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Assuring quality in online learning

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Abstract

The pervasive nature of online learning worldwide necessitates the creation, administration, and improvement of quality assurance mechanisms for higher education institutions. This article delineates a number of principles regarding features of high quality online learning systems and principles related to assessment of student learning, teacher quality measurements, and course and program evaluations. An overview of select world-leading online learning universities, leading standards for online learning systems, some important players providing services regarding online learning and quality assurance, and an extensive further reading list are provided.

1. Introduction

Online learning (OL) environments continue to evolve within and outside of institutions of higher education all over the world. EDUCAUSE, a US-based organization, reports annually on the growth of higher education OL worldwide with a particular emphasis on teaching and learning and notes that matters of quality continue to be important year after year. A keynote address and this corresponding paper concerning quality assurance was requested by the organizers of the 2021 ICETOL conference in Turkey. The discussion and nearly all resources within this article are from institutions and endeavors in multiple countries where English is very widely used with all the many limitations that this implies.

Adequate Quality Assurance (QA) is frequently and self-evidently missing from many efforts at OL all over the world. Frequently online courses and even entire programs reflect learning design mistakes that are readily apparent to experienced learning designers and also noticed by students exposed to these insufficient efforts to advance their learning.

The author experienced some of these dilemmas as a learner when enrolling in some not-to-be-named institutions to take online courses. In one case the overload of work that was assigned in the course was a clear indication that someone in that university clearly thought that the only way to assure others that learning outcomes were the same as face-to-face (f-2-f) environments was to pile the work even higher on these students at a distance from the university. Any protestations that the course was not as rigorous as its f-2-f counterpart could be quickly extinguished by showing that in fact, it was more rigorous. But this clearly cannot be the way forward in assuring quality in online learning.

This article reflects on a series of matters related to QA in OL. Many of these reflections grew out of my own experiences as a learner and as an experienced professor who has taught a wide-array of courses over

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many years in f-2-f, distance, and online formats. In some cases, I taught the same course in at least two of these formats – occasions that called for substantial redesign of the course in question before it was well suited to its new format. My thoughts also reflect longtime experience as an evaluator of educational programs and learning environments including creating, promulgating, and educating others about learning standards in varied subjects as well as judging learning quality within both programs and across institutions. Extensive involvement in issues related to creation, analysis, and use of tests and measurements has deepened my wariness towards many educational claims based on dubious evidentiary bases as well as clarified principles regarding assessment, human behavioral responses to assessment, and institutional responses to measurement both in principle and in practice.

2. Important Presumptions about Online Learning

When we say the words quality assurance, it reminds us of the task at hand but also raises key questions – what do we mean by quality? how do we know that what is being delivered is of quality? and just exactly how much quality does it display? Since quality connotes the degree or grade of excellence to be assigned, it involves data, human judgment, as well as sensitivity to relevant contexts.

Assurance carries with it the idea that there is someone – to be determined – who cares about the quality enough to want to know something about it. Quality only is assuring if it puts the mind at rest and distinguishes doubt. Assurance informs the recipient in a positive manner about the goods or deeds in question. There are often multiple audiences seeking assurance with frequently competing needs, desires, or objectives – not all of which are transparent. In terms of OL, these audiences could include students, professors, department heads, heads of institutions, government officials, corporations and nonprofits who employ the people engaging in OL, and the public at large (in respect to public institutions of higher education). QA is therefore frequently carried out in situations with less than perfect knowledge about who wants to know, why they want to know, and what they intend to do with the information they are given. With this wider context for QA in mind, we can consider a series of important presumptions that should be held about OL as it relates to QA matters. The following brief list highlights some important but not exhaustive presumptions:

1) Hold online learning to the same standards and analogous types of evidence as f-2-f in terms of student learning outcomes and results and NO HIGHER. Not infrequently, the exact opposite of this statement occurs as people are deluded into thinking that OL should solve problems that are evident in f-2-f learning by going beyond it. On the other hand, there are those that harbor deep suspicions about OL and wish to derail its progress on philosophical grounds alone – despite any evidence. Neither view should reign supreme. There is ample experience worldwide to suggest that learners benefit most by having a choice of learning environments since human beings learn in many different ways both as individuals and in groups. There are no a priori reasons why OL should be treated differently from a QA perspective than that of other learning environments in terms of its necessity. The kinds of evidence that is amassed in the respective QA process across diverse learning environments will inevitably differ but the standards to which we hold student learning should be identical.

2) Meaningful online learning should be happening at the credential, course, and program level across an entire institution. Too often meaningful OL is limited to a particular program, a particular course, or a particular credential. Our goal should be to ensure that ALL OL is meaningful to its intended audience(s) and it should be meaningful consistently across multiple teachers, topics, and programs within the same institution. Whether OL is being used for the benefit of students, staff, professors, or the public at large, it should always be designed in such a manner as to be meaningful to its intended recipients.

3) Learning is so complex that its completeness can never be fully measured, thus all data is illustrative rather than definitive. Human learning is incredibly complex and no matter how we assess it, our best efforts cannot capture its duration, depth, breadth, application, and growth in its entirety. Instead, we should think of our measurements as collectively providing glimpses of learning that are illustrative and illuminating rather than definitive or exhaustive.

4) Margins of error occur in measurement and evaluation systems and should be factored into any decisions made on the basis of such measurement or evaluation. An important and foundational principle of metrology, the science of measurement, is that there are margins of error no matter how exquisite and precise the measurement tool. This is even true for exacting weights and measures overseen by the National Institute of Standards and Technology (NIST) in the USA and its worldwide counterparts. It is even more true for the behavioral and social (human) sciences when we are trying to measure different types, levels, and degrees of human learning. The science of measurement continues to create new tools that help us in this important venture but the very best of the best still contain variance in results – even when measuring the same thing over and over. This should breed humility on both the part of those doing the assessing and those who are the recipients of such assessments – whatever they may be measuring.

5) Exact answers in quality assurance are costly; proximate measures are sufficient for most QA in OL purposes. Too much time is spent in many enterprises deriving exactitude in measurement when for many practical decisions that must be made, an exact answer is not required. This obviously holds true for things like building atomic bombs as the Nobel Prize winning physicist Enrico Fermi was famous for both noting and practicing in his calculations, but it holds true for many areas in human life. An answer that is approximately 75, 80, 85, or 90 percent correct is often more than sufficient for an informed decision to be taken. Getting to the next ten, five, or one percent depending on the starting point can turn out to be a return on investment (ROI) that just doesn't make sense in the situation. So good QA systems state how good the measurement needs to be in order to be acceptable for the uses for which it is intended. This principle also applies to situations where you are making decisions about a group and an exhaustive examination of each member of the group is completely unnecessary as annual surveys by Gallup, NORC, and other organizations that produce surveys as their core business fully realize and act upon. When a well-known polling organization says that XX percent of the world's population believes YYY, we all know this is based on a carefully drawn sample of the world's population, but it is sufficient to give us a known degree of confidence in the results. If we need even further assurance, we can read the technical report that accompanies such a survey and understand even more precisely what the results do and do not mean.

6) Clear online course development requirements for all faculties are vital and should include agreed upon standards of quality with annual updates. Some variation from teacher to teacher in higher education is inevitable. Yet there needs to be boundaries for human variation within systems if the intent is to produce graduates with certain guaranteed capability, knowledge, and skills. Articulated standards for the development of OL courses is imperative to maintain a sufficient and dependable level of quality across the enterprise. OL institutions that were set up this way from their commencement have always seen the need to engage in such efforts because the reputation of the institution itself is on the line if too much variance is permitted to exist. Furthermore, standards ensure that no development steps are forgotten or diminished and that both the highly skilled and experienced teacher and the novice teacher are always working towards and achieving the same exact course standards – albeit with plenty of room for individuality to express itself.

7) Student evaluations of both their learning experiences and tuition (teaching) should be longitudinal in character rather than near-term, one-time affairs. Institutions should always be

concerned about the long-term prospects and achievements of their graduates and not just what initially gets registered in a single course. Furthermore, some things which students need to acquire and in which they must become proficient to a high standard, cannot be mastered in a single course or in a single year. Many institutions are now using portfolios of student work, some of which is revisited and further revised across their students' journeys within a program of study, as one way in which to take a more longitudinal (developmental) view of student learning that goes beyond a single week, month, or year.

8) Institutions and teachers within them must take responsibility for ALL students' learning. Too often we have placed the responsibility for learning almost entirely on the student and resisted efforts in higher education that seek to hold the individual professor equally accountable for the learning of their students. In some programs in fact, failing students is taken as a mark of excellence and rigor of the program when it should be seen as a failure to design courses in a way that enhances student learning no matter how initially "hard" the subject matter is believed to be. Schools that have taken this message to heart have clearly demonstrated that many more students can succeed if we create the right conditions for such success to be realized. We also know from tracking individual students that most students who fail out of one university program frequently achieve marked success in another program which an independent observer might consider to be equally difficult to master. Institutions that take this presumption to heart end up with both happier students and happier, more wholesome professors.

9) Learning design within courses and programs should be transparent, constantly adapted in light of ongoing data collection, and continuously improved. Caveat: Learning design is itself a highly refined, scientifically-based set of methods that require skill in their proper application to various content and contexts. Many institutions have now realized that learning design is itself a highly specialized profession that requires advanced knowledge, experience, and skills. AECT, the leading global professional organization for learning designers, has grown in membership over the years as learning designers contribute positively to organizations and institutions across all sectors of society. Institutions at the forefront of OL not surprisingly have large numbers of individuals who are skilled at learning design – derived either as part of their formal educational preparation or picked up on the job through tutelage from experienced learning designers who love to share their expertise and help professors continuously improve their course designs and their repertoire of instructional techniques.

10) Learning can be purposefully synchronous, asynchronous, a blend of synchronous and asynchronous, discontinuous or intermittent, and/or spread over a long period of time (months or even years). There is no one single way for human beings to learn and this includes within the OL environment. A quick scan of many different universities reveals that courses are designed in dramatically different ways, spaced out in entirely different manners, and increasingly designed with specified audiences in mind. The same exact "course" can be offered in dramatically different forms and configurations to suit different audiences and with equally effective results. Some of this inventiveness takes time to develop as one of the principles of learning design is to design, test, adapt, check, redesign, etc., in iterative manner until the required results are obtained.

3. Select Principles of Human Performance Assessment

At the core of QA is data that is collected actively, passively, or in a variety of ways from students, professors, employers, and other parties. Much of this data is utilized for the purpose of assessing some desired learning outcomes. It provides evidence of different kinds that bears on the achievement of the articulated outcomes that are sought. So just as there are presumptions about OL, there are also underlying principles of human performance assessment which need to be evident within any QA system within an

institution. Better understanding and more fully applying these principles in all the various situations in which they apply can alter the behaviors of those doing the assessment as well as those who are being assessed. It also raises the level of discourse within an institution about assessment matters because in a most fundamental manner – assessment really does and should matter to everyone.

The following list of principles is once again not exhaustive but sufficiently illustrative to help us understand why thinking more about assessment principles can improve our understandings and approaches to QA, make us both more welcoming of its findings over time, and enable critiques of naïve attempts to apply QA in inappropriate ways. With these caveats, here are some principles of human performance assessment with brief commentary:

1) Repeated measures matter. Repeating a measurement helps establish its reliability. One-time "snapshots" of performance could be anomalies, but we can only rule this out if we have more frequent and spaced observations on which to rely. If our goal is to have all students reach a particular learning standard, we should give all students multiple opportunities to provide evidence that they have attained that standard. We should banish the "one time- then done" mentality which often afflicts even institutions supposedly dedicated to advancing human learning.
2) Favor frequencies over attitudes (both are important). Attitudinal data should always, when possible, be complemented by frequency data which tells us far more about the actions that we presume might be aligned with the attitudes that have been expressed. Knowing how often someone does something is worth far more than any expressed attitude that they strongly believe something. The old adage, "actions speak louder than words," should be plainly visible in our QA actions as well as in how we assure quality in our institutions.
3) Trend lines tell you more over time. Year-to-year changes tend to be episodic and provide less clear evidence of positive or negative directions in quality or impact than the use of rolling averages or other forms of trend line creation that track change over time, smoothing out the inherent variations in cohorts of students, different instructors, and other sources of variance within systems.
4) No one is ever a "zero;" you only know what you chose to measure – you know nothing about what you did not measure. Far too often a single test administration or evaluation is used to make a relatively permanent judgment about a student's performance or even an entire course or program. "Absence of evidence" is only very rarely the same as "evidence of absence." This is why providing alternative means of measurement or alternative indicators of performance is superior to a single measurement or evaluation approach used to the exclusion of all other possibilities. Our goal should be to constantly increase our confidence in our QA system. This can only be achieved by constant questioning of our results, deeply probing the strength of our evidence, seeking out sources of evidence that present contrary views, and welcoming reasoned and insightful dissent from those who are subjected to our measurements or evaluations.
5) The fundamental purpose of measurement is improvement not punishment. It is hard to maintain faith in a measurement system that only punishes people based on the results. This inevitably breeds corruption, malaise, rebellion, or other undesirable but entirely human responses. A quality QA system helps provide direction for ongoing quality improvements and measurable gains in efficiency, learning, effectiveness, sustainability, or other matters. It informs work to redesign our courses and programs so that more students can achieve at higher levels over time. It helps provide both impetus for and evidence of improvements in faculty teaching and the increasing capability set of our graduates.
6) All actions have effects, so be careful what you measure. It is a truism in the measurement industry that WYMIWYG – "what you measure is what you get," so be careful what you measure. As soon as a question is asked within an organization through a questionnaire or other

means, it begins to affect human behaviors. What you measure is where and on what various players within a system will then focus their attention because it sends an implicit message that these are the things that management cares about.

7) Human beings adjust their behaviors to measurement systems. Since humans are sensitive to measurements applied to their behaviors, they inevitably adjust their behaviors over time to the fundamental nature of those measurements. The easier the measurement is to measure the more readily people adapt to its presence and change their direction or actions in the manner desired. This results in quick achievement of a management-intended goal, but it frequently proves illusory since the chosen measurement is often a simple surrogate for something far more desired but vastly more difficult to measure. The push within QA systems should always be for increasingly sophisticated measurements that are more likely to spur desired higher-level and meaningful changes within the system.
8) "Data always speaks but it speaks softly and slyly" (attributed to the late Fred Mosteler, Harvard University). At the core of QA systems are reams of data that must be collected faithfully, combined correctly, understood deeply, manipulated properly, analyzed perceptively, and discussed and applied appropriately. This requires the engagement of people with advanced knowledge of statistics as well as knowledge about the social uses of information, data ethics, data privacy, cultural differences, and other issues. Much damage has occurred within universities when inappropriate attention is paid to the many aspects of data conception, collection, curation, analysis, reporting, and use.
9) People are not widgets on an assembly line. QA systems are a technological means by which organizations seek to improve themselves and also regularly report their progress to varied publics. QA efforts need to be designed and implemented in a manner that is humane and respectful of the human beings within the system being measured and evaluated. There are often good reasons for the use of exclusion rules, probationary periods, suspension of measurements, adaptation of measurements, etc., which should be regularly discussed, debated, and altered as needed to serve the purposes of the organization while continuing to ensure the overall integrity of the QA processes and system as enacted. Since QA systems are human designed artifacts, they can also be changed by human beings when situations require it for the system to achieve its intended purpose(s).
10) Learning effects are visible from almost immediately to those evident only over a much longer-term. QA systems in higher education have frequently been guilty of measuring only short-term effects of the process of education on their students and surrounding environs. A wise approach to QA will incorporate some measurements that occur over longer periods of time such as longitudinal or panel studies, regular studies of randomly selected alumni, or other means of tracking longer term returns on investment (ROIs). Vignettes of exemplars can and should also be created to be shared with appropriate audiences as part of a signaling mechanism of the worth of the academic institution within the wider community, the nation, or the world.
11) Learning effects last from ephemeral (fleeting) to those virtually permanent. Some learning is for all intents and purposes permanent in nature. Other learning effects can be captured almost immediately after they have occurred, but they are rapidly extinguished. Most learning effects are somewhere between these two extremes. Earlier principles capture some of the gains to be gleaned from studying individuals on a more extended basis. More consideration can be profitably given to capturing learning effects beyond the level of an individual course to seek evidence of impacts across an entire program of study or an entire institutional unit within the university (e.g., department, college, or larger aggregates).
12) Assessment of learning at the individual level is not the same as program or course evaluation; simply rolling up the results of individuals does not adequately measure course or program features or impacts. Institutions should expend more efforts on QA that takes account of well-

designed and executed program evaluations at the level of programs as well as for courses that are offered in multiple sections taught by multiple instructors. Some program evaluations can be competently done by other units within the institution. Sometimes an external program evaluator outside of the institution is the proper choice, especially for those that involve high-stakes, are complex, require longer-term engagement, or are socio-politically sensitive.

13) Straightforward 1-2-3 ranking systems are almost always misunderstood, misapplied, and misleading (Three "misses" in a row!). In a world now filled with rankings of systems of higher education institutions at national and international levels, it remains the case that serial ranking systems can be hugely misleading. There are many reasons that account for this problem but some of the more important ones include: 1) data is often not normalized, 2) different types of institutions are grouped together when they serve different types of students, 3) technical subjects such as engineering, the sciences, and medicine publish at a much higher rate than areas like the arts and humanities, 4) funding support for research varies widely within and across jurisdictions, and 5) intake variables vary widely across institutions. A long-running exemplar in assessing research universities is the Center for Measuring University Performance, now jointly run by the University of Massachusetts – Amherst and the University of Florida (mup.umass.edu/content/measuring-university-performance). Its annual report on the Top American Research Universities is available for the years 2000-2019. These annual reports show what a difference more thoughtful and sophisticated ranking systems can make in helping us understand institutional performance in a comparative manner.

4. Online Learning Quality Assurance among Seven Highly Experienced Universities

Now that we have overviewed some presumptions about OL and some principles about human performance assessment, we can turn to the question - where might we find exemplary QA practices regarding OL? While there are many choices available worldwide from which to choose, this paper will identify only seven examples. These examples were chosen either because they have been delivering distance learning programs for at least four decades, or because they have some unusual focus or orientation that makes their mention here worthwhile. In all cases, it would be a mistake to simply copy whatever QA processes they or others have and to transpose them fully into one's own institution. A better approach is to identify some useful processes, methods, and explanations that are employed elsewhere and to adapt them to the environment in which your institution operates. You may be drawing upon other approaches because your own QA processes need some ideas for improvements, or you are just commencing creation of a new QA system. What you adapt from these universities or others like them around the globe needs to be informed most by what purposes your QA system seeks to serve, who are the potential recipient parties for your QA results, and for what purposes are they being provided. These seven English-language institutions in Canada, UK, and the USA based on their most recent publicly available data (2021), presently serve just over 500,000 students around the world enrolled in at least one of their programs of study. They are arranged here beginning with three of the oldest distinctly distance-learning institutions (UK and Canada respectively) and then the remaining four being all well-known providers of OL based in the USA:

1) **University of London Worldwide** – With over 160 years of experience in running well-known and highly-regarded distance learning programs, ULW is possibly the most widely known and venerable provider of OL in the world. It has over one million alumni found in virtually every country on Earth. ULW currently runs collaborative programs with 11 of its 17 constituent institutions across the entire University of London system, and offers OL learning for over 100 certificates, diplomas, and full-fledged degrees. In addition, it makes available through ULW as well as directly within all 17 of its constituent institutions, the opportunity to enroll in highly-regarded PhD programs via research across virtually all subjects at the university completely at a distance or in a combined distance and f-2-f format. In 2021, there were over 50,000 enrolled

students in 180 countries below the PhD level. There is a General Prospectus 2021 available online that overviews their entire efforts as well as detailed downloadable prospectuses for each of the relevant program areas on offer. Each prospectus is quite detailed about the course design and academic content, learning outcomes, measurement techniques, timelines, learning demands, entry requirements, costs, etc.

2) **Open University, UK** – The OU is a long-running (50+ years) totally distance or online university with over 175,000 enrolled students in 2021 up through PhD programs across all areas covered by a typical research university. Many PhD students choose to relocate to the OU's campus at Milton Keynes north of London to access research laboratories, library facilities, and subject matter experts. The OU has detailed factsheets available regarding all elements of its quality assurance procedures and processes that are updated every two years including a framework for academic quality and standards, collaborative provision, student support and guidance, accountability to stakeholders, and internal review procedures. Each course and each program have detailed information for students about expectations, time demands, content, assessment procedures, materials, assignments, timelines, costs, supervision, etc.
3) **Athabasca University, Canada** – AU was originally chartered in 1970 as a traditional university; it quickly pivoted to meet evident needs and graduated its first online students in 1977. The following year it was recognized as a self-governing public university in Alberta Province that would concentrate on online and distance learning across Canada. It quickly moved to accept students from anywhere in the world. AU currently enrolls about 40,000 students annually. It offers 55 undergraduate and graduate programs including 18 master and two doctoral degrees. Its 5-year IT strategy promulgated in April 2018 is well worth a look when thinking about adequate infrastructure for OL. Additionally, its easily downloaded course development policies and course development procedures are helpful guides to inform efforts elsewhere.
4) **University of Maryland Global Campus (UMGC)** – Initially commenced as a unit of the University of Maryland at College Park focused on distance learning, it became a free-standing university on its own within the University of Maryland System of state higher education institutions several decades ago, operating as the University of Maryland University College (UMUC). It was renamed UMGC a few years ago and offers 90 degrees, specializations, and certificates including 30 undergraduate degrees, and 55+ graduate degrees, including two doctorates, to over 60,000 students annually. UMGC offers f-2-f and mixed format degrees in Adelphi, MD, and the wider Washington, DC area and at US military bases around the world, in addition to wholly OL programs available globally. It has well-established procedures for the creation, delivery, and support of OL.
5) **Penn State World Campus** – Initially a unit within The Pennsylvania State University main campus in University Park, PA, the world campus has operated for many decades and grown into a separate entity within the Penn State System of campuses offering over 150+ degrees and certificates, including 37 bachelor's degrees, 56 master's degrees, and one doctoral degree to students anywhere in the world. The PSWC enrolls about 15,000 students annually exclusively online. It is also widely used for OL coursework (but not entire degree programs) by thousands of additional students at Penn State's 24 campuses across the Commonwealth of Pennsylvania as well as external students all around the world who want to pick up some additional concentrated coursework in selected areas. Once again, it has well-established and regularly updated procedures for the creation, delivery, and support of OL.
6) **Arizona State University Online and Extended Campus** – A more recent yet significant player in online learning than the universities already profiled, the ASU online and extended campus offers over 289 programs including 134 undergraduate degrees and 166 graduate degrees, including two doctorates, to around 38,000 students annually. It will continue to rapidly

grow due to signing learning agreements with employers such as Starbucks and Walmart who offer partially or fully subsidized university educations to their workforces via ASU as well as other OL degree providers. Some programs are offered with hybrid options, and some require limited f2f learning components. ASU has invested heavily in data analytics that undergird its entire learning environments both online and at its large f2f campus in Phoenix, AZ. ASU has won national awards for its highly successful work with traditionally underrepresented learners and first-time learners in higher education – achievements impossible without the powerful learning analytics embedded within all of its educational infrastructure. Its president, Michael Crow, is well-known for his influential, sometimes controversial, but always informed views about the future of higher education in the USA and beyond which is detailed in two recent books.

7) **Western Governors University** – This nontraditional private institution was created in 1997 in response to the collective efforts of the governors of 19 states in the American West who envisioned through their Western Governors Association a university design that would feature a competency-focused approach to learning not based on seat time or courses but rather based solely on evidence of student performance. They believed that a strong focus on students already existing capabilities, knowledge, and skills would enable many residents across the American West to earn job-relevant degrees at undergraduate and master levels in the high demand fields of business, teaching (education), IT, and health & nursing. The university is agnostic about where, when, or how you learned something. In 2021 its annual enrollment was over 128,000 students and it is open to students anywhere in the world.

5. Sampling of Mostly US-Based Organizations Supporting Quality Online Learning

With the growth of OL systems in institutions of higher education worldwide and its further increase during the continuing Covid-19 pandemic, organizations founded to support OL efforts have found themselves overly busy providing help and resources to many for whom quality OL is still a distant objective. This list of providers, mostly located within the US, is given in alphabetical order with some brief synopses of what kinds of services they provide. Nearly all are open to members from around the world and a number of them regularly organize conferences, publish research studies or feature research articles, and coordinate collaborative R & D projects among multiple institutions to advance OL environments.

AECT – the Association for Educational Communications and Technology: the largest professional association in the world of learning designers, AECT members can be found all over the globe. AECT as a service organization organizes and convenes annual conferences, research symposia, webinars, and consultations. Their many affiliates organize within their own divisions additional meetings and opportunities for extended online interactions about learning design. They also have national affiliates in a growing number of nations and/or regions. AECT has a long-standing partnership with Springer and publishes numerous peer-reviewed journals, a massive one-volume encyclopedia of research now in its 5th edition (2020), and numerous Springer book series. Individual and organizational memberships are available. Members have full download free access to all AECT publications so long as they continue their membership.

Aurora Institute (formerly **iNACOL**): With a focus on K-12 schooling in the online environment, the Aurora Institute organizes and convenes symposia and provides numerous resources through its Center for Policy, *Competency Works*, and Action Research Center.

Council for Adult and Experiential Learning (CAEL): CAEL has for many years focused on the adult learner – work environment interface. It sponsors an annual conference and provides practical advice and solutions through various programs including *Work Learn Earn* solution, *Credit Predictor Pro*, *Adult Learning 360*, microcourses, webinars, industry events, and research studies. CAEL is now part of the *Strada Collaborative*, a wider entity that offers many useful resources and programs.

Digital Learning Collaborative (DLC): A federation of preK-12 school districts primarily in the US and Canada and organizations who serve them, DLC organizes and convenes an annual conference and topic-focused webinars, as well as providing publications such as its annual *SNAPSHOT*.

EDUCAUSE: Since its inception with a higher education focus, EDUCAUSE has grown into one of the largest and most active players in advancing technology applied to educational environments including but not restricted to OL. It provides a series of resources including analytics institutional self-assessment, *Learning Space Rating System* (LSRS) v.3, resources (online learning, online teaching, online course development planning), conferences, topical webinars, and *EDUCAUSE Institute Leadership & Management Programs* which helps leaders advance their knowledge and proficiencies through focused collaborative learning experiences.

Instructional Technology Council (ITC): ITC is home to the *Distance Education Leadership Academy*, a large Annual eLearning Conference, and topically-focused webinars across an array of subjects.

International Council for Open and Distance Education (ICDE): ICDE is the largest global organization focused on open and distance education and has been based in Norway since 1988. ICDE serves as both a clearinghouse for projects around the world and the organizer of various collaborative projects involving international organizations like OECD, UNESCO and other UN-affiliated organizations, major philanthropic funders, global networks, research consortia, academic institutions, and governments. Its many worthwhile resources include its *Knowledge Hub*, ICDE Projects, ICDE Publications, networks, *Open Praxis* (journal), and the ICDE Quality Review Service.

International Network for Quality Assurance Agencies in Higher Education (INQAAHE): The INQAAHE like its name indicates, is the global organization for quality assurance agencies in higher education at the ministerial level within countries and their respective national networks. The rotating Secretariat in 2021 is housed at the Catalan University Quality Assurance Agency in Spain. UNESCO was a founding partner of the organization and is active in support of the organization's continuing role. It is the preeminent source for QA matters related to higher education contexts. Its many resources include a journal, *Bulletin*, query service, good practice database, conferences and regular webinars on selected topics, *INQAAHE Guidelines of Good Practice – Procedural Manual 2018*, and the very helpful and free *Graduate Qualification in Quality Assurance* program (a set of four complete modules as free downloads for self-study, 2011).

National Council for Online Education (NCOE): NCOE is a partnership of the Online Learning Consortium (OLC), Quality Matters (QM), University Professional and Continuing Education Association (UPCEA), and WICHE Cooperative for Education Technology (WCET). Its products include regular news bulletins, announcements of partner publications, and advocacy efforts in national and state policy arenas in the USA.

Online Learning Consortium (OLC): OLC is a wide-ranging, very active federation of organizations across the USA and beyond working to advance OL with a focus on professional development of OL teachers at all educational levels. Its many resources include the *Online Learning Journal*, two annual conferences: OLC Accelerate and OLC Innovate, Founding Days, OLC Ideate – Virtual Salon Series, OLC Institute for Professional Development [Online teacher certification program, instructional designer programs & courses, Mastery series, On-demand offerings, OLC Institute badges, leadership courses, Institute for Emerging Leaders in Online Learning (annual), webinars], Research Center, Blog – OLC Insights, OLC Continuity Planning and Emergency Preparedness, Awards, *Quality Scorecard Suite*, *Quality Scorecard Navigator*, OLC Quality Scorecard Official Review, Quality Scorecard Case Studies, Quality Scorecard Endorsement, and a Speakers Bureau.

Quality Matters (QM): QM is an organization that started serving the needs of OL providers in the state of Maryland in the USA. It has grown into a national organization with a global presence by providing

resources on quality assurance (QA) in online learning, proprietary QA standards, QA training on the proprietary standards, research on quality matters in online learning, and providing external reviews of quality assurance for OL to institutions on a fee basis.

University Professional and Continuing Education Association (UPCEA): UPCEA is a US-based federation of higher education personnel responsible for professional and continuing education programs within universities. It provides a variety of services including convening the Council for Chief Learning Officers and organizing or providing the Summit on Online Leadership and Administration, UPCEA Hallmarks of Excellence in Online Leadership, Hallmarks of Excellence in Professional and Continuing Education, Hallmarks of Excellence in Credential Innovation, UPCEA Professional Development Certificates, Learning Center, Publications, and benchmarking, research, & consulting services.

Virtual Learning Leadership Alliance (VLLA): VLLA is a well-known K-12 virtual network of state virtual schools' leaders and consortia school organizations in the USA. It provides research and reports, resources, and collaborative projects by members.

Western Interstate Commission for Higher Education Cooperation for Educational Technologies (WCET): Originally focused on the Western US states alone, WCET has grown to include members in all US states and all Canadian provinces and provides resources on institutional success, policy and regulation, student success, and technology. They also organize and convene largescale events and joint initiatives and regularly publish reports and distribute annual awards.

6. Standards for Quality Online Learning

At the core of QA there must exist standards against which assessments of quality are made. Many countries have now created and promulgated standards for QA regarding OL. Only three providers of such standards are highlighted here because these are widely known and have been the basis for the creation of many others in ensuing years. All three providers have informed efforts in higher education QA for OL. They are in alphabetical order:

Quality Matters (2018). Quality Matters Standards (qualitymatters.org; now in its 6th edition).

Tertiary Education and Quality Standards Agency (2017). Quality assurance of online learning toolkit. Department of Education and Training, Australian Government. September.

Virtual Learning Leadership Alliance & Quality Matters (2019a). NSQ National Standards for Quality Online Programs, 2e (www.nsqol.org).

Virtual Learning Leadership Alliance & Quality Matters (2019b). NSQ National Standards for Quality Online Teaching, 3e (www.nsqol.org).

Virtual Learning Leadership Alliance & Quality Matters (2019c). NSQ National Standards for Quality Online Courses, 3e (www.nsqol.org).

A good QA set of standards must address the very different domains which must work together to result in a suitable, sustainable, and successful online environment for students, professors, and support staff wherever they may physically be located. The QM standards, for example, address the following general standards areas: 1) Course Overview and Introduction, 2) Learning Objectives (competencies), 3) Assessment and Measurement, 4) Instructional Materials, 5) Learning Activities and Learner Interactions, 6) Course Technology, 7) Learner Support, and 8) Accessibility and Usability. The Australian standards are organized into nine domains: 1) Leadership and Management, 2) Staffing Profile and Professional

Development, 3) Review and Improvement, 4) Resources, 5) Student Information and Support, 6) Student Experiences, 7) Curriculum Design, 8) Assessment and Integrity, and 9) Learning Outcomes.

These standards are entirely consistent with the QA processes in place in the seven exemplary distance learning universities profiled earlier. What specific QA standards for OL in your institution need to be is an issue that can only be answered by informed insiders of the organization working in concert with representative players from the constituencies that you intend to serve both now and in the future. You do want to ensure that administrators at all levels understand the systemic nature of support systems for effective OL and that success usually requires adaptations of existing platforms, continuous evolution of IT systems and support, and other changes that the OL environment absolutely requires to be successful. The 5-year IT Strategy document from Athabasca University mentioned previously is highly informative on some relevant matters.

7. Conclusion

Effective OL for all requires a sustained commitment from many parties with the intended beneficiaries of such endeavors kept front and center at all times and directly involved in the creation and revision processes. Quality assurance is a vital component of any effective distance learning effort. It is always a continuing effort where tomorrow can be better than today. Institutions that have provided quality OL for decades do so because they have understood thoroughly the nature of their endeavor and the need to constantly improve their efforts. QA only works as intended if there is substantial buy-in to all that it requires in terms of data, engagement of experts with differing expertise, dialogue, debate, reframing, recentering, and resourcing (human, technological, and fiscal). These brief thoughts are intended to aid you on your continuing journey towards excellence in OL. The references have been carefully selected from current offerings to further expand and inform the horizons of your own efforts moving forward.

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