence, establish a maximum reasonable documentation burden, and test whether H1–H7 reduces unresolved discrepancies without diverting disproportionate time from teaching. Decisions to scale should depend on corrected risks, usability and sustainable cost, not the visual sophistication of a dashboard. At institutionalisation, revised forms should replace redundant procedures rather than accumulate as a second documentary system.

An effective implementation strategy also provides an escalation ladder. A minor version-control discrepancy may be corrected through routine programme administration, whereas evidence of an unauthorised qualification, serious assessment invalidity, dangerous professional practice or significant personal-data exposure may require immediate institutional protection and notification according to applicable requirements. The person observing a concern must know who is authorised to stop an activity, preserve records, communicate with affected learners and make a report. Without these assignments, the apparent sophistication of the governance model may conceal a serious practical vulnerability.

12.15 Research priorities: Expert appraisal, empirical validation, institutional pilots, programme outcomes, and longitudinal evaluation

IETQG and ETAJ are conceptual and professional proposals developed through documentary interpretation and theoretically informed synthesis. They have not been subjected in this chapter to independent empirical validation, causal identification, predictive testing or evidence of improved inter-rater reliability. This limitation is not a minor qualification inserted after the main contribution; it defines the next scholarly task. A good framework should generate testable questions and remain open to evidence that its constructs are redundant, its instruments burdensome, its thresholds biased, or its intended benefits fail to materialise in actual university work.

The first research stream concerns **content and construct validation**. Panels including HEC and comparable regulators, academic leaders, lecturers, instructional designers, student representatives, professional bodies, data-protection specialists and scholars from different African regions could assess whether the framework adequately covers educational quality and differentiates its domains. Structured expert appraisal or carefully documented Delphi studies could examine clarity, completeness, local relevance, feasibility and remaining disagreement. Consensus should not be interpreted as proof of empirical truth. The aim would be to identify where definitions, jurisdictional assumptions and operational fields require revision.

The second stream concerns **usability and cognitive testing**. Institutions could ask representative users to apply H1–H7 to authentic but appropriately anonymised situations and explain their decisions. Researchers could examine which fields are routinely misunderstood, where source tracing fails, how much staff time is consumed, whether non-specialists confuse evidence maturity with legal compliance, and whether recorded warrants expose or conceal uncertainty. Think-aloud methods, task observation, document analysis and structured user feedback could provide evidence for instrument revision. Such studies are especially important in resource-constrained settings where bureaucratic expansion may divert time from teaching.

The third stream tests **reviewer judgement quality**. Independent panels might evaluate standardised anonymised programme dossiers using their ordinary procedure and, under a suitable experimental or quasi-experimental design, the ETAJ evidence-and-warrant sheet. Evaluation outcomes should include not only agreement statistics but the detection of contradictory evidence, calibration of uncertainty, identification of material academic risks, procedural fairness, and quality of written reasons. Inter-rater agreement does not automatically establish correct decisions; reviewers can agree on an invalid inference. Research designs should therefore include expert criterion judgements, qualitative explanations and sensitivity to disciplinary ambiguity (Kane, 2013).

The fourth stream comprises **institutional pilots and longitudinal programme research**. Participating universities should vary by ownership, mission, size, disciplinary portfolio, delivery mode, resources and legal setting. Researchers could follow programmes from pre-launch readiness through first delivery, review, renewal and, where relevant, teach-out. Candidate outcomes include curriculum consistency, delays in resolving material findings, staff workload, verified assessment quality, student participation, completion and progression interpreted by cohort, and the educational relevance of corrective action. Evaluation must guard against attributing change to IETQG merely because the framework was introduced at the same time as new funding, leadership, technology or regulatory standards.

A fifth stream concerns **equity, AI, resilience, and transferability**. Studies should investigate whether evidence requirements disadvantage small institutions, whether low-bandwidth alternatives preserve comparable learning, whether AI governance reliably protects assessment validity without intrusive surveillance, and whether the five-step adaptation protocol works in systems beyond the original comparison. The framework may require substantial reconsideration when applied to professional clinical training, doctoral supervision, transnational micro-credentials, armed-conflict disruption, multilingual teaching, or institutions without enterprise information systems. Comparative failure cases are especially valuable because they reveal assumptions concealed by successful demonstrations.

Table 12.10. Proposed validation agenda and methodological safeguards

Research stage	Defensible design	Principal validity question	Essential caution
Construct appraisal	Expert review across institutions, disciplines and jurisdictions	Are domains coherent, distinct and relevant?	Expert agreement does not establish effectiveness
Tool usability	Task-based observation, cognitive interviewing, time and error analysis	Can practitioners apply H1–H7 consistently and affordably?	Ease of use is not educational benefit
Reviewer calibration	Independent case review with pre-specified comparison and qualitative warrants	Does ETAJ improve justified reasoning and contradiction detection?	High agreement may conceal shared error
Programme pilot	Multi-institutional comparative implementation	Do records change actionable decisions?	Selection effects and simultaneous reforms confound attribution
Longitudinal outcomes	Cohort tracking and mixed-methods analysis	Are quality-relevant educational consequences improved?	Avoid equating retention or pass rates with learning
Jurisdiction adaptation	Comparative legal mapping and documented field application	What transfers, what fails, and why?	Do not infer uniform African applicability

Note. Original research agenda extending Sangwa (2026a). The table describes recommended future studies, not research already completed or results already obtained.

Future research should also examine opportunity costs and unintended effects. A highly structured evidence system could produce better audit trails yet reduce lecturers' time for student feedback, increase surveillance, privilege easily quantified outcomes, or formalise differences in administrative capacity. Regulators should not evaluate success by the number of registered documents alone. The decisive scholarly questions are whether decisions become better justified, important weaknesses are discovered sooner, student interests are better protected, and sustainable educational improvement becomes more likely under real conditions.

For a credible evaluation, prospective studies should specify outcomes and comparison conditions before tool deployment, publish the adapted handbook version, retain reviewer instructions and source versions, and distinguish process outcomes from student-level effects. Agreement measures should be accompanied by disagreement analysis, and claims about learning should include appropriate direct evidence instead of relying on satisfaction or dashboard totals. Researchers should report negative findings and administrative burden with the same care as improvements. The proposed architecture may work well for regulatory explanation yet prove too cumbersome for ordinary module review, or it may improve document traceability without affecting students' experience. Such results would not make the

research futile. They would clarify the boundaries of what the framework can responsibly claim and guide a more selective, cost-conscious revision.

12.16 Framework limitations, institutional responsibilities, and the need for periodic revision

The expanded framework has conceptual, evidentiary and institutional limits. Its foundations lie principally in selected scholarly and documentary sources, not in a representative sample of African universities. The thesis' original comparator set was deliberately bounded; the completed chapters extended regulatory and educational interpretation but did not independently validate a causal mechanism. Documentary evidence can establish what an authority published and what a scholarly argument proposes, but it cannot by itself show that a policy is consistently implemented, that an intervention caused improved learning, or that reviewers will reach more defensible judgements after using a new worksheet (Sangwa, 2026a). Claims of universal applicability would therefore be premature.

A second limitation concerns the open-ended character of educational value. Explicit programme outcomes, matrices and review evidence cannot exhaust intellectual formation, creativity, scholarly independence, character, civic responsibility, or the public significance of research. These commitments are important even when their consequences cannot be reduced to stable quantitative measures. The framework should therefore protect a space for disciplined academic disagreement and interpretive evidence. Its purpose is not to turn all educational judgement into managerial compliance. It is to make consequential reasoning more transparent without eliminating the expert evaluation and philosophical debate on which universities depend.

A third limitation is **indicator reactivity**. Once a metric becomes high stakes, institutional actors may change their behaviour to improve the reported value. A requirement to close all complaints within an implausibly short period may encourage administrative closure without student remedy; a completion target may encourage easier assessment; and a requirement for perfect curriculum-mapping coverage may reward superficial links between outcomes and tasks. The indicators proposed here must be tested for such effects. Quality should never be inferred solely from the apparent completeness of the system designed to record it. Independent sampling, periodic review of anomalous performance and direct examination of learner work are important corrective measures.

A fourth limitation lies in resources, technical change and governance capacity. Maintaining source registers, verifying implementation, protecting student information, training reviewers, evaluating AI tools and testing resilience all require time and expertise. A proposed framework may be theoretically coherent while operationally disproportionate for a small provider. Institutions should therefore adapt methods to their scale, but document why essential quality functions are preserved. Rapid updates to law, software and professional expectations also require document governance: each adopted handbook version should

identify the academic approving body, legal reviewer, accountable owner, effective date, revised definitions, superseded versions, and the next review trigger. A platform outage, serious complaint, legal amendment, important AI change, or newly observed assessment weakness may require an earlier review than the ordinary cycle.

An institutional responsibility remains even if the framework itself is imperfect. Universities must not use a provisional professional model to excuse non-compliance with valid rules, overstate accreditation status, or withhold material weaknesses from students. Regulators must likewise avoid treating the author's proposal as a prescribed instrument unless it is lawfully adopted. Researchers should disclose the difference between conceptual coherence, expert approval, usability and causal impact. Editors and publishers should preserve the provenance of the doctoral contribution and any subsequent revisions, including where earlier scholarship was collaborative. Responsible stewardship includes the willingness to publish corrections when reliable new evidence contradicts a position expressed in this volume.

The framework is accordingly best understood as a **revisable architecture for responsible educational reasoning**. Its invariant core consists of legitimate educational purpose, appropriate normative authority, enactable programme design, sufficient institutional capacity, verified evidence, justified judgement, learner protection and a credible path to improvement. Its adaptation layer permits contextually different arrangements for fulfilling those functions. Its jurisdictional expression must be generated from the actual legal and professional environment. This distinction enables conceptual continuity across the book while allowing the professional instruments to evolve as knowledge and institutional practice develop.

12.17 Conclusion: Towards credible, inclusive, resilient, and educationally transformative universities

Higher education becomes credible not when every university adopts the same quality vocabulary, technology or organisational chart, but when legitimate educational purposes are translated into demonstrable institutional commitments and accountable academic decisions. A qualification is a public claim about learning. It depends upon legal authority, intellectually worthwhile curriculum, appropriately qualified people, reliable resources, fair participation, valid assessment, learner protection, continuing review and the ability to fulfil obligations through changing circumstances. An accreditation certificate is important where required, but its existence cannot independently establish these qualities for all programmes and future cohorts. A functioning LMS, an elaborate policy manual, or an impressive dashboard is equally insufficient when disconnected from actual provision.

The expanded Integrated Evidence-Traceable Quality Governance framework offers a coherent way to examine those connections. Institutional capability enables, but does not prove, programme readiness. Programme assurance translates capability into a particular academic offering, but does not itself grant legal permission or establish future graduate

achievement. Evidence-Traceable Accreditation Judgement provides a disciplined model for moving from authoritative criteria through verified material and explicit warrants to appropriately qualified professional findings and lawful decisions. Monitoring, corrective action, and institutional learning then complete the cycle. The Higher Education Quality Governance Implementation Handbook converts this architecture into a set of mutually linked, adaptable records and decision routines while preserving its provisional scholarly status.

For Rwanda, the practical challenge is to connect current HEC and qualifications requirements to feasible institutional implementation without mistaking every desirable international benchmark for a binding national rule. For other African systems, the challenge is functional comparability without legal homogenisation. For university leaders, the decisive task is to protect academic judgement while ensuring that the resources, information and authority required to act responsibly are genuinely available. For educators and students, quality must ultimately appear in worthwhile opportunities to learn, just assessment, credible qualifications and prompt correction of preventable harm. For researchers, the next task is to test whether the framework actually improves these outcomes, under what conditions, at what cost and with which unintended consequences.

The book therefore closes with an argument for disciplined institutional humility. Regulations can be amended, curricula improved, systems repaired, indicators challenged, and scholarly models revised. What should remain stable is the duty to state educational claims truthfully, examine their supporting evidence critically, protect learners, explain consequential judgements, and correct what experience demonstrates to be deficient. Such governance does not promise immunity from uncertainty or disruption. It gives universities and regulators a more credible means of fulfilling their academic responsibilities in Rwanda, across Africa, and within a higher-education environment whose future cannot be understood simply by extrapolating its past.

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Glossary of key concepts

The following definitions summarise the meanings developed in this volume. Chapter references identify the principal discussions. These entries support interpretation of the book and do not replace the definitions or legal effects of terms in applicable official instruments.

Academic freedom. The scope for responsible teaching, research, inquiry and scholarly expression within applicable legal and institutional arrangements. Its exercise requires intellectual integrity and due regard for the rights of others; it does not establish immunity from academic standards or lawful accountability. *See* Chapter 2, Chapter 3, Chapter 11.

Academic integrity. Honest and accountable conduct in learning, assessment, research and publication, including accurate attribution, truthful evidence, appropriate authorship and fair treatment of others. Within AI-supported work, integrity also requires clear rules for permitted assistance and credible evidence of the learning being certified. *See* Chapter 6, Chapter 11.

Academic quality. The intellectual and disciplinary worth of educational provision, including the level, coherence and substance of a curriculum and the validity of its assessment. It is one dimension of quality and cannot be inferred solely from regulatory compliance, institutional reputation or student satisfaction. *See* Chapter 1, Chapter 4.

Accreditation. A status-conferring or regulatory decision made by a competent authority under the applicable jurisdictional arrangements. Its object, conditions and legal effects must be specified; a review recommendation is not automatically the accreditation decision. *See* Chapter 2, Chapter 9.

Adaptation protocol. A structured procedure for translating the framework into another institutional or jurisdictional setting while retaining essential quality functions. It requires mapping local authority, terminology, context, evidence and decision responsibilities, and recording what can transfer and what must change. *See* Chapter 9, Chapter 12.

AI literacy. The knowledge and judgement needed to understand, use, evaluate and question artificial-intelligence systems in a relevant educational or professional context. It includes attention to capability limits, data practices, bias, academic integrity, appropriate disclosure and human responsibility. *See* Chapter 6.

Argument-based validation. An approach that evaluates the inferences connecting evidence to an interpretation or consequential use. In this volume it helps expose the assumptions, warrants, qualifications and possible rebuttals behind educational and accreditation judgements. *See* Chapter 6, Chapter 9, Chapter 12.

Assessment validity. The extent to which evidence and reasoning justify the interpretation and use of an assessment result for the specified learning claim. A high score, an authentic-looking task or a reliable automated output does not independently establish that the intended competence has been demonstrated. *See* Chapter 4, Chapter 6, Chapter 9.

Authentic assessment. Assessment requiring meaningful application of knowledge and judgement in tasks relevant to the intended learning or professional practice. Its authenticity must be considered alongside validity, fairness, accessibility and the evidence that performance belongs to the learner being assessed. *See* Chapter 4, Chapter 6.

Authority register. A dated record of the instrument, issuing body, legal or professional status, applicable provision, scope, version and competent decision authority relevant to a review. It prevents a guidance document or imported benchmark from acquiring an unsupported claim to binding force. *See* Chapter 2, Chapter 9, Chapter 12.

Blended learning. An intentionally designed combination of in-person and digitally mediated learning whose components contribute coherently to educational purposes. Quality depends on the relationship among activities, interaction, assessment and support, rather than a particular percentage of online contact alone. *See* Chapter 5.

Boundary condition. A circumstance limiting the validity, applicability or transferability of a proposition or professional instrument. Jurisdiction, discipline, programme stage, institutional resources and evidentiary quality can each define such a limit. *See* Chapter 1, Chapter 9, Chapter 12.

Capability. An enduring institutional capacity to mobilise people, resources, routines, authority and information in support of educational obligations. Capability concerns dependable performance over time; its existence does not by itself establish readiness or effective provision for every programme. *See* Chapter 3, Chapter 12.

Christian Higher Education Curriculum and Quality Assurance Framework (CHE-CQAF). The author's proposed mission-specific framework connecting biblical fidelity, educational and scholarly quality, legitimate recognition, learner protection and sustainable capability. It operates within IETQG while preserving different forms of theological, academic and statutory judgement. *See* Chapter 11.

Claim. A specific assertion requiring support, such as a programme's readiness to deliver a defined qualification to a particular cohort. A defensible claim identifies its object, scope and timing sufficiently clearly for the supporting evidence and judgement to be examined. *See* Chapter 9, Chapter 12.

Comparative transferability. The reasoned possibility that a principle or function may be useful in another setting after its contextual and legal dependencies are examined. Similarity between selected jurisdictions supports cautious analytical comparison, not a presumption of continent-wide validity or identical regulatory effect. *See* Chapter 2, Chapter 9, Chapter 12.

Constructive alignment. The deliberate relationship among intended learning outcomes, teaching and learning activities, and assessment. A written alignment map identifies intended connections; implementation evidence is still needed to establish that students experience and demonstrate the specified learning. *See* Chapter 4, Chapter 5, Chapter 6.

Counter-evidence. Information that challenges, limits or offers an alternative explanation for an institutional assertion or evaluative conclusion. Its presence should be recorded and examined rather than omitted to make the overall evidence appear consistent. *See* Chapter 8, Chapter 9, Chapter 12.

Critical realism. A philosophical orientation distinguishing available experiences and records, events and practices, and the underlying structures or mechanisms that may explain them. In this volume it supports caution about equating policy documents with enacted educational reality or inferring causation from documentary patterns alone. *See* Chapter 1, Chapter 3, Chapter 9, Chapter 12.

Curriculum coherence. The defensible relationship among programme purpose, qualification level, disciplinary content, module progression, prerequisites, learning activities and assessment. Coherence requires both adequate coverage and a feasible developmental sequence, rather than an inventory of individually relevant modules. *See* Chapter 4.

Data governance. The allocation of authority, responsibilities and controls for collecting, maintaining, using, protecting, sharing and retaining institutional data. Educational applications require attention to lawful processing, evidentiary integrity, privacy, access, security and the rights of affected learners. *See* Chapter 3, Chapter 6, Chapter 8, Chapter 10.

Decoupling. The separation of formal policies or organisational structures from everyday practice or intended results. It explains why adoption of recognised quality-assurance language can coexist with weak implementation, while remaining a possibility to investigate rather than an accusation inferred from documentation alone. *See* Chapter 1, Chapter 3, Chapter 8, Chapter 12.

Digital inclusion. The conditions through which learners can meaningfully participate in digitally mediated education, including affordable access, usable technologies, accessible content, relevant skills and effective support. Possession of a device or institutional login establishes only part of this claim. *See* Chapter 5, Chapter 7.

Digital sovereignty. An institution's practical and lawful ability to govern its educational data, essential processes, records and technological choices. It depends on decision rights, technical access, portable information and tested continuity, rather than simply the geographical location of servers. *See* Chapter 3, Chapter 10.

Digital transformation. Coordinated change in educational practice, organisational arrangements and institutional capability associated with digital technologies. The concept extends beyond acquisition or adoption to the way teaching, assessment, support, governance and responsibility are reorganised. *See* Chapter 1, Chapter 3, Chapter 5.

Documentary completeness. The presence of the records requested in a submission or review. Completeness supports inspection but does not establish that the records are accurate, consistent, enacted or sufficient to justify the educational claim under examination. *See* Chapter 4, Chapter 9.

Educational effectiveness. The extent to which provision supports the intended learning and other defensible educational purposes. Evidence must concern the outcomes and processes relevant to

that purpose, with attention to context and alternative explanations; completion alone does not prove learning. *See* Chapter 1, Chapter 5, Chapter 7, Chapter 8.

Emergency remote teaching. A temporary shift of instructional delivery in response to disruption, undertaken under emergency constraints. Its conditions differ from intentionally planned online education and should be considered when evaluating design, participation, support and subsequent recovery. *See* Chapter 5, Chapter 10.

Enhancement. Deliberate improvement of educational provision based on interpreted evidence and verified follow-up. A planned action or administratively closed recommendation becomes credible enhancement only when its relevant consequences have been examined. *See* Chapter 8, Chapter 12.

Evidence maturity. The claim-relative state of support for an educational or institutional assertion. The instruments distinguish intentions, allocation, configuration, testing, enactment and review in different groupings. Their stage numbers are local conventions; relevance and quality remain necessary throughout, and later-stage documentation is not automatically superior. *See* Chapter 3, Chapter 8, Chapter 9, Chapter 12.

Evidence register. A structured record linking evidence identifiers to claims, sources, dates, versions, verification, limitations and relevant findings. It supports retrieval and examination of the reasoning trail; the register's completeness does not itself establish the quality of the underlying evidence. *See* Chapter 8, Chapter 9, Chapter 12.

Evidence traceability. The ability to reconstruct how a claim or decision relates to its applicable authority, supporting material, verification, reasoning, uncertainty and follow-up. Traceability makes judgement inspectable while leaving its substantive quality open to evaluation. *See* Chapter 1, Chapter 8, Chapter 9, Chapter 12.

Evidence-Traceable Accreditation Judgement (ETAJ). The author's proposed model of evaluative reasoning nested within IETQG. It links normative authority, institutional claims, evidence, verification, warrants, qualifications or rebuttals, findings and proportionate lawful responses, without conferring accreditation or replacing the competent decision-maker. *See* Chapter 9, Chapter 12.

External programme review. A structured inquiry by appropriately appointed evaluators into a specified programme's design, resources, readiness, enactment or outcomes against applicable criteria. Its scope and relation to formal accreditation depend on the governing arrangements. *See* Chapter 9.

Finding. A reasoned evaluative conclusion supported by an applicable criterion and sufficiently examined evidence. It should identify scope, seriousness, uncertainty and the distinction between demonstrated deficiency and a claim that has not been demonstrated. *See* Chapter 9, Chapter 12.

Generative AI. Artificial-intelligence systems that generate outputs such as text, images, code or other content from learned patterns and supplied inputs. Educational use requires scrutiny of

accuracy, authorship, permitted assistance, data handling and the evidence of the learner's own understanding. *See* Chapter 6.

Implementation alignment. The consistency and workable relationship among approved curricula, module records, staffing, timetables, assessments, learning environments, budgets and learner information. An element can be individually tested yet remain misaligned with other parts of the programme. *See* Chapter 4, Chapter 9, Chapter 12.

Implementation readiness. A programme-specific and time-specific judgement that the arrangements needed for the proposed provision are sufficiently prepared. It concerns the intended cohort, site, mode and qualification, and does not establish future achievement or enduring institutional effectiveness. *See* Chapter 3, Chapter 4, Chapter 5, Chapter 9.

Inclusion. The removal or appropriate accommodation of barriers that prevent eligible learners from meaningful participation and fair demonstration of attainment. Inclusive provision retains essential academic standards while examining whether institutional arrangements create avoidable disadvantage. *See* Chapter 7.

Indicator reactivity. Changes in behaviour produced when an indicator becomes a target or high-stakes measure. Reported performance may improve while the underlying educational purpose weakens, making interpretation, independent checking and attention to unintended effects necessary. *See* Chapter 8, Chapter 12.

Integrated Evidence-Traceable Quality Governance (IETQG). The author's overarching conceptual framework linking institutional capability, programme assurance and accreditation judgement through cross-cutting quality obligations and a feedback relationship of monitoring and enhancement. It is a revisable scholarly proposal rather than a regulator-approved or empirically validated causal model. *See* Chapter 1, Chapter 3, Chapter 9, Chapter 12.

Internal quality assurance (IQA). Institutional arrangements for examining, safeguarding and improving educational provision through monitoring, review, assessment oversight, learner feedback, corrective action and verified follow-up. Its effectiveness depends on enacted responsibility rather than the existence of a quality office or policy alone. *See* Chapter 8.

Learner protection. The academic, informational, financial, procedural, accessibility and safety obligations owed to students. It includes truthful representation, fair assessment, appropriate support, secure records, complaints and remedies, and continuity arrangements when provision changes or fails. *See* Chapter 1, Chapter 7, Chapter 9, Chapter 10, Chapter 11.

Learning outcome. A stated form of knowledge, understanding, skill or other attainment that learners are expected to demonstrate at a specified stage or qualification level. Its educational credibility depends on level, content, learning opportunities and appropriate assessment. *See* Chapter 4, Chapter 5, Chapter 6.

Mission alignment. The defensible relationship between an institution's declared purposes and its curriculum, professional practice, resources and public claims. Mission can shape educational

priorities while remaining subject to applicable legal, academic and learner-protection requirements. *See* Chapter 1, Chapter 3, Chapter 11, Chapter 12.

Moderation. Academic scrutiny of assessment design, marking or outcomes intended to protect standards, consistency and justified judgement. A moderation record should show what was examined, what concern was identified and how any necessary change was followed through. *See* Chapter 4, Chapter 6, Chapter 8.

Non-compensatory threshold. An essential condition whose absence cannot be offset by strengths elsewhere or a favourable average. The relevant condition and available consequences must be established from applicable authority and justified academic obligations; the author's triage categories are not official accreditation grades. *See* Chapter 9, Chapter 11, Chapter 12.

Normative authority. The legitimate basis on which a requirement, standard or decision applies to a particular activity. Its identification requires attention to the issuer, instrument, legal effect, scope, version and competent actor, rather than thematic relevance alone. *See* Chapter 2, Chapter 9, Chapter 12.

Not demonstrated. An evidentiary conclusion that the available material is insufficient to establish a claim. It differs from a demonstrated deficiency, although unresolved uncertainty can still require a protective or regulatory response under the applicable rules. *See* Chapter 9, Chapter 12.

Programme assurance. The work of establishing that a particular educational offering has coherent design, allocated capability, credible delivery, appropriate assessment, learner support and continuing review. It translates institutional capability into a programme-specific claim without itself granting legal authorisation. *See* Chapter 3, Chapter 4, Chapter 8, Chapter 12.

Programme specification. The authoritative academic description of an award's purpose, level, admissions, outcomes, structure, credits, progression, delivery and assessment arrangements. It must remain consistent with module descriptions, implementation and the applicable approval record. *See* Chapter 4, Chapter 9.

Proportionality. The requirement that evidence demands and responses be justified by the purpose, consequence, scope and uncertainty of the issue under review. Proportionality permits differentiated procedures while retaining essential legal, academic and learner-protection obligations. *See* Chapter 2, Chapter 9, Chapter 12.

Public value. Higher education's contribution to intellectual life, ethical responsibility, social capability and other defensible public purposes beyond immediate private returns. It requires explicit interpretation and evidence appropriate to the claim rather than reduction to a single institutional metric. *See* Chapter 1.

Qualification recognition. A receiving authority's or institution's decision about the status or acceptability of an award for a specified purpose. Authenticity, lawful award, academic quality and recognition are related but distinct, and recognition is not automatically universal across jurisdictions or professions. *See* Chapter 2, Chapter 11.

Quality culture. Shared commitments and ordinary institutional practices through which academic responsibility, critical inquiry, evidence and improvement become part of educational work. It depends on conditions that enable honest challenge and action, rather than declarations of excellence alone. *See* Chapter 3, Chapter 8.

Recognition of prior learning (RPL). The assessment and, where authorised, recognition of learning acquired through earlier formal, non-formal or informal experience. Credit or access depends on demonstrated learning against relevant requirements, rather than experience or time served alone. *See* Chapter 2, Chapter 4, Chapter 7.

Recovery point objective (RPO). The maximum tolerable period of data loss, expressed in time, used to design continuity and restoration arrangements. The objective must reflect the relevant academic obligation and be tested against actual system capability. *See* Chapter 10.

Recovery time objective (RTO). The intended maximum time before an essential service is restored to an agreed level. It is a context-dependent planning parameter that requires resources and testing, rather than a universal statutory limit or guarantee of recovery. *See* Chapter 10.

Resilience. An institution's credible capacity to anticipate material disruption, protect people and academic obligations, adapt responsibly, restore interrupted learning and learn from recovery. Operational survival alone does not establish that educational standards or learner interests have been preserved. *See* Chapter 10.

Sola Scriptura. The principle that Holy Scripture is the final and sufficient norm for Christian faith and doctrine. In this volume it governs theological judgement while remaining distinct from empirical methods, fallible interpretation and the statutory authority needed for academic recognition. *See* Chapter 11.

Standards mapping. The explicit comparison of relevant requirements or benchmarks with programme claims, institutional arrangements and supporting evidence. It must preserve differences in source authority and applicability and record non-equivalence or unresolved interpretation. *See* Chapter 2, Chapter 4, Chapter 9, Chapter 12.

Teach-out. An authorised arrangement to enable affected learners to complete, transfer or otherwise resolve their studies when provision changes or closes. Credibility depends on academic ownership, available resources, supervision, records, communication and applicable student remedies. *See* Chapter 4, Chapter 10, Chapter 11.

Triangulation. Examination of a claim through appropriately different evidence sources or perspectives. Apparent agreement is informative only when the sources are relevant and sufficiently independent; repetition of one underlying assertion does not supply independent corroboration. *See* Chapter 8, Chapter 9.

Universal Design for Learning (UDL). An approach to designing learning opportunities with anticipated learner variability in view, including flexible means of engagement, representation and action or expression. Its application supports access while retaining clear learning purposes and the competence to be assessed. *See* Chapter 5, Chapter 7.

Verification. A deliberate check of the identity, accuracy, operability or claimed significance of evidence through suitable procedures. Verification establishes only what the check actually covers; a bounded demonstration cannot automatically justify a broader programme or institutional conclusion. *See* Chapter 9, Chapter 12.

Warrant. The reasoned link explaining why evidence supports a particular claim or finding under the applicable criterion. A warrant makes evaluative inference explicit and open to qualification, counter-evidence and professional challenge. *See* Chapter 9, Chapter 12.

Professional instruments directory

The directory locates the tables, frameworks and professional instruments retained within their original analytical discussions. Each remains subject to its stated evidentiary limits and jurisdictional qualifications. Page references point to the instrument itself.

Chapter 1 Rethinking Higher Education Quality

Table 1.1. Conceptions of Higher Education Quality and Their Distinct Evidence Demands....11
Table 1.2. A Participation-to-Achievement Lens for Inclusive Expansion....16
Table 1.3. The Complementary Theoretical Roles in Quality Governance....25
Table 1.4. Fragmentation Risks and Their Necessary Governance Connections....28
Table 1.5. The Six-Domain Quality Concepts and Evaluation Matrix....31
Table 1.6. Illustrative Evidence-Traceability Record for a Proposed Blended Programme....33
Table 1.7. Differentiated Responsibilities for Purpose-Referenced Quality....36

Chapter 2 Regulation and Accreditation

Table 2.1. Rwanda qualification and credit controls for academic programme review....50
Table 2.2. Evidence-gated sequence for development and approval of an academic programme....54
Table 2.3. Comparative architecture of selected African higher-education quality-assurance systems....61
Table 2.4. Rwanda Higher Education Regulatory and Accreditation Reference Matrix: proposed core register....68

Chapter 3 Institutional Governance and Capability

Table 3.1. Proposed five-level institutional capability maturity descriptors....100
Table 3.2. Institutional Capability Self-Assessment Instrument: core domains and evidence tests....101
Table 3.3. Evidence-anchored institutional improvement register: proposed fields and decision rules....103
Table 3.4. Indicative alignment of the proposed capability domains with Rwanda's 2021 IQA standards....105

Chapter 4 Evidence-Based Curriculum Development

Table 4.1. Curriculum traditions and their evaluative implications....118
Table 4.2. Programme-needs evidence register....120
Table 4.3. Illustrative graduate outcome architecture....123
Table 4.4. Module-sequencing diagnostic....127
Table 4.5. Programme-level constructive-alignment matrix for the hypothetical example developed in Section 4.14....129
Table 4.6. Curriculum-coherence diagnostic for internal validation....138
Table 4.7. Model programme specification register....140
Table 4.8. Complete illustrative 480-credit programme register....144

Table 4.9. Evidence-traceable review of the hypothetical programme.....150
Table 4.10. Provisional semester-by-semester allocation of the hypothetical Level 8 programme.....150
Table 4.11. Illustrative programme launch-readiness and condition-closure register.....151

Chapter 5 Online, Blended and Flexible Higher Education

Table 5.1. Four theoretical lenses and the questions they contribute to digital programme evaluation.....162
Table 5.2. Illustrative modality decision matrix for prospective programme design.....164
Table 5.3. Reusable course-design blueprint: A six-unit online research-methods sequence (illustrative).....168
Table 5.4. Proposed LMS readiness audit: Controls, demonstrations and common false assurances.....172
Table 5.5. Digital teaching evaluation instrument for professional development and quality enhancement.....183
Table 5.6. Evidence-to-improvement register for continuing digital programme quality assurance.....185
Table 5.7. Proposed digital programme implementation-readiness rubric (non-official).....189
Table 5.8. Evidence-traceable findings in a hypothetical blended-programme review.....190

Chapter 6 AI and Assessment Integrity

Table 6.1. Illustrative AI applications and the appropriate locus of educational control.....201
Table 6.2. Task-level AI-use disclosure model.....213
Table 6.3. Assessment-redesign matrix for AI-rich learning environments.....215
Table 6.4. Evidence-traceable AI-assisted evaluation record.....222
Table 6.5. Risk-based AI-tool evaluation form for universities.....224
Table 6.6. Decision rights and evidence of functioning institutional AI governance.....225
Table 6.7. Illustrative implementation and assurance roadmap for institutional AI adoption.....229

Chapter 7 Inclusive Curriculum and Student Success

Table 7.1. Inclusive Curriculum and Student Support Review Matrix.....262
Table 7.2. Student Lifecycle Responsibility and Learner-Protection Map.....263
Table 7.3. Learner Accessibility, Assessment and Accommodation Verification Checklist.....264
Table 7.4. Student Support Evidence and Responsible Intervention Register.....265
Table 7.5. Equity-sensitive educational indicators: operational definitions, interpretive limits and complementary evidence.....266

Chapter 8 Internal Quality Assurance

Table 8.1. The purposes, evidence and characteristic errors of internal educational quality functions.....277
Table 8.2. Illustrative institutional allocation of internal quality-assurance decision rights.....279
Table 8.3. Functional crosswalk for HEC Rwanda's 2021 internal quality-assurance standards.....281
Table 8.4. Annual programme-review template: minimum evaluative fields and decision outputs.....283
Table 8.5. Proposed module-evaluation rubric for documented professional judgement.....286
Table 8.6. Quality dashboard indicators and essential safeguards against misinterpretation.....291

Table 8.7. Corrective-action tracking and verification matrix: illustrative entries....298
Internal Quality Assurance Manual Framework....304
Table 8.8. Proposed quality-assurance evidence register and verification record....305

Chapter 9 External Review and Accreditation

Table 9.1. External review purposes and the limits of inference....316
Table 9.2. Proposed normative-provenance and applicability register....318
Table 9.3. Evidence appraisal: What a record can and cannot establish....322
Table 9.4. Model programme evidence register with claim-level traceability....322
Table 9.5. Model claim-evidence-warrant-rebuttal record....328
Table 9.6. Calibration exercise for an external panel....330
Table 9.7. Programme-level academic evaluation matrix....333
Table 9.8. Connecting HEC distance-learning assessment with ETAJ without replacing the official form....336
Table 9.9. Proposed findings-to-response guide for professional reasoning....337
Table 9.10. Proposed accreditation condition and verified-closure record....341
Table 9.11. Operational ETAJ reviewer worksheet....344
External Programme Evaluation and Accreditation Toolkit: Integrated operating protocol....347
Table 9.12. Model external programme review report and case-management template....347

Chapter 10 Higher Education Resilience

Table 10.1. Distinguishing resilience concepts by evaluative object....355
Table 10.2. Scientific and legal evidence-grading guide for atmospheric intervention claims....367
Table 10.3. Educational substitutability and evidence requirements during disruption....375
Table 10.4. Proposed recovery and assurance dashboard....378
Table 10.5. Resilience-integrated quality-assurance review matrix....382
10.15.1 Higher Education Resilience and Academic Continuity Toolkit....382
Table 10.6. An illustrative, explicitly hypothetical worked risk register for a Rwandan university....387

Chapter 11 Christian Higher Education

Table 11.1. Biblical mission-alignment and educational evidence matrix....405
Table 11.2. Proposed curriculum-design and programme-verification criteria....407
Table 11.3. Credential authority and recognition: A mandatory distinction....420
Table 11.4. Proposed digital discipleship and online theological-education rubric....428
Table 11.5. Christian higher-education institutional QA self-assessment....429
Table 11.6. Illustrative evidence-traceable review of a hypothetical blended biblical-studies degree....430
Table 11.7. Non-compensatory quality gates and proportionate institutional decisions....433

Chapter 12 Integrated Quality Governance

Table 12.1. The cumulative arguments of the volume and their implementation implications.....439
Table 12.2. Interface-verification matrix for programme governance.....445
Table 12.3. Claim-relative evidence-maturity protocol.....448
Table 12.4. Rwanda standards-to-implementation control register: recommended fields.....452
Table 12.5. Differentiated institutional implementation starting points.....455
Table 12.6. Five-stage IETQG jurisdictional-adaptation protocol.....456
Table 12.7. Proposed institutional quality indicator dictionary and interpretive safeguards.....464
Table 12.8. HEQGIH Version 1.0: interoperable professional instruments.....466
Table 12.9. Suggested eighteen-month IETQG implementation roadmap.....468
Table 12.10. Proposed validation agenda and methodological safeguards.....472

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Subject index

Page references identify substantive discussions in the printed volume. Cross-references group related concepts and distinguish legal authority, educational practice and the proposed frameworks.

Academic freedom, 58–59, 78–80
  Christian institutions, 411–413
Academic integrity, 211–213, 300–302
  Christian scholarly responsibility, 417–419
Academic staffing and labour, 82–84, 218–220
Academic standards, 8–12
  qualification levels, 124–125
  external review, 331–334
Accessibility, 248–250
  digital resources and formats, 174–176
  universal curriculum design, 236–239
Accreditation, 312–313, 315–317
  authority and applicability, 47–49, 317–319
  conditions, deferral and non-approval, 336–339
  ecclesial endorsement distinguished, 419–422
  post-accreditation monitoring, 340–342
  review reports and appeals, 339–340
Adaptive learning, 199–202
Admissions and induction, 242–244
African higher education, 12–14
  continental frameworks, 62–64
  historical development of quality assurance, 43–45
  jurisdictional adaptation, 455–457
AI literacy, 204–206
Algorithmic bias, 216–218
Annual academic review, 282–285
Appeals, 339–340
Artificial intelligence, 196–199
  assessment and individual learning, 208–211, 214–216
  Christian ethical discernment, 415–417
  curriculum design and teaching, 206–208
  institutional policy and risk, 223–226
  programme evaluation and accreditation, 220–223
Assessment, 127–129
  authentic performance and process evidence, 214–216
  individual learning in AI-supported work, 208–211
  moderation and external examining, 285–287
  theological learning, 417–419
Assessment validity, 208–211, 417–419
Asynchronous and synchronous learning, 169–171
Authorship and AI disclosure, 211–213
Award levels, 49–52, 124–125
Benchmarking, 121–122, 293–295
Biblical authority, 397–401
Blended learning, 163–166
  coherent learning pathways, 166–169
  theological education and formation, 413–415
Business continuity, 376–378
  critical activities and dependencies, 384–385
  plans and student communication, 385–386
Capability maturity, 99–106
Career development, 257–258
Christian higher education, 396–397, 401–403
  accreditation and legal recognition, 419–422
  governance and stewardship, 422–424
  mission-aligned quality assurance, 426–427
  professional disciplines, 409–411
  worldview and graduate formation, 403–406
Climate change and extreme weather, 362–364
Clinical and professional placements, 131–132, 373–376
Community of Inquiry, 160–163
Competency-based education, 116–118
Complaints and student voice, 255–257
Conflicts of interest, 329–331
Constructive alignment, 22–26, 127–129
  programme-to-module register, 138
Consultation with stakeholders, 121–122, 287–289

Continuous improvement, 99–106, 297–300
organisational learning and responsibility, 300–302
Copyright and open resources, 174–176
Corrective action, 297–300, 340–342
internal conditional judgement, 148–149
institutional review in Christian education, 429–430
COVID-19, 356–358
Credit accumulation and transfer, 49–52, 133–135
Credits and notional learning hours, 124–125
model programme workload, 146
regulatory contradictions, 66–71
Critical realism, 22–26
Cross-border education, 64–66
African jurisdictional adaptation, 455–457
Christian institutions and partnerships, 424–425
Curriculum coherence, 125–127, 285–287
diagnostic instrument, 138–139
Curriculum development, 114–116
AI-assisted design, 206–208
institutional capability, 84–86
programme need, 118–120, 136–137
theories and approaches, 116–118
Curriculum internationalisation, 132–133
Curriculum renewal, 151–153, 295–297
Cybersecurity, 93–95, 369–371
Dashboards and indicators, 291–293, 462–468
Data governance, 93–95
AI, privacy and learner rights, 216–218
learning analytics, 253–255
Deferral and non-approval, 336–339
Digital divides, 239–242
low-bandwidth and offline provision, 180–181
Digital inclusion, 232–234, 239–242
extension of integrated quality governance, 445–448
Digital literacy, 129–130, 242–244
Digital sovereignty, 368–369
Digital transformation, 17–20
Disability and reasonable accommodation, 248–250
Displacement and conflict, 360–362
Distance education, 55–58, 156–158
transactional distance, 160–163
Doctoral education, 89–91
supervision and academic writing, 251–253
qualification and credit uncertainty, 66–71
Doctrinal integrity, 411–413
Documentary provenance, 66–71, 317–319
Early-warning systems, 253–255
Ecclesial endorsement, 419–422
Educational continuity, 352–353
laboratories, fieldwork and placements, 373–376
public-health emergencies, 358–359
recovery and academic assurance, 386–387
Educational effectiveness, 8–12, 276–278
Educational purpose and public value, 6–12
Emergency communication, 376–378, 385–386
Emergency remote teaching, 158–160, 356–358
Employability, 14–17, 257–258
Energy insecurity and supply chains, 371–373
Environmental modification, 366–367
Equity, 14–17, 258–260
meaningful participation, 232–234
monitoring disaggregated outcomes, 258–260
Evaluative reasoning, 22–26, 326–327
Evaluative warrants, 326–329
Evidence management, 91–93, 280–282
quality-assurance evidence register, 305–306
indicators and linked records, 462–468
Evidence maturity, 323–326, 448–450
Christian programme verification, 428
Evidence quality, 321–323
Evidence-Traceable Accreditation Judgement (ETAJ), 342–346
claims, warrants and findings, 327–329
operating protocol, 347–348
relationship to integrated quality governance, 440–443
External examining, 285–287

External review, 313–317
digital and practical programmes, 334–336
panel independence and calibration, 329–331
reporting and procedural fairness, 339–340
Faculty development, 82–84, 182–184
AI and academic labour, 218–220
teaching enhancement, 289–291
Financial sustainability, 95–97
disruption and shocks, 371–373
Christian institutional stewardship, 422–424
Fitness for purpose, 8–12
Flexible learning, 156–158, 163–166
recognition and stackable pathways, 133–135
Generative AI, 199–202
Geoengineering, 364–366
Ghana, 60–62
Governance, 78–80
academic boards, senates and quality units, 278–280
Christian leadership and stewardship, 422–424
institutional independence and risk, 97–99
Rwandan decision authority, 45–47
Graduate attributes, 122–123, 137
career and lifelong learning, 257–258
model programme profile, 143–144
Higher Education Council (HEC), 47–49
Rwandan governance architecture, 45–47
operationalisation of requirements, 450–453
regulatory policy implications, 457–459
source currency and conflicting provisions, 66–71
Implementation readiness, 323–326
curriculum conditions and resources, 148
online programme accreditation, 187–191
Implementation roadmap, 468–470
Inclusive curriculum, 234–239
practical assurance instruments, 260–269
Indigenous knowledge, 132–133
Institutional autonomy, 58–59, 78–80
Institutional capability, 76–77, 99–106
curriculum and accreditation connections, 443–445
infrastructure and information systems, 86–89, 91–93
Institutional theory, 22–26
Instructional design, 84–86, 182–184
Integrated Evidence-Traceable Quality Governance (IETQG), 29–34, 440–443
capability, programme assurance and judgement, 443–445
evidence thresholds and implementation, 448–450
limitations and revision, 473–474
research and empirical validation, 470–473
Interdisciplinary education, 116–118, 132–133
Internal quality assurance, 274–278
evidence-to-enhancement lifecycle, 302–303
governance and review responsibilities, 278–282
manual framework, 304–305
programme monitoring and annual review, 282–285
Kenya, 60–62
Laboratories and simulations, 176–178
continuity of practical learning, 373–376
Learner protection, 255–257, 339–340
Christian governance, 422–424
continuity and teach-out, 376–378
Learner support, 246–248
disability and access requirements, 248–250
inclusion assurance instruments, 260–269
postgraduate researchers, 251–253
Learning analytics, 91–93, 253–255
dashboards and misleading indicators, 291–293
Learning management systems (LMS), 171–174
Learning outcomes, 122–123, 127–129
progressive attainment in the model programme, 146–147
Lifelong learning, 133–135, 257–258
Low-bandwidth provision, 180–181
Massification, 14–17
Micro-credentials, 64–66, 133–135

Mission alignment, 403–406, 427–428
Module design, 125–127, 135–136
assessment blueprint, 147–148
sequencing and workload map, 137
Needs analysis, 118–120, 136–137
Non-compensatory thresholds, 448–450
Not demonstrated, 327–329, 336–339
Notional learning hours. See Credits and notional learning hours
Online education, 156–160
accreditation and readiness, 187–191
digital pedagogy, 160–163
monitoring and learner support, 184–187
teaching presence and engagement, 178–180
Open educational resources, 174–176
Oral defence and portfolios, 214–216
Organisational learning, 80–82, 300–302
Outcomes-based education, 116–118, 122–123
Pandemic preparedness, 356–359
Peer review, 293–295, 329–331
Platform dependence, 368–369
supplier appraisal, 386
technological procurement, 93–95, 218–220
Postgraduate supervision, 89–91, 251–253
Practical learning, 131–132, 176–178
continuity during disruption, 373–376
Prerequisites and progression, 125–127, 145–146
Privacy and data protection, 93–95, 216–218, 253–255
Procedural fairness, 339–340
Professional judgement, 326–329
independence and calibration, 329–331
proportionate regulatory response, 336–339
Programme approval, 52–55, 140–142
controlled specification, 139–140
model accreditation dossier, 149–151
Programme closure and suspension, 151–153, 295–297
Programme review, 282–285, 295–297
worked institutional review, 306–308
Psychosocial support, 246–248
Public accountability, 42–43, 312–313
Qualifications recognition, 49–52, 64–66
Christian cross-border provision, 424–425
Quality assurance, 276–278
fragmented approaches, 26–29
integrated governance, 29–34
quality culture, 80–82, 300–302
Quality culture, 80–82, 300–302
Quality enhancement, 276–278, 297–300
Recognition of prior learning (RPL), 64–66, 133–135
Regulatory authority, 45–47, 317–319
Regulatory uncertainty, 66–71
Research capacity, 89–91
Research priorities and validation, 431–433, 470–473
Resilience, 352–356
integrated assurance framework, 380–382
recovery and closure review, 386–387
scenario planning, 378–380
toolkit and decision testing, 382–385
Risk governance, 97–99
AI policy and risk classification, 223–226
disruption and critical dependencies, 384
institutional assessment and recovery, 378–380
Rwanda, 12–14, 45–47
implementation priorities, 450–453
regulatory and institutional strengthening, 71–73
Rwanda Qualifications Framework (RQF), 49–52, 124–125
credit and duration conflicts, 66–71
Scenario planning, 378–380, 384–385
Self-regulated learning, 160–163, 244–246
Socio-technical systems, 17–20, 22–26
Sola Scriptura, 399–401
South Africa, 60–62
Spiritual formation, 413–415
Standards mapping, 62–64, 317–319
Student engagement, 178–180, 244–246
Student success, 244–246, 258–260
Student voice, 255–257, 287–289

Sustainability, 95–97, 129–130
financial and operational disruption, 371–373
Teach-out arrangements, 151–153, 376–378
Teaching presence, 160–163, 178–180
Theological education, 406–409, 413–415
academic assessment and interpretation, 417–419
professional and legal recognition, 419–422
Toulmin's argumentation model, 326–327
Transactional distance, 160–163
Universal Design for Learning (UDL), 236–239
Vendor dependence. See Platform dependence
Verification, 321–323, 340–342
corrective action and retesting, 297–300
post-disruption assurance, 386–387
Weather modification, 366–367
Work-integrated learning, 131–132
practical continuity, 373–376
Worldview coherence, 403–406