

DISTANCE EDUCATION FOR TEACHER TRAINING:

Modes, Models, and Methods

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Section II. Chapter 19

ASSURING QUALITY

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Best Practice: "Quality matters"—distance education programs must be committed to maintaining academic and instructional quality regardless of the mode of delivery.

19.1 Overview

Despite its increasing mainstreaming as a professional learning option, distance education still suffers from poor perception vis-à-vis in-person learning. Without a strong base in research and theory, distance education has often struggled for recognition by the traditional academic community. Without rigorous standards to assure the quality of distance-based teaching and materials development, distance education has battled perceptions of inferior quality even among distance instructors. Without the formal mechanisms and institutions that assess processes and products, distance learning programs, especially those designed for donorfunded international education programs, have escaped evaluation and oversight. And without much in the way of longitudinal and evidencebased evaluation data (as noted in the previous chapter), many modes of distance education have struggled with perceptions of quality, impact, and effectiveness (Moon et al., 2005).

Because teaching and learning in a distance environment occur in the ether or across airwaves and not within the four walls of a classroom, distance learning often has escaped the scrutiny that may accompany face-to-face teacher professional development. (This situation is ironic since distance learning actually leaves more of a digital data and information trail than does face-to-face instruction.) Instructional delivery

systems, the mechanics of learning, and the location of learning in distance environments often differ from those in brick-and-mortar settings. Distance learning programs often escape quality and accountability provisions because quality assurance and accreditation systems may lack the benchmarks, personnel, instruments, and protocols to assess and measure quality in a distance environment or because distance programs, particularly with universities, have failed to adapt face-to-face mechanisms and procedures to distance-based learning or failed to enforce minimum standards of quality control for online education.

In the United States, for example, a survey of 284 institutions of higher education prior to spring 2020 reported that 38% of public and 28% of private four-year institutions encouraged, but did not require, fully online courses to meet minimum standards for quality. Thirty-one percent of *private* four-year institutions required both modalities to meet quality standards. Among community colleges, which typically involve two-year programs of study, 27% *encouraged* online and in-person modalities to meet quality standards, while only 22% *required* online courses to meet standards (Garrett et al., 2021, p. 51).

"Quality" is a relative term. Students, teachers, employers, teaching assistants, university rectors, funding agencies, national ministry of education

¹Diliberti (2018) reports that one of four virtual school teachers say that students learn far more in face-to-face settings.

officials, accreditors, assessors, and external distance education providers all may have specific and competing notions of quality. They may believe that they "know it when they see it" yet be unable to articulate its constituent attributes. These realities, coupled with competing priorities and, in many regions, a desire to get as many learners in and out of the distance education system as quickly as possible, means that "quality" in distance learning often remains ill-defined and elusive.

Successful distance education programs must take to heart Perraton's (1993) admonition that "quality matters" and define what quality means, developing, adapting, and incorporating quality assurance mechanisms, monitoring, and compliance into the design and delivery of distance learning opportunities for pre-service teacher candidates and teachers. As this chapter will emphasize, no distance education program is too big—or too small—to do this.

19.2 Quality Assurance

"Quality" in this chapter refers to the degree of excellence of a distance program. It represents adherence to a set of standards of content, design, and instruction; proof that learners emerge with a set of useful and usable knowledge and skills; and verification of both by an external, impartial accrediting agency or internally by a quality assurance team established by the distance education program itself (George et al., 2014; Reid & Kleinhenz, 2015).

"Quality assurance" in distance education represents the collective efforts taken to ensure a level of education that meets prescribed standards. Belawati & Zuhairi (2007) define it as "systematic management and assessment procedures adopted in order to monitor performance against objectives and ensure the achievement of quality outputs and quality improvements." Quality assurance focuses on planning, design, coordination of instructional and learning materials development, implementation

and management, and monitoring and evaluation (UNESCO Institute for Lifelong Learning, & Commonwealth of Learning, 2021). It is part of a value system that includes process control, continuous improvement, commitment, and breakthrough (Van Kemenade et al., 2008, as cited in Zuhairi et al., 2020).

19.2.1 Best Practice Frameworks: The 5Ps

While standards and standards frameworks vary, most appear to have a cross-cutting common focus on key areas associated with distance education—personnel, planning, processes, production and delivery, and philosophy (Santally, 2016; Zuhairi et al., 2020).

Figure 19.1 references these key areas using a selection of national standards (Southern Regional Education Board, 2016; Digital Promise, 2022); regional standards (Manitoba Remote Learning Support Centre, 2020); and international standards (Quality Matters, Virtual Learning Leadership Alliance, & Digital Learning Collaborative, 2023); the e-Learning Maturity Model, [Marshall, 2007]; the Association for Educational Communications and Technology, 2012) for online learning and educational technology over a 15-year period (2007–2022).

These standards were chosen as an informative overview of what quality assurance (QA) standards typically involve—meant to *illustrate* the various building blocks of assessing and assuring quality. Many of the standards referenced follow a "maturity" model—rubric-based gradations of quality—while others simply list the standard. The reader will note that in many cases, the same standard might transect a number of aspects.

Not all QA frameworks measure all aspects of distance education equally. Indeed, across multiple distance education quality frameworks, certain distance education standards—those dealing with instructional analysis, design, and development—appear most frequently, while standards focusing on faculty support and satisfaction, policies, and planning are

"under-represented" (Martin et al., 2017). Two other important, and often overlooked, standards deal with cultural sensitivity and linguistic appropriateness—particularly noteworthy omissions given the increased trans-nationalization of distance education programs (Santally, 2016).

As the reader will infer from the range of indicators listed in Figure 19.1, quality assurance can be costly. One estimation of how costly comes from the Open University of Israel (OUI). This public university, which educates an estimated 47,000 learners per year, has employed rigorous QA procedures examining the accuracy and

currency of content; clarity of explanations; adherence to standards of self-study; visual appeal and stimulation of presentations; evidence that activities and assignments enhance learning in comprehending the main points and critical issues; and ensuring that all work can be completed in 15 to 20 hours, the time allotted for all study units (Open University of Israel, n.d.).² Guri-Rosenblit's 1997 estimate of the total cost of this level of quality, converted to 2022 USD, suggests that this level of effort costs approximately US \$472,134 (United States Department of Labor, n.d.).

Figure 19.1

The Five Ps of Quality Assurance: Personnel, Planning, Processes, Production and Delivery, and Philosophy (Standards selected are taken from Marshall (2007); see also Association for Educational Communications and Technology (2012); Digital Promise (2022); Manitoba Remote Learning Support Centre (2020); (Quality Matters, Virtual Learning Leadership Alliance, and Digital Learning Collaborative, 2022, 2023); Southern Regional Education Board (2016)).

Aspect	Purpose	Examples of Standards
1. Personnel: This includes everyone involved in designing, managing, instructing, assessing, supporting, and evaluating distance education offerings.	Ensuring that all distance education personnel are qualified and that there is leadership around and management of distance learning	 Distance instructors are trained and certified to teach online. Instructional designers are trained and certified to design courses. Instructors are selected and prepared in the distance education mode they will use. Distance instructors are assessed against a set of metrics. Instructors have a university degree or better in the area in which they teach. There is sufficient staffing of IT professionals to support distance learning.
2. Planning: This may include needs assessment, documenting appropriate learning activities, selection of technologies, budgeting, and resource allocation.	2A. Planning the distance education system	 School and state/provincial leaders advocate for technology-based professional development for teachers, administrators, school boards, and community leaders. The distance education entity analyzes data from needs assessment to decide on a set of course offerings.

²Although dated, this study was chosen as an example because it provided specific financial costs related to quality assurance.

Aspect	Purpose	Examples of Standards
2. Planning: This may include needs assessment, documenting appropriate learning activities, selection of technologies, budgeting, and resource allocation. (continued)		 Learning objectives guide the design of courses. The technology chosen is assessed to be the best means of delivering content and instruction for that particular teacher-learner audience.
	2B. Educational technology products (NB: In some frameworks, technology may be part of planning; in other frameworks as part of processes)	 Research has confirmed that the technology product is effective for its intended purpose. The technology product addresses an educational or administrative need. The technology product has been evaluated in an evidence-based study by an independent third party (e.g., Digital Promise's Evaluating Studies of EdTech Products Tool).
3. Processes: These include the functions of distance education: registering, instructing, tutoring, and supporting learners; record keeping; and assessment.	3A. Tutoring learners, assessing their written work, and providing feedback; monitoring instructors	 Continual professional development is provided for instructors, tutors, mentors, coaches, course designers, and other stakeholders. Audio, video, and instructional scripts are sampled to assess quality and are revised and validated accordingly. Instructors are required to provide extensive feedback to learners.
	3B. Evaluation and revision	 Instructors have participated, as learners, in the distance education mode in which they will be teaching. The online course uses multiple methods and sources of input for assessing course effectiveness. The online course is reviewed to ensure that the course content is current.
	3C. Learner supports	 Learners are supported in developing self-regulation skills (for environment, cognition, behaviors, and motivation). Remediation and accelerated courses for learners are provided. All accommodations are made for learners with special needs. Learners have opportunities to observe successful peers

Aspect	Purpose	Examples of Standards
3. Processes: These include the functions of distance education: registering, instructing, tutoring, and supporting learners; record keeping; and	3D. Selection of appropriate technologies (NB: In some frameworks, technology may be part of processes; in other frameworks as part of planning)	 Technology accommodations are in place for learners with special needs (e.g. assistive technologies) The learning management system (LMS) and education management information system (EMIS) are interoperable so that learner grades transfer seamlessly from the LMS to the EMIS. Mechanisms are in place for maintaining the technology infrastructure to improve learning and performance.
assessment. (continued)		Technology providers conform to ISO IEC 20000- 1 (a set of standards outlining best practices for maintaining security, delivering consistent service, and adopting innovative technologies as they become available) or any other relevant standards.
4. Production and Delivery: This includes all facets of course design, including selection and repurposing of materials; translations; development of learning objects, activities, job aids, quizzes, and branching scenarios.	4A. Course production	 There is documented adherence to eLearning delivery standards. There is documented adherence to national curriculum standards. Materials and courses are field tested. Quality control and assurance measures are in place and are enforced. Materials are visually appealing and follow good design and layout principles.
	4B. Content and materials design	 Instructional designers demonstrate foundational knowledge of the contribution of research to the past and current theory of educational communications and technology. Course materials (e.g., textbooks, primary source documents, Open Educational Resources) that support course content standards are accurate and current. The online course is free of inappropriate content and avoids unnecessary advertisements. Copyright and licensing status for any third-party content are appropriately cited and easily found. Materials are culturally sensitive and linguistically appropriate (Santally, 2016).

Aspect	Purpose	Examples of Standards
4. Production and Delivery: This includes all facets of course design, including selection and repurposing of materials; translations; development of learning objects, activities, job aids, quizzes, and branching scenarios. (continued)	4C. Course delivery	 Learners are provided with expected instructor response times to learner queries. There are regular and substantive instructor-to-learner expectations and predictable or scheduled interactions and feedback, appropriate for the course length and structure. Content, syllabus, course documentation, assessments and other course-related are in locations known to learners and easy to find. Learner work is subject to specified timetables and deadlines.
5. Philosophy (of quality): This is evidenced by individual roles and responsibilities, policies, mission statements, and accountability measures.	5A. Policy statements	 The educational institution's written policies support importance of distance education programs. The vision statement and learning objectives are developed by the institution and provide foundation for the distance learning program. Policies are supported by procedures (i.e., training, support, materials, resources, and technology) to ensure that distance learning programs attain quality. Measures of quality are codified and widely disseminated.
	5B. Culture of total quality management	 All personnel adhere to the contemporary professional ethics of the field as defined and developed by the accrediting agency or standards framework. All levels of the educational institution promote a culture of continual improvement in the effectiveness and efficiency of all elements of distance learning. Problems are not hidden or avoided but addressed and remedied. There are transparent, documented sets of procedures and control of process. Top management participate in and are committed to the distance learning program in general and to quality distance education procedures in particular.

As also suggested by Figure 19.1, adhering to quality frameworks in distance education is time-, labor-, and human resource-intensive. Taken together, the financial and human-resourceintensive nature of developing distance courses for teacher-candidates and teachers can be formidable and overwhelming, particularly if local expertise in design and instruction is not widely available. But for any distance education program to be successful, all stakeholders—teacher trainees, principals, school management teams, teachers, education officers, students, community members, and departments of education must be consulted and, where needed, their capacity developed to ensure unity of purpose, collaboration, and a sense of ownership of the distance education program (Quan-Baffour & Akwasi, 2018, p. 17). This is critical, as Quan-Baffour and Akwasi observe, because "ensuring quality in... teacher education is every citizen's business" (p. 21). One model of such inclusiveness is the Caribbean Area Network for Quality Assurance in Tertiary Education, profiled in Figure 19.2.

Figure 19.2 Quality Assurance in the Caribbean

The small island states of the Caribbean have received a good deal of attention from offshore distance education providers and medical schools. As a result, they have been particularly aggressive about establishing mechanisms of quality assurance and accreditation.

The Caribbean Area Network for Quality Assurance in Tertiary Education (CANQATE) is a QA network that includes Caribbean government ministries, state agencies, higher education networks, and other related entities within the Caribbean Community (CARICOM) that provide research and capacity building on quality assurance (CANQATE, 2021).

19.2.2 The Importance of Standards

Quality assurance is grounded in standards. As articulated throughout this guide, standards are a clear baseline of expectations (competencies) for a particular domain within distance learning. Domains refer to the broad areas of professional knowledge, skills, and practice that are part of distance learning, such as course design, assessment, instruction, and interaction. Standards define the minimum level of quality and help to create a consistent, shared understanding of common terminology, quality, and structure.

While standards are broad, they are typically disaggregated into more measurable and discrete indicators. *Indicators* are more specific descriptions of actions and behaviors related to each standard. They often are presented as statements of action that serve as a road map for implementation. Because each standard varies in its complexity, the number of indicators also varies according to the standard.

Standards are essential for several reasons. They establish the minimum criteria for quality. They frame the parameters of the course, reflecting goals and objectives and clearly specifying the skills to be acquired, learning methods used, all inputs and activities, and what and how technology should support learning. They serve as outcomes by which to gauge program success and the quality of teaching and learning. Finally, standards can serve as yardsticks by which online designers and instructors can measure their own self-improvement goals. All of these factors contribute to defining quality and measuring it.

The reader will recall from Chapters 8, 9, 11, 13, and 18 that there is no one set of definitive standards—countries and distance education programs employ a variety of standards. These may include, for example, national standards or international standards or benchmarks, such as the Open Learning Consortium's Quality Scorecard (Online Learning Consortium, 2020); National Standards for Quality Online Learning

(Quality Matters, Virtual Leadership Alliance, and Digital Learning Collaborative, 2023); or those of the Australasian Council on Open, Distance and eLearning (Australasian Council on Open, Distance and e-Learning, 2017). In some settings, standards must be approved by accreditation boards; in other settings, standards may not be obligatory; and in some contexts, the particular set of standards may not matter as much as simply having a set of standards that a distance program follows.

19.2.3 Options for Assuring Quality

Many distance education programs may be too small or short-staffed to invest substantial amounts of time or money into quality assurance, but they still can infuse quality throughout their programs. For example, they can train distance instructors, use best practices associated with teacher professional development in general (such as Learning Forward's "Standards for Professional Learning" [2022]), and ensure that digital materials are of the highest quality.

There are other options for assuring quality in a pre-service or continuous professional development course for teachers. This section explores three of them: adopting and adapting existing QA frameworks for design and delivery of a course as part of a formal or informal QA process; developing internal monitoring procedures; and using user experience (UX) frameworks.

Utilize existing quality assurance frameworks Distance programs can develop QA checklists or use existing ones. The following examples of QA frameworks can be tailored to individual distance courses and programs:

The Benchmarking Framework for Online,
 Open, Smart, and Technology-Enhanced
 Higher Education. This is an assessment tool
 for dual-mode, online, and open universities to
 help them identify strengths and fix weaknesses
 through a benchmarking process. Spearheaded
 by Hamdan Bin Mohammed Smart University
 in Dubai, the framework has been adopted

by a consortium of 24 universities, university associations, and open and distance learning consortia, such as Azerbaijan's Western Caspian University, Italy's Open UniNettuno University, the Association of Arab Universities, and the European Association of Distance Teaching Universities (Hamdan Bin Mohammed Smart University, 2022).

- Guidelines for Quality Assurance and Accreditation of MOOCs. Developed by the Commonwealth of Learning (COL), which has a distinguished pedigree in the field of distance education, this is one of the few frameworks for assessing the quality of MOOCs. It is licensed under Creative Commons and can be freely adapted (Commonwealth of Learning, 2016).
- The Commonwealth of Learning's Review and Implementation Model (COL-RIM). Also from COL, the Review and Implementation Model is particularly helpful for distance education programs that may not have QA teams or who are embarking for the first time on the QA trajectory. It is a step-by-step guide that walks distance education programs through the QA process in a comprehensive and detailed manner (George et al., 2014).
- The Online Learning Consortium's Open Scorecard for Online Learning. Developed by the Online Learning Consortium, the Quality Scorecard Suite provides institutions with the "necessary criteria and benchmarking tools to ensure online learning excellence for the entire institution" (Online Learning Consortium, 2020).
- Quality Matters Emergency Remote Learning Checklists. Developed by the non-profit Quality Matters, these checklists assessed emergency remote higher education, primary and secondary-level online courses during the 2020 COVID-19 pandemic and are still relevant (Quality Matters, 2020).
- The eLearning Toolkit. This rubric from Canada's Western University, which offers both in-person and distance courses, allows designers to assess the quality of eLearning tools and software (Western University, 2018).

• Quality Assurance Standards Framework and Outcomes Metric. This was developed by the Education Quality Outcomes Standards Board (EQOS), a nonprofit organization that has built and maintains a framework of universal definitions of learning outcomes and their corresponding metrics. The framework is a new outcomes-based system of quality assurance to allow virtual schools and other types of alternative education systems to report outcomes through the lens of the "customers" (i.e., learners and future employers) related to learning, completion, placement, earnings, and satisfaction that each program could claim to provide (Education Quality Outcome Standards, 2018).

Develop internal monitoring mechanisms

There are other ways to begin to assess quality besides quality assurance frameworks. Distance programs can have learners regularly evaluate instructors and course offerings. They can conduct surveys, examine course evaluations, and grade patterns, and engage in focus groups and interviews with learners. They can drop in and observe distance courses—which is particularly easy to do in online learning—and audit selected materials. They can track teacher graduates and interview them as to how effective and useful they found their pre-service or in-service distance education experience. Further, distance education providers can solicit input from schools about the effectiveness of teacher graduates. All of these activities can comprise an overall QA system, or they can be separate activities; however, every distance education program, small or large, should conduct some form of monitoring. Like all forms of quality monitoring, though, this information is useful only if acted upon.

Employ user experience (UX) frameworks

The concept of "user experience" in distance learning was touched upon in *Chapter 11: Instructional Design*. For online, blended, and mobile courses, a number of simple, straightforward user experience frameworks are available that can be deployed to assure quality as well as be adapted for other types of distance education.

One example is Morville's "Honeycomb" framework, so called because its visual organizer is in the hexagonal shape of the cells in a bee's honeycomb. It examines users' experiences based on the following criteria: utility, desirability, accessibility, credibility, findability, usability, and perceived value (Morville, 2004). This framework can be administered as part of a distance course in a checklist or Likert-scale fashion.

A second example is the 5E model (Quesenberry, n.d.). Although this framework is used to assess learners, and is sometimes used as a course design framework, it also offers a general framework for examining the learner's assessment of the quality of a course. It contains five constructs and lends itself to interviews or openended questionnaires for learners, as follows:

- Effective. How completely and accurately were goals reached?
- Efficient. How quickly was the work completed?
- Engaging. How well did the interface draw the user into the interaction? How pleasant and satisfying was the learning experience?
- Error tolerance. How well did the program prevent errors and help the learner recover from errors that occurred?
- Easy to learn. How well did curriculum and instruction support continued learning throughout the lifetime of the course?

Allow institutions to develop their own standards and measures

There is concern that the uniform standards-based approach of quality assurance discussed in this chapter may ill serve many types of distance education institutions. Virtual schools, for example, often function in the capacity of credit recovery or as a path to alternative education for students who do not learn well in brick-and-mortar settings. Yet, despite their unique mission and their heterogeneity (as discussed in Chapter 13), they are evaluated on the same set of inputs as brick-and-mortar schools.

Horn (2021) thus argues for a new set of standard metrics for such schools based on outcomes—relative to the students each school serves—which focus on objectives tailored to the school's mission, with clear data audited by an independent third party so families and future employers can accurately compare alternative education options and accurately gauge the quality of such schools and graduates (p. 3). This quality assurance could be attained via independent third-party auditors following the rules governing financial auditing of publicly traded companies or by using a framework such as EQOS's Quality Assurance Standards Framework and Outcomes Metric, mentioned previously.

Successful quality assurance requires effective and efficient structures and procedures. However, as UNESCO's Institute for Lifelong Learning and the Commonwealth of Learning (2021) caution, creating QA structures will not automatically improve quality. Organizations must distinguish between "quality assurance procedures, which can easily become compliance-focused, and real efforts to enhance quality" (p. 51). And standards, metrics, and philosophy statements are just words on paper (or a screen) unless the individuals within distance education programs are committed to institutionalizing and measuring quality and using that information to learn and improve their programming. To be effective then, quality assurance must be grounded in a belief system of "team building, organizational learning, genuine enquiry, and an honest effort to improve" (George et al., 2014, p. 2). As the UNESCO Insititute for Lifelong Learning & Commonwealth of Learning emphasize, quality assurance in open and distance learning "must be about continuous improvement" (2021, p. 51).

Yet, while there is a growing consensus within distance education that a strong accountability system should address the main elements of teaching and learning via distance, there is still, in many cases less consensus about the specific metrics, indicators, and performance thresholds that should be included in such a system.

19.3 Accreditation

A final option in assuring quality is for distance education programs to participate in an accreditation process and become an accredited education provider. This route is often taken by universities and other institutions of higher education.

Accreditation is a method of quality assurance carried out by an external third-party organization. It assures the public, as well as potential and actual learners, that standards and reliable indicators ensuring institutional quality are in place, that they guide all teaching and learning inputs and activities, and that there is a functioning system assuring monitoring and quality compliance. Learners who graduate from accredited institutions have greater opportunities for employment, continued education, and mobility (Distance Education Accreditation Commission, 2022, pp. 4, 6). When implemented as intended, the accreditation process also can promote an ethos of continuous reflection and improvement within a distance education program. For example, quality assurance can ideally eliminate or minimize the weaknesses of a distance program and better align its actual performance with standards through an iterative process of continuous improvement, such as the "Plan-Do-Check-Act" approach (Leahy et al., 2009, p. 70).

The process of accreditation and convergence of quality standards at the higher-education level has been accelerated in part by the Bologna Process, a series of agreements between European countries creating a European Higher Education Area (EHEA). It attempts to ensure comparability in the standards and quality of higher-education qualifications among its signatory countries.³

³These countries are Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Montenegro, The Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, and Vatican City.

While the Bologna Process does not specifically address online learning *per se*, many universities and higher education institutions across Europe have incorporated online learning into their programs and curricula. In June 2022, the Council of the European Union (EU) adopted a formal recommendation regarding a European approach to micro-credentialing—involving blended and online learning—across institutions (European Commission, n.d.). However, the Bologna Process does not yet appear to have explicit regulations regarding online learning, so each country and institution is responsible for setting its own policies and standards in this area.

Accreditation also is increasingly common in distance education courses or programs that are not necessarily affiliated with a university. For example, the International Accreditors for Continuing Education and Training (IACET), an accrediting organization, uses the American National Standards Institute (ANSI)/IACET Standard for Continuing Education and Training, which focuses on the design, development, implementation, and evaluation of continuing education and training programs for adult learners, such as teacher professional development (IACET was the developer of the "continuing education unit" [CEU]). To become an IACET-approved provider of CEUs, organizations such as Education Development Center undertake a rigorous application process that includes demonstrations of their best practice policies and processes for developing online CEU courses. All aspects of the courses are then measured against the nine internationally recognized categories included in the ANSI/IACET Standard (International Accreditors for Continuing Education and Training, n.d.).

19.3.1 Accrediting Bodies

Accrediting bodies are essentially QA agencies. They develop and implement common standards and procedures to measure educational quality. Depending on the country, accreditation of online programs may be voluntary, mandatory, or non-existent. There are a number of types of accrediting bodies, including the following:

- Government agencies. Examples include the Australian Government Department of Education and Training Tertiary Education Quality and Standards Agency (TEQSA) or the United Kingdom's Office for Standards in Education (Ofsted) (Australian Government Department of Education Training Tertiary Education Quality and Standards Agency, 2017; Government of the United Kingdom, 2021).
- National accreditation organizations. These often are independent, private, not-for-profit organizations and include Quality Assurance Commons or Quality Matters; the Distance Education Accreditation Commission (U.S.); the Association of Universities and Colleges of Canada (AUCC); the American National Standards Institute (ANSI); and the International Accreditors for Continuing Education and Training (IACET). These national organizations often, but not always, operate transnationally, too (QA Commons, n.d.; Distance Education Accreditation Commission, 2022; Quality Matters, Virtual Learning Leadership Alliance, and Digital Learning Collaborative, 2022, 2023; CanadaEdu, 2021; Association of Universities and Colleges of Canada, n.d.; American National Standards Institute, 2023; International Network for Quality Assurance Agencies in Higher Education, 2022).
- Regional accreditation agencies. Examples include the Arab Network for Quality Assurance in Higher Education (ANQAHE, n.d.); Asian Association of Open Universities (AAOU, 2022); the European Association for Quality Assurance in Higher Education (ENQA, 2022); the African Council for Distance Education (ACDE, 2022); and the Caribbean Area Network for Quality Assurance in Tertiary Education (CANQATE, 2021) (See Figure 19.2).
- Transnational accreditation organizations.
 These include the International Network for Quality Assurance Agencies in Higher Education (INQAAHE, 2022) and the International Council for Open and Distance Education (ICODE, 2020).

19.3.2 The Accreditation Process

Accreditation is an extensive, multidimensional, and lengthy process that occurs regularly after a fixed number of years, depending on the requirements of the accrediting body. The accreditation process is guided by examination of a set of standards to ascertain the degree to which a distance-based institution or program is adhering to these standards. This presupposes that distance programs are guided by a set of standards and that these standards have been communicated to all those involved in the design, management, instruction, and technical support that are part of the program.

Accreditation also assumes that the distance education program itself, or the larger educational institution within which it is housed, has an established monitoring and evaluation (M&E) system that gathers data on those standards. And it assumes that the systems for data collection, data management, and reporting are simple and efficient. M&E systems are particularly important for projects seeking to assess changes over time, as is the case with assessing learning outcomes (UNESCO Institute for Lifelong Learning and Commonwealth of Learning, 2021, p. 53).

Peer review lies at the core of the accreditation process for institutions of higher education (Distance Education Accreditation Commission, 2022). Peer review bodies, such as the national, regional, and international organizations mentioned on this and the preceding page, and peer review processes are inseparable from accreditation. The peer review process allows institutions to be evaluated by other education professionals working in the same fields who understand the requirements and demands from a shared perspective, and who can suggest remedies and supports. It provides checks and balances from within the higher education or online learning fields, so distance education programs have an opportunity to make any changes necessary to meet learners' educational goals (Distance Education Accreditation Commission, 2022, p. 7).

However, as with any group composed of human beings, and processes driven by human beings, peer reviews can be susceptible to subjectivity, potential conflicts of interest, human error, or bias. Thus, accreditation processes and procedures must be carefully designed to safeguard the integrity and quality of institutional and program reviews. They can do this by incorporating four primary features: (1) transparency in requirements, standards, and findings; (2) multiple layers of review by different evaluators; (3) extensive safeguards against conflicts of interest; and (4) mechanisms for due process afforded throughout the process (Distance Education Accreditation Commission, 2022, p. 11).

Although the exact monitoring and assessment system varies among accrediting bodies and peer reviews, the process of accreditation typically involves the following:

- Data from multiple sources. These data can include indicators by which standards are measured, graduation rates, course enrolments, learner course satisfaction surveys, or completion rates for online courses. Data may be gathered from interviews with distance instructors, distance learners, course designers, and other relevant personnel, and, in particular, systematically collecting and analyzing learner feedback as a core component of academic QA mechanisms (Hope, 2006). The blend of quantitative and qualitative information enhances data quality and ensures that the full range of issues and concerns that are likely to emerge during an evaluation study are captured (UNESCO Insititute for Lifelong Learning and Commonwealth of Learning, 2021, p. 53).
- Self-study/self-examination. This is often (but not always) a yearlong process in which the distance learning program or institution assesses the degree to which its work is characterized by the practices articulated in the accrediting body's standards for accreditation. The output of the self-study is a School (or Program) Improvement Plan.

• On-site visitation. For dual-mode institutions or hybrid distance programs, on-site visits are undertaken by an external team of peer reviewers who determine the extent to which a learning institution or program meets the standards for accreditation by reviewing evidence, interviewing personnel, and conducting observations of distance learning-related activities. Representatives of the accrediting agency develop a written evaluation report for the program or institution, describing strengths and recommendations for improvement in terms of the standards for accreditation.

· School/Program Improvement Plan.

An improvement plan outlines goals, strategies, and action steps to improve the quality of education offered. Ideally a school improvement plan is undertaken collaboratively with all distance education stakeholders. Through annual reporting, the distance education entity assures the accrediting agency that it is addressing identified needs in a timely fashion.

19.3.3 Benefits of the Accreditation Process

Formal accreditation is expensive, time-consuming, and often fraught, especially when institutions or distance programs fail to meet required standards. It is also extraordinarily valuable for several reasons.

First, accreditation communicates quality to learners, institutions, the public, the government, and potential employers. It provides assurances that an education program or online learning program has met established standards necessary to produce graduates who have achieved stated learning outcomes and are ready to enter the global marketplace.

Second, if taken seriously—as opposed to being a simple compliance exercise—the self-study and formal evaluation process can assist in program improvement by equipping distance education leadership and stakeholders with the ability to identify and address challenges in their

learning environments and to build local capacity to qualitatively improve their distance education offerings.

Third, if the QA system in place offers ongoing training, capacity building, and support, then the accreditation process can catalyze improvements in the individual and collective capacity and qualifications of distance instructors and leaders of distance programs.

Fourth, accreditation by a respected accreditation agency—not all accreditation agencies are equal—confers the imprimatur of quality and excellence on a distance learning program. This is important not only for distance learners but also for those who design, manage, and instruct in distance programs.

Finally, to return to the beginning chapters of Section II of this guide, good teachers matter. The purpose of any distance education program is to ensure that its graduates or participants embrace excellent teaching. A systematic focus on quality is a positive step in making this goal a reality.

19.4 Conclusion

If there has been a throughline in Section II of this distance education guide, it is that quality matters—distance instructors must be highly qualified; distance courses must be designed according to recognized standards; and the teaching and learning activities of distance courses must be steeped in standards-based practices. Quality must be defined, implemented, and measured in all modes, models, and methods of distance education.

Distance education, like educational technology in general, is a constellation of commercial hardware, software, course management systems, personalized "solutions," and service providers, all of whom lay claim to having the highest-quality digital tools, courses, approaches, or media. This quality imperative is even more

critical given the increased globalization of higher education; the commercialization, globalization, and massification of distance education; and the expansion of various forms of distance education, particularly hybrid and online learning, largely as a result of the COVID-19 pandemic. Donor-funded education projects, virtual and hybrid universities, single- and dual-mode universities, and teacher training institutions should embrace, address, and explicitly design quality inputs and processes as part of any distance learning program. In many countries, universities and teacher training institutions are under extreme financial duress; nonetheless, they must be cognizant of their role as degree-granting institutions and adhere to exacting standards.

Donor-funded education programs—particularly those that employ a variety of distance modes and are often tasked with upgrading the skills of a country's teaching force—must design, deliver, instruct, and evaluate distance learning programs, based not on their instincts of what constitutes quality, on political expediency, on past practices, on complacency, or on groupthink. Rather determinations of quality must be based on recognized, reliable, and valid national or international standards of distance teaching, design, and content development, such as those mentioned in this chapter as well as in Chapters 8, 9, 11, 12 and 13.

Finally, technology companies offer distance learning and technology-based "solutions" to improve teaching and learning. They often benefit directly from taxpayers—via public-private partnerships with governments or educational agencies, via multilateral or bilateral donor agencies, or via subscription and licensing fees. This confers on them a moral imperative to build their products according to recognized QA standards based on evidence about what works best in teaching and learning. They should use learning sciences research information to inform continuous improvement throughout their product development so distance educators are confident that the products' purpose will match the learners' needs (Van Nostrand et al., 2022, p. 21).

The attraction of distance education for many stakeholders is that it offers education at scale. In these economies of scale, where governments, donor agencies, technology vendors, and universities search for the lowest-cost solutions, the risk is that large-scale distance education providers drive out small-scale ones, and poorquality courses force out high-quality courses, with teachers and students suffering as a result. A quality assurance system that is rigorously developed, maintained, and implemented can serve as a bulwark against this threat.

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References

African Council for Distance Education. (2022). African Council for Distance Education. Quality Assurance. https://acde-afri.org/

American National Standards Institute. (2023). We Facilitate Standardization Solutions. American National Standards Institute. https://ansi.org/

Arab Network for Quality Assurance in Higher Education. (n.d.). *Arab Network for Quality Assurance in Higher Education*. Arab Network for Quality Assurance in Higher Education. http://www.angahe.org/index.html

Asian Association of Open Universities. (2022). Asian Association of Open Universities. Asian Association of Open Universities. https://www.aaou.org/

Association for Educational Communications and Technology. (2012). AECT Standards, 2012 version. https://www.aect.org/docs/AECTstandards2012.pdf

Association of Universities and Colleges of Canada. (n.d.). Study in Canada. Association of Universities and Colleges of Canada. https://studying-in-canada.org/association-of-universities-and-colleges-of-canada/

Australasian Council on Open, Distance and e-Learning. (2017). Threshold Standards for Online Learning Environments. ACODE. https://www.acode.edu.au/pluginfile.php/1530/mod_resource/content/1/ACODE_TSFOLE_draft_1.2.pdf

Australian Government Department of Education Training Tertiary Education Quality and Standards Agency. (2017). Quality Assurance of Online Learning Toolkit. TEQSA. https://www.teqsa.gov.au/

Belawati, T., & Zuhairi, A. (2007, March). The practice of a quality assurance system in open and distance learning: A case study at Universitas Terbuka, Indonesia. *The International Review of Research in Open and Distance Learning, 8*(1). https://www.irrodl.org/index.php/irrodl/article/view/340

CanadaEdu. (2021). CanadaEdu. Online Degree in Canada. https://www.canadaedu.in/online-degrees/

Caribbean Area Network for Quality Assurance in Tertiary Education. (2021). CANQATE. http://canqate.org

Commonwealth of Learning. (2016). Guidelines for Quality Assurance and Accreditation of MOOCs. Commonwealth of Learning. http://hdl.handle.net/11599/2362

Digital Promise. (2022). Evaluating Studies of Ed-Tech Products. Digital Promise.

 $\underline{https://digitalpromise.org/wp-content/uploads/2016/04/DP_EvaluatingTheResults.pdf}$

Diliberti, R. (2018). Assessing Quality: Teachers' Perceptions of State Virtual School Courses. Doctoral dissertation, Oakland University. https://www.proquest.com/openview/50755657e4371f47f36f7feabba7ac66/1

Distance Education Accreditation Commission. (2022). *The DEAC Handbook*. Distance Education Accreditation Commission. <a href="https://www.deac.org/Seeking-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Accreditation/The-DEAC-Acc

Education Quality Outcome Standards. (2018). *Quality Assurance Standards Framework and Outcomes Metric*. Education Quality Outcome Standards. https://img1.wsimg.com/blobby/go/fd25bcaa-0dca-4fc5-96bc-30c8ae4e5867/Quality-Assurance-Standards-January-2018(3).pdf

European Association for Quality Assurance in Higher Education. (2022). European Association for Quality Assurance in Higher Education. European Association for Quality Assurance in Higher Education. https://www.enqa.eu/

European Commission. (n.d.). The Bologna Process and the European Higher Education Area. European Education Area: Quality education and training for all. https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/bologna-process

Garrett, R., Simunich, B., Legon, R., & Fredericksen, E. (2021). CHLOE 6: Online Learning Leaders Adapt for a Post-Pandemic World, The Changing Landscape of Online Education, 2021. Quality Matters. https://www.qualitymatters.org/qa-resources/resource-center/ articles-resources/CHLOE-6-report-2021

George, N., Donovan, C., Plimmer, G., Schmidt, A., Gatsha, G., & Clarke-Okah, W. (2014, June). *Handbook for the Commonwealth of Learning Review and Improvement Model*. Commonwealth of Learning. https://oasis.col.org/colserver/api/core/bitstreams/ecbf898b-9177-4944-9ac1-cc8f51aa3fb3/content

Government of the United Kingdom. (2021, December 24). *Policy paper: Accreditation for online education providers*. Government of the United Kingdom. https://www.gov.uk/government/publications/accreditation-for-online-education-providers

Guri-Rosenblit, S. (1997). Quality assurance procedures at the Open University of Israel. In A. Tait, *Quality Assurance in Distance Education: International Case Studies* (pp. 29-41). Vancouver, Canada: The Commonwealth of Learning.

Hamdan Bin Mohammed Smart University, I. C. (2022). The Benchmarking Framework for Online, Open, Smart, and Technology-Enhanced Higher Education. The Benchmarking Framework. https://benchmarking.hbmsu.ac.ae/

Horn, M. (2021). A New Accountability Model for Alternative K-12 Schools. American Enterprise Institute: https://files.eric.ed.gov/fulltext/ED616583.pdf

International Accreditors for Continuing Education and Training. (n.d.). International Accreditors for Continuing Education and Training. International Accreditors for Continuing Education and Training. https://www.iacet.org/

Distance Education for Teacher Training: Modes, Models, and Methods

International Council for Open and Distance Education. (2020). *Knowledge Center*. International Council for Open and Distance Education. https://www.icde.org/knowledge-centre/

International Network for Quality Assurance Agencies in Higher Education. (2022). International Network for Quality Assurance Agencies in Higher Education. International Network for Quality Assurance Agencies in Higher Education. https://www.inqaahe.org/

Leahy, M., Thielsen, V., Millington, M., Austin, B., & Fleming, A. (2009). Quality assurance and program evaluation: Terms, models, and applications. *Journal of Rehabilitation Administration*, 33(2), 69-82. https://digitalcommons.usu.edu/sped_facpub/201/

Learning Forward. (2022). Standards for professional learning. Learning Forward. https://standards.learningforward.org/

Manitoba Remote Learning Support Centre. (2020). Manitoba Remote Learning Framework. Manitoba Remote Learning Support Centre. https://www.mbremotelearning.ca/ files/ugd/d14545 682a66230aa24fa29bcebb8a8c7630a0.pdf

Marshall, S. (2007). Report on the E-Learning Maturity Model Version 2.3 Capability Assessment of 2 University of the South Pole. Confidential Report. http://e-learning.geek.nz/emm/documents/example/20071115 2.3 Detail Report USP Core.pdf

Martin, F., Polly, D., Jokiaho, A., & May, B. (2017). Global standards for enhancing quality in online learning. *Quarterly Review of Distance Education*, 18(2), 1-10.

Moon, B., Leach, J., & Stevens, M. (2005). Designing open and distance learning for teacher education in Sub-Saharan Africa: A toolkit for educators and planners. World Bank. http://oro.open.ac.uk/8401/1/teacher-education-toolkit_may13.pdf

Morville, P. (2004). Users' Experience Honeycomb. Dane Wesolko.com.

https://danewesolko.medium.com/peter-morvilles-user-experience-honeycomb-904c383b6886

Online Learning Consortium. (2020). OSCQR Course Design Review. OLC Quality Scorecards Suite.

https://to.onlinelearningconsortium.org/qs-oscqr/

Open University of Israel. (n.d.). Facts and Figures. Open University of Israel. https://www.openu.ac.il/en/about/pages/facts.aspx

Perraton, H. (Ed.). (1993). Distance education for teacher training. Routledge Press.

QA Commons. (n.d.). Employability Framework. QA Commons. https://theqacommons.org/

Quality Matters. (2020). Emergency Remote Instruction Checklists. Quality Matters.

https://www.qualitymatters.org/qa-resources/resource-center/articles-resources/ERI-Checklist

Quality Matters, Virtual Leadership Alliance, and Digital Learning Collaborative. (2023). *National Standards for Quality Online Learning*. National Standards for Quality. https://www.nsqol.org/

Quality Matters, Virtual Learning Leadership Alliance, and Digital Learning Collaborative. (2022).

National Standards for Quality Online Programs. National Standards for Quality Online Programs.

https://www.nsqol.org/the-standards/quality-online-programs/

Quan-Baffour, K., & Akwasi, A. (2018). Quality assurance through experiential learning in a distance education context: The views of major stakeholders. *Turkish Online Journal of Distance Education*, 19(3), 15-23. https://doi.org/10.17718/tojde.444607

Quesenberry, W. (n.d.). WQ Usability. Using the 5Es to understand users. https://www.wqusability.com/articles/getting-started.html

Reid, K., & Kleinhenz, E. (2015). Supporting teacher development: Literature review. Camberwell, Australia: Australian Council for Educational Research.

Santally, M. (2016). An Evaluation of the African Leadership in ICT Programme from a Quality Assurance Perspective. European Journal of Open, Distance and E-learning, 19(2), 114-128. https://files.eric.ed.gov/fulltext/EJ1138166.pdf

Southern Regional Education Board. (2016). Standards for Online Professional Development. Southern Regional Education Board. https://www.sreb.org/sites/main/files/file-attachments/04t04-standards_online_prof_dev.pdf

United Nations Educational, Scientific and Cultural Organization Institute for Lifelong Learning; Commonwealth of Learning. (2021). *Guidelines on open and distance learning for youth and adult literacy.* Hamburg, Germany and Burnaby, British Columbia, Canada: UNESCO Institute for Lifelong Learning and Commonwealth of Learning.

United States Department of Labor. (n.d.). Consumer Price Index Inflation Calculator. U.S. Bureau of Labor Statistics. https://www.bls.gov/data/inflation_calculator.htm

Van Nostrand, P., Noakes, S., Shah, Z., & Luna, L. (2022, February). An overlooked indicator of edtech quality: The use of learning sciences research. Digital Promise. https://doi.org/10.51388/20.500.12265/150

Western University. (2018). eLearning Toolkit. Western University. https://elearningtoolkit.uwo.ca/

Zuhairi, A., Raymundo, M., & Mir, K. (2020). Implementing quality assurance system for open and distance learning in three Asian open universities: Philippines, Indonesia and Pakistan. *Asian Association of Open Universities Journal*, *15*(3), 297-320. https://doi.org/10.1108/AAOUJ-05-2020-0034

