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E-learning Quality Standards for Consumer Protection and Consumer Confidence: A Canadian Case Study in E-learning Quality Assurance

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ABSTRACT

Emerging concerns about quality of e-learning products and services animated a project in Canada to create quality standards that derived primarily from the needs of consumer, that could be used to guide the development and choice of e-learning at all levels of education and training, and that could be implemented in a simple manner. A set of quality standards were created to reflect best practices in learning technologies, distance learning, and student-centred learning. The standards, first labeled the Canadian Recommended E-Learning Guidelines, are now available in the Creative Commons as the Open eQuality Learning Standards. To implement the standards, two tools were created: a Consumer's Guide to E-learning and a certification mark — the eQcheck quality mark — to indicate that e-learning courses, modules, and programs, and elements of them, meet those quality standards. The purpose is to provide consumer confidence in the e-learning enterprise and consumer protection for the investments made by individuals, agencies, and entire governments. This approach, a Canadian case study in e-learning quality assurance, differs substantially from other e-learning quality initiatives, making a unique contribution to the e-learning quality assurance dialogue.

Keywords

Quality standard, Consumer-based quality assurance, Quality mark, E-learning quality, Quality certification

Introduction

This article describes an approach to e-learning quality assurance that originated in Canada. As the e-learning enterprise began to develop in Canada, it was recognized that quality would be an issue for both providers and consumers of e-learning products and services. This article, then, sets out the rationale for this project, the process that was followed in creating the Canadian Recommended E-learning Guidelines, the underlying concepts and principles, the actual standards, and the approach taken to implementing them — a Canadian case study in e-learning quality assurance aimed at the global e-learning enterprise.

The global e-learning enterprise

E-learning is one of the primary new products/services in the global knowledge economy. Worldwide, businesses and public-sector agencies are producing and marketing e-learning products/services in a very competitive marketplace; and on a global basis, individuals, corporations, and governments are using e-learning products at an increasing rate. Current estimates by Industry Canada indicate that there are more than 5,000 companies worldwide engaged in online learning. Brandon-Hall determined that the e-training industry in the US would grow to US$83.1 billion by 2006. In Canada in 2002, students could access 66,107 courses from 36 countries or 1,952 institutions.

For all these courses and institutions, there was no quality assurance mechanism to protect consumers and students (Barker, 2003; Parker, 2004). Although many prestigious education institutions and businesses began to provide e-learning, there was and is no discernable or defensible connection between the institution's reputation and the quality of the e-learning. The development and marketing of e-learning has become an enterprise that is continuously changing and which is totally unregulated.

For purposes of this quality assurance initiative, the term e-learning is used to mean learning using both a computer and the Internet. E-learning products or services take various forms. They may be single courses and/or entire programs; entire courses and/or course units, lessons, or components; or elements of an e-learning package, for example, a learning management system. The e-learning may be offered for credit at an education institution and/or for general interest without credit, aimed at individuals or entire groups in classes, aimed at specific age groups and/or any age group, and offered by public and/or commercial education and training agencies.

Consumers of e-learning may be individual students, schools boards, education and training departments of governments, and corporations. Providers may be publicly-funded schools, universities, and colleges, or they may be private enterprises producing portions of e-learning from content, design, and production, the delivery and management of learning, and/or the management of students. From the purchaser's perspective, the e-learning service may be very expensive or free of charge; really effective or of questionable quality. Both providers and consumers of e-learning want education and training products and services that are effective and efficient (Barker, 1999). The term quality is used to encompass these concepts; however, the defining and measuring quality in e-learning presents an ongoing dilemma (Abrioux, 2004; Parker, 2004).

With these basic premises, e-learning experts in Canada and from the Commonwealth of Learning began the process of creating a quality assurance mechanism for e-learning, a project that culminated with a full set of standards of excellence in e-learning endorsed by the e-learning community in Canada. The standards, originally labeled the Canadian Recommended E-learning Guidelines (CanREGs), have subsequently been launched in the global e-learning community as the Open eQuality Learning Standards, with the addition of ePortfolio Quality Standards (Barker, 2004). These market-oriented quality standards are important for two significant reasons. First, they help purchasers, through criteria and standards, to make appropriate e-learning choices in order to maximize return on their investment. There are vast numbers and types of e-learning opportunities available to students, options that are highly variable and totally unregulated in terms of price, utility, and quality. Second, they help those who develop and offer e-learning. Colleges, universities, and private enterprise need quality standards and certification in order to meet consumer expectations and to sustain the e-learning enterprise worldwide. Formal e-learning standards, including technical and interoperability standards, assist developers in the same way; they do not provide the same customer protection regarding learning outcomes and utility.

Development of the e-learning quality standards

The Open eQuality Learning Standards (OeQLs) are based on best practices and research in distributed learning and learning technologies, developed through an international consultation process, and sponsored and endorsed by a number of national and international organizations. Project participants stipulated that the e-learning quality standards meet these criteria, that is, that they be:

- consumer oriented — developed with particular attention to return on investment in e-learning for learners;
- consensus based — developed through consultation with a balance of provider and consumer groups;
- comprehensive — inclusive of all elements of the learning system: outcomes and outputs, processes and practices, inputs and resources;
- recommended only — using suasion and market forces rather than legislation to ratchet up the quality of e-learning;
- futuristic — describing a preferred future rather than the present circumstances for design and delivery; and
- adaptable — best used for adult and post-secondary education and training, but adaptable to other levels of learning services.These are criteria that contribute to the unique nature of the OeQLs and the resulting quality assurance approach.

This work was an extension of the FuturEd research on Learnware quality (Barker, 1997, 1998), school effectiveness (ibid., 1998), uses of Information and communication Technologies (ICT) in international education at Canada's post-secondary institutions (ibid., 2001, 2003), return on investment in e-learning (Barker, 2005). The FuturEd approach to e-learning quality — the same process of environmental scanning, drafting of inclusive and comprehensive quality standards, consensus-based approval, and endorsement with subsequent consumers guide and quality assurance tools for informed choice — has been used in the context of national training standards (Barker, 1994), prior learning assessment standards (Barker, 1998, 2001), e-portfolio quality standards (Barker, 2004) and, most recently, learning objects (Barker, 2006).

Under FuturEd leadership, beginning in 1998 with funding from the Canadian federal government, e-learning experts in Canada began work on quality standards. To develop the consumer-based CanREGs, FuturEd undertook five steps. The first was to assemble an expert panel representing a balance of consumers and providers from seven national and international organizations, including Human Resources Development Canada (HRDC), SchoolNet (Industry Canada), and the Commonwealth of Learning. The second was an extensive literature search for both complete sets of guidelines and individual quality indicators for distance learning, education in general, and the use of learning technologies, resulting a background paper and draft standards for consultation purposes. The third step was a national consultation process, including workshops and an online workbook. The fourth step was refinement of the standards into the form of the Canadian Recommended E-learning Guidelines (CanREGs), based on consultation input, with experts from the field. The final step was the

creation of a consumers guide to e-learning based on the CanREGs — providing potential purchasers with the questions to ask in order to identify quality e-learning and make informed choices. Comparing four different methods of e-learning quality assurance, Parker (2004) notes:

> In Canada, the responsibility for education rests at the provincial, not the national, level. Each province has its own quality assurance framework or approach to determining whether post-secondary programs are eligible for student funding or to receive public money. The degree to which a province might regulate or even provide subsidies to private or for-profit educational institutions varies widely. It is fitting, then, that the Canadian example of quality guidelines originates with a private corporation sponsored by community and government-funded agencies.

In 2002, FuturEd and the Canadian Association for Community Education (CACE) produced the CanREGs. In May 2004, the CanREGs became the Open eQuality Learning Standards and a Creative Commons "some rights reserved" copyright has been transferred to the European Institute for e-learning (EIfEL) and the Learning Innovations Forum d'Innovations d'Apprentissage (LIfIA), rendering the standards "open." Responsibility for maintaining the open source standards has been assumed by a joint EIfEL — LIfIA international committee. The joint eQuality Committee plans to meet annually and focus on maintaining the currency of the learning quality standards.

Underlying principles and conceptual basis

The project to create e-learning quality standards in Canada focused on the development of consumer-based quality guidelines that:

1. described either minimum acceptability and/or excellence in the application of learning technologies;
2. took the form of statements/principles of good practice or best practices, and included all elements of the learning system;
3. were developed by Canadian consumers to reflect Canadian values and concerns, but had potential applicability to the international environment;
4. were created through a consensus-based process involving actual consumers;
5. included a method of implementation that was neither cumbersome or costly;
6. incorporated the most current thinking on the effective use of learning technologies; and
7. contributed to increasing the effectiveness and efficiency of learning technologies and Canada's learning culture.

At that time of project inception, there were no commonly accepted standards of excellence in technology-based distance learning in Canada. There was, however, a great deal of useful advice in both literature and practice specific to quality assurance in education and training; applications of technology in education and training; quality assurance in Internet information sources and online practices in education and training; and excellence in distance education, distance learning, and distance delivery of education/training.

Quality assurance in education and training

In the context of products and services such as education/training, quality had been defined as having the characteristics of being well thought out, prepared with care, and implemented with responsibility; having a firm direction but flexible enough to cope with contextual variation; and being positively responsive to comment and criticism (Lucent Technologies, 1999).

An example of the definition of a quality educational experience, arrived at through stakeholder consensus, included the following elements: the quality of learning materials, the availability of materials, support for students through well-trained staff, a well-managed system, monitoring, and feedback mechanisms to improve the system (Barker, 1994). For the Canadian Labour Force Development Board, quality education was seen as education that produces an independent learner.

At that time, there was a growing interest in the delivery of high-quality education and training that met one or more types of standards, for example:

- standards for all elements of the learning system: inputs and resources, processes and practices, and outputs and outcomes (Barker, 1995);

- quality standards for education that is delivered transnationally, as set by the Global Alliance for Transnational Education (GATE, 1996);
- principles for good practice in undergraduate education, first published by the American Association for Higher Education in 1987;
- requirements for promoting lifelong learning (Candy, Crebert, & O'Leary, 1994);
- program quality for adult education programs (Office of Vocational and Adult Education, US Department of Education, July 1992);
- international education from the Centre for Quality Assurance in International Education;
- standards for student admissions from the American Association of Collegiate Registrars and Admissions Officers;
- assessment of students learning to use technology developed by the American Association for Higher Education;
- standards for instructional design by The International Board of Standards for Training, Performance and Instruction; and
- information literacy standards developed by the American Library Association.

The literature on quality assurance in education and training was vast, ranging over such topics as standards, national standards, quality assurance, accountability, effective schools, and so on. The focus had largely been on the provider's perspective; however, there were increasing demands from the public and from education/training consumers to be involved in describing and improving quality in learning systems.

Quality assurance in the uses of educational technologies

Quality in the use of educational technologies is viewed from many different perspectives: (1) what learning technologies are touted to achieve; (2) quality assurance in the appropriate uses of technologies; and (3) issues of quality and the Internet.

From the earliest uses of learning technologies there have been claims or hopes about what educational technologies could achieve. For example, according to the BC Ministry of Education, Skills and Training (BC MEST, 1996), technology was used to assist with the attainment of such educational goals as individualization; increasing proficiency at accessing, evaluating, and communicating information; increasing quantity and quality of students' thinking and writing; improving students' ability to solve complex problems; nurturing artistic expression; increasing global awareness; creating opportunities for students to do meaningful work; providing access to high-level and high-interest courses; making students feel comfortable with tools of the information age; and increasing the productivity and efficiency of schools. Similarly, Frayer and West (1997) identified the following ways in which instructional technology should support learning: enabling active engagement in construction of knowledge; making available real-world situations; providing representations in multiple modalities; drilling students on basic concepts to reach mastery; facilitating collaborative activity among students; seeing interconnections among concepts through hypertext; learning to use the tools of scholarship; and simulating laboratory work. From yet another perspective, NCREL (North Central Regional Educational Laboratory) developed a "technology effectiveness framework" which theorized that the intersection of two continua — with learning on one end of the axis and technology performance on the other — defines what a particular technology could achieve vis-à-vis student learning. One quality criterion, then, must relate to the use of appropriate technologies. These goals all contributed to a conceptualization of e-learning quality.

Technology has multiple uses in the context of education and learning, for example, information management (IT), learning management, and distance delivery. As well, technology has the capacity to deliver better forms of student assessment, that is, what the International Society for Technology in Education calls "authentic testing." To ensure the best uses of technology, the Open University in the UK differentiated between different media according to ease of use, availability, access, questions, contacts, experts, opportunity to question experts, integration, status, and synergy. The categories for comparison used were learners' needs, usage, effectiveness, perceived value, and comparative value. For the University of California, the four key characteristics of effective software are presentability, accountability, customizability, and extensibility. A second type of quality criteria, then, is the appropriate use of technology.

As the Internet was increasingly used in distance delivery of education/training, both for information retrieval (distributed learning) and for online delivery of courses and programs (distance learning), there was a need for quality criteria for both Internet sources and use of the Internet. The criteria for evaluating Internet information range from the simplistic to the highly complex. At the simplistic end of the scale, according to the University of

Wisconsin, the Ten C's for Evaluating Internet Resources are Content, Credibility, Critical thinking, Copyright, Citation, Continuity, Censorship, Connectivity, Comparability, and Context. At the complex end of the scale, Wilkinson and others at the University of Georgia developed a list including 11 criteria and 125 indicators in *Evaluating the Quality of Internet Information Sources: Consolidated Listing of Evaluation Criteria and Quality Indicators*, including but not limited to: site access and usability (18 indicators), resource identification (13 indicators), author identification (9 indicators), authority of author (5 indicators), information structure and design (19 indicators), relevance and scope of content (6 indicators), validity of content (9 indicators), accuracy and balance of content (8 indicators), navigation within the document (12 indicators), quality of the links (13 indicators), and aesthetic and affective aspects (13 indicators). They concluded that the indicators of (1) information quality and (2) site quality were ranked in importance by experienced Internet users. Somewhere in the middle, the Internet Public Library has a selection policy for quality information sources, and resources that are selected/approved by the IPL receive the IPL Ready Reference Seal. In summation, it is a particular concern of educators that the sources they use on the Internet are reliable, accurate, authoritative, current, fair, adequate, and efficient. These were all factored into the understanding of quality e-learning.

Further considered were quality education practices on the Internet. Specific to education and training offered on the Internet, a variety of tools and standards were created. At the broadest level, the American Association for Higher Education produced a *Bill of Rights and Responsibilities for the Electronic Community of Learners*, which set out the rights and responsibilities of individuals together with the rights and responsibilities of educational institutions. Teachers considering web-based instruction were strongly encouraged to consider choice of pedagogy over choice of available technology, particularly when some research suggested that the use of technology to enable instruction conveys no significant difference in student achievement (Reeves, 1997). All of these elements of e-learning quality were considered in the creation of the standards of excellence, which became the CanREGs and then the OeQLS.

Quality assurance in distance education and distance learning

Distance learning can be used for many purposes, for example, for formal education, continuing education, advanced professional education, and management/employee development. Advocates for distance learning claim that it makes learning and training more accessible, more convenient, more effective, and more cost-efficient for the learners and for the education provider.

The environment for distance learning is characterized as one in which remote students have special needs that include advising needs, access needs, communication needs, and administrative needs. In the traditional context — distance education delivered by traditional learning organizations for course/program credit — these needs should be met through appropriate institutional support structures. This means that providers of distance learning must help consumers to take greater responsibility for their own learning, become more active in asking questions and obtaining help, and be prepared to deal with technical difficulties in the two-way flow of information.

Research by Lucent Technologies indicates that the following three approaches are commonly advocated to develop independent and self-reliant distance learners:

1. the service model approach, which focuses on the providers' integration of quality into distance delivery and courseware through quality-assurance methods in courses and curricula, high quality support services, integration of the study of communication itself into the curriculum, and the Total Quality Management (TQM) model of consumer-oriented quality in methods and materials;
2. a stakeholder analysis model, which focuses on defining quality for distance education, that is, involving more than the learning providers in defining quality and setting benchmarks;
3. a quality improvement model, which involves ongoing evaluation such as qualitative assessment techniques to understand stakeholder values, and quantitative evaluation to provide indicators of quality and areas of concern.

In building a service approach to distance education programs, Fulkerth (1998) recommended that courses be flexible, nimble, and asynchronous; blend traditional education and applied technology skills; integrate institutional services and activities into the delivery environment (e.g., registration, payment, advising, tutorial assistance, library services); and incorporate personalized, high-touch access to services, instructors, and classmates. To assist in making informed decisions, Miller and Schlosberg (1997) created tools to help individuals determine if they were good candidates for online learning, and Porter (1997) set out a checklist for evaluating distance learning courses.

Finally, in some jurisdictions — the US and the Commonwealth — agencies had taken this one step further to develop standards of excellence for distance education. The Canadian Recommended E-learning Guidelines incorporate elements of:

- the Western Interstate Commission for Higher Education's (WICHE) principles of good practice for electronically offered academic degree and certificate programs;
- the American Council on Education, Center for Adult Learning and Educational Credentials' guiding principles for distance learning in a learning society; and
- the guidelines for remote delivery of courses, developed by the Commonwealth of Learning.

In conclusion, standards and best practices in education and training, uses of learning technologies, and distance education were incorporated into the development of the CanREGs. The next challenge was how to implement the standards, given that there was no desire or opportunity to create legislation and regulation.

Implementing e-learning quality assurance

As stated earlier, there was never an intention to create legislation or a body to regulate e-learning quality. In order to encourage good e-learning rather than punish bad e-learning, the quality-assurance approach adopted included three key elements: (1) the provision of e-learning quality standards created through consensus among providers and consumers of e-learning products and services; (2) the provision of a consumer's guide to e-learning, reflecting the quality standards, to help consumers compare products and services and, in demanding good e-learning, help to improve the overall quality; and (3) the provision of an objective, third-party quality mark that providers could use to indicate compliance with the quality standards and create a competitive advantage in the global marketplace.

The standards had been created and they could be used by developers of e-learning as a design or evaluation checklist. However, the jargon and conceptual density made them hard for learners or purchasers of e-learning to use; hence, an interactive tool was created and distributed widely by all the project participants. Regrettably, the use of the consumers guide to e-learning has not been tracked. Learners and purchasers were encouraged to either use the interactive guide when they had the time and if they could gather the necessary information from providers, or look for a quality mark as a short-hand method of assuring quality for themselves.

The final element, then, was the creation of a quality mark that would demonstrate compliance with these e-learning quality standards. Beginning in 2002, the eQcheck quality mark was made available to e-learning providers as a mark of objective, professional quality assurance. QualitE-Learning Assurance Inc (Canada) and QualitE-Learning Assurances Services (UK) — the "eQcheck group of companies" — operate worldwide through a system of brokers and partnerships. Using an online, e-portfolio approach, e-learning providers can earn the eQcheck quality mark by providing digital evidence of compliance with the CanREGs in Canada, and OeQLs internationally. Since 2002, other quality marks have been developed, marks that reflect different types of standards. For example, the American Association offers certification services for the quality of instructional design, largely from the perspective of professional trainers; the British Learning Association promotes a quality mark that is recognized largely in the United Kingdom; the European Foundation for E-learning Quality is developing a quality mark for the European Union. These quality-assurance initiatives are not mutually exclusive, and it is conceivable that e-learning products and services should acquire a number of quality marks if they can afford it. Primarily, consumers want the quality marks to provide a form of consumer confidence, as does the "Good Housekeeping Seal of Approval" on household goods, and a form of consumer protection, as does the Canadian Standards Association quality mark. Providers of e-learning want to achieve the industry excellence mark evidenced, for example, by the VQA quality mark on Canadian wine.

Companies in the eQcheck group do not provide e-learning products or services. It is, in fact, a legal requirement that a quality certifying body be independent and not be engaged in provision of such services. In 1998, FuturEd had identified the need to promote and support e-learning quality to provide consumer confidence and consumer protection in e-learning products and services. Government, national, and international bodies in Canada agreed with this and supported the creation of the CanREGs, and they subsequently endorsed the creation of the eQcheck quality mark and quality assurance approach.

The mission of the eQcheck companies is to support the e-learning industry by supporting both providers and consumers through assurance of high quality products and services. Producers use this process and certification mark in their marketing to indicate third-party quality assessment and OeQLs compliance. Consumers are urged to look for and insist upon the eQcheck as a measure of confidence and consumer protection. Governments and

funding agencies are beginning to require it. The eQcheck quality mark is gaining currency worldwide because it transfers the cost of quality assurance from the consumer to the e-learning provider. This appeals to governments, industry, and large enterprises that buy a lot of e-learning products, and it appeals to the World Bank as it seeks to assure quality purchases for the loans it grants.

In addition, it differs from other e-learning quality assurance methods in that it is:

- transparent, that is, the industry-based standards are widely available;
- inexpensive, that is, producers are encouraged to undertake a self-assessment process, limiting the cost of earning the eQcheck mark to the cost of the audit process;
- iterative, that is, producers of e-learning can improve the quality of e-learning where weaknesses are identified.

The eQcheck is the only consumer-based e-learning quality-assurance system in the world. It dovetails easily with other methods, ensuring that e-learning meets technical quality standards for interoperability.

The development and implementation of this quality-assurance mechanism has not been without significant challenges. Is the e-learning enterprise ready for consumer empowerment? Dr. Abrioux, when he was president of Athabasca University, thought so. He asserted that students were customers, and that customer satisfaction was his first priority. He formally encouraged other universities to adopt the approach of the consumer's guide based on the OeQLs.

A number of products and services have earned the eQcheck quality certification mark. In the process, this Canadian case study demonstrates a number of valuable lessons about how complex and confusing the e-learning enterprise is, even to professional educators. The major challenge to implementation, however, has been the processes of quality assurance in public education worldwide. The predominant quality-assurance mechanisms include peer review of programs and, in some cases, state and professional regulation of curricula. This leads to the quality paradox — that is, the fact that providers of any product or service must assure quality but they can't provide quality assurance. Quality assurance must be:

- objective (incorporating both provider and user views)
- professional (conducted by quality assessors)
- credible (when compared to standards of excellence)
- reputable (using processes and standards recognized by others)
- iterative (process-oriented)
- continuous (ongoing and built in to the organization's funding and planning strategies)

Quality-assurance claims that come from education providers alone are subjective and questionable at best. Therefore, objective, professional quality assurance through a quality mark and objective professional quality certification provides for a win-win-win scenario. Students win with credible, consumer-oriented information to help them make informed choices. E-learning providers win with objective evidence to enhance their reputation and create competitive advantage, the consumer quality mark. The e-learning enterprise wins with substantial effort directed at quality, return on investment and, ultimately, sustainability. These are all issues that support the implementation of informed choice and consumer pressure for assured quality. In a world where there are increasing numbers of dedicated online learning providers, it is essential to provide consumer protection and consumer confidence in both online and on-site learning.

Table 1 outlines the main categories and elements of the approach.

Table 1. Outline of main categories and elements

E-learning Elements	**Quality Criteria**	**Sample Quality Requirements**
Outcomes and Outputs	1. Skills and knowledge acquired 2. Learning skills acquired 3. Credits and credentials awarded 4. Return on investment	3. Credits and credentials are: 3.1 Recognized by relevant professional bodies 3.2 Recognized by other education institutions 3.3 Of the same value as on-site delivery 3.4 Transferable within and between programs, institutions, and countries
Processes and Practices	1. Management of students 2. Delivery and management of learning 3. Appropriately used technologies	2. Delivery and management of learning 2.2.1 Approaches to learning • Foster active learning

	4. Communications	• Build on learner's strengths • Support interaction • Increase learner control • Include assistive devices for persons with disabilities
Inputs and Resources	1. Intended learning outcomes 2. Curriculum content 3. Teaching/learning materials 4. Product/service information 5. Appropriate learning technologies 6. Sound technical design 7. Personnel 8. Learning resources 9. Complete learning package 10. Comprehensive course package 11. Routine review and evaluation 12. Program plans and budget 13. Advertising and admissions information	3.1 Intended learning outcomes are: 3.1.1 clearly stated 3.1.2 relevant 3.1.3 observable / demonstrable 3.1.4 measurable 3.1.5 achievable and realistic 3.1.6 appropriate to the degree 3.1.7. consistent with provider mandate

The entire set of quality standards is available online at www.FuturEd.com. In brief, the standards begin with what is most important to consumers: assurance that they will learn content skills and knowledge that are relevant and recognized, together with lifelong learning skills that are transferable and applicable. When consumers are assured their investment of time and finances will be rewarded with recognized competencies and credits (quality outcomes), they then concern themselves with the details of student services and delivery: teaching, learning, assessment, and support (quality processes and practices). When they are assured that teaching and learning are appropriate and effective, they finally concern themselves with the nature of the organization standing behind the learning service: the quality of staff, budgets, and plans (quality inputs).

Conclusion

This Canadian initiative to support e-learning quality was grounded in conventional best practices in distance learning, learner-centred education and training, and global use of learning technologies. The resulting e-learning quality standards are consumer-oriented, consensus-based, comprehensive, futuristic, adaptable, and flexible. At this time, the eQcheck quality mark, based on the quality standards, is the only internationally recognized e-learning quality mark, and consumers are beginning to look for it to provide consumer confidence and consumer protection. That being said, there must be a constant effort to update the standards, as learning technologies change and new approaches to the management of learning are developed. Efforts are under way to implement e-portfolio systems for e-learning quality assurance, systems that are based on quality standards and that require digital evidence to support quality claims. This is but one approach to quality assurance in e-learning, a natural partner to technical and interoperability standards.

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