

# Quality assurance of e-learning: a review of approaches and practices in Higher Education

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## Abstract

This paper reviews some of the approaches used by higher education institutions to deal with the assurance of quality of their e-learning provision: the strategies implemented by open and distance universities, quality standards and guidelines, accreditation systems and benchmarking. The analysis of their main features reveals that these strategies are not equivalent, as they do not operate at the same level, and in that sense, they could be in place simultaneously in the same institution. Based on this, it is argued that these strategies could be taken as complementary and offering distinctive mechanisms by which campus-based higher education institutions who are starting to provide e-learning courses could tackle the quality assurance of their e-learning provision.

## Introduction

As conventional campus-based higher education institutions are increasingly using e-learning as part of their course provision, governments, international bodies, quality assurance agencies and other professional bodies are becoming increasingly interested in identifying the appropriate ways to assure the quality of e-learning (Parker, 2004). As Oliver states, 'e-learning as a teaching and learning activity, has been caught up in the quality agenda' (Oliver, 2005:175). This growing concern can also be observed in the growing amount of initiatives, projects and literature that can be found regarding the quality of, in and for e-learning at international and local levels.

There are a variety of approaches and strategies with which higher education institutions and programmes tackle the issue of quality assurance of e-learning. These approaches can be grouped into four main types: the approach of large open and distance universities; the quality standards and guidelines developed by various organisations to guide design and development of good quality online learning; the accreditation systems provided by regional, national or international agencies; and benchmarking tools, which are becoming widely used.

In the next four sections these approaches will be described and analysed to identify their main features and contribution to the assurance of quality of e-learning in campus-based higher education institutions.

## Open and distance universities

In their review of how well open and distance universities are coping with external quality assurance, O'Shea et al. (1996) highlight that quality is best supported when it is embedded in each of the stages of course design, production and delivery, in line with an institution-wide mission and aims, standards and expected level of service, widely shared by staff; and when each activity includes the mechanisms for the students and staff to feed back on their experience. O'Shea et al. (1996) also suggest that considering the way open and distance universities work, these institutions are better prepared than campus-based universities to operate quality assurance. This position is also shared by other authors (like Johnston, 1999) who are usually coming from a distance learning tradition. In their view, large open and distance universities have the structure and organisation where the assurance of quality is embedded, and hence their move towards online delivery does not require any major adaptation, as they are already including the distinctive features of this mode of delivery.

The case studies presented in Tait's book *Quality Assurance in Higher Education: Selected Case Studies* (1997) show that the quality assurance systems in a range of open and distance universities around the world are essentially very similar, most of them influenced by the UK Open University. Reviewing the mechanisms in place in the Open Universities of Israel, Hong Kong, India and the UK, it seems that these universities have a strategy to assure the quality of their courses which is embedded in their organisational structure.

Also, Universitas 21 Global (U21G), which only provides postgraduate online education, has a quality assurance strategy similar to the systems implemented in large open distance learning universities described in Tait's (1997) book. For the implementation of their quality assurance strategies, U21G has established U21Pedagogica, a subsidiary organisation dedicated to reviewing and approving all their programmes (Chua and Lam, 2007).

In Table 1 examples of the most common ways in which these providers have set up their internal quality assurance strategy for the processes of course approval, development, delivery and evaluation are summarised.

**Table 1 - Overview quality assurance strategies in open and distance universities**

Course approval	<p>The processes that lead to the approval of a programme or course are very similar, with differences related to the structure and organisation of the academic boards and committees within each institution.</p> <p>In this process two elements are worth mention:</p> <ul style="list-style-type: none"><li>▪ Proposals for new courses tend to be very detailed, including not only academic definitions but also infrastructure and services required for their delivery. In some cases they also include samples of the type of materials to be developed.</li><li>▪ The approval steps not only include internal peer review but also an extensive review by several external experts.</li></ul>
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Course development	<p>Generally, the process of development of a course takes between 1 to 5 years.</p> <p>Given the division of labour that characterises the development of open and distance courses, the process is led by a course coordinator (project manager) who is in charge of the programme from its development, throughout its delivery and evaluation.</p> <p>An important element in this process is the training and orientation that experts receive to participate in the team and to produce the written materials. This training varies from formal orientation sessions, to pairing them with a team member who will guide them during the process (in the case of external experts).</p> <p>Although not necessarily expressly stated, the development of materials and resources is guided by predefined standards of the quality that each element has to have.</p>
Course delivery	<p>During the delivery of a course, quality is assured by a range of strategies, such as:</p> <ul style="list-style-type: none"> <li>▪ Rigorous procedures for the appointment of Tutors who will be supporting students.</li> <li>▪ Tutors' appointment is based on a flexible hiring policy.</li> <li>▪ Tutors are trained for online teaching before they start their work with students.</li> <li>▪ Tutors are in charge of a predefined maximum number of students.</li> <li>▪ Assignments marked by tutors are randomly checked by coordinators to guarantee common standards.</li> <li>▪ Tutors' work is monitored by senior academic staff</li> </ul>
Course evaluation	<ul style="list-style-type: none"> <li>▪ Students complete an evaluation of the learning experience</li> <li>▪ Tutor's performance is evaluated by students and senior academic staff</li> <li>▪ Tutors complete an evaluation of the course (materials, pedagogy, assessment, workload, etc.)</li> </ul>

(Chua and Lam, 2007; Guri-Rosenblit, 1997; Koul, 1997; O'Shea and Downes, 1997; Robertshaw, 1997)

The approach that open and distance universities have established to assure the quality of their provision is fairly structured and the protocols are well established and organised. Twigg (2001) describes them as 'internal centralised structures for controlling quality'. Certainly, open and distance universities' approach to quality assurance is embedded in the overall institution's structure which is already organised around a highly disaggregated configuration, and coordinated by a strong central management.

The implications of this approach for quality assurance of e-learning seem to be straightforward. Since online mode of delivery is part of the provision offered by open and distance universities, the strategies implemented in these institutions could be easily transferred and applied to the e-learning courses they have started to offer. However, the appropriateness of this approach for e-learning courses offered by campus-based institutions is not that simple.

Chua and Lam (2007) point out that the problem of the quality assurance processes implemented in large open and distance universities is that they are expensive and time consuming, in addition to needing adaptation for implementing in traditional campus-based universities.

Considering that the quality assurance approach of open and distance education universities is rooted in its structure, it seems that its value for traditional on-campus institutions is limited to specific and particular mechanisms that could be transferred, for example some of the coordinating strategies, which enable the disaggregated nature of online delivery to be overcome, and which are not usually present in traditional on-campus environments.

### **Quality standards and guidelines**

A different and widely used strategy aiming to assure the quality of e-learning has been implemented through the development of quality standards, guidelines and benchmarks. Hope (2001) argues that it is the increasing globalisation of higher education that has led, at local, national and regional levels to the production of a large number of quality standards and frameworks designed to certify and protect the quality of local providers, and to help students to choose in a global market. McLoughlin and Visser (2003) however attribute a more economic motivation to the creation of these guidelines, at least in the US, as they help to strengthen leadership in the area, as well as to protect the market from bogus providers.

Beyond their use to protect markets and users, these quality standards and guidelines are a useful tool for practitioners and institutions providing guidance on how to design, develop, deliver and evaluate online learning courses. The US has been the most prolific generator of these guidelines, but they are common in many other countries. A significant number of quality standards and guidelines are currently available for online learning, some of which are presented in Table 2.

Confronted with the increasing number of quality standards for e-learning being developed in the US, Frydenberg (2002) carried out a comparative analysis of the standards available, proposing a matrix to examine, compare and contrast them. The matrix is bound by the nine domains, which she found are repeatedly described as quality standards from the educator standpoint. These are: institutional commitment; technology; student services; instructional design and course development; instruction and instructors; delivery; finances; regulatory and legal compliance; and evaluation. For each domain she compared what the different guidelines were suggesting, noticing only small differences in the categorisation of some domains, demonstrating that, generally, these standards produce comparable criteria with which to evaluate the quality of online courses.

**Table 2 - List of quality standards and guidelines**

Organisation / Author	Standards / Guidelines	URL / Source
The Institute for Higher Education Policy – IHEP	Quality on the line	<a href="http://www.ihep.org">www.ihep.org</a>
American Federation of Teachers – AFT	Guidelines for Good Practice	<a href="http://www.aft.org/higher_education">www.aft.org/higher_education</a>
Quality Assurance Agency for Higher Education – QAA	Code of practice for the assurance of academic quality and standards in higher education. Section 2: Collaborative provision and flexible and distributed learning (including e-learning)	<a href="http://www.qaa.ac.uk">www.qaa.ac.uk</a>
UNESCO/OECD	Guidelines for Quality Provision in Cross-border Higher Education	<a href="http://www.unesco.org/education/hed/guidelines">www.unesco.org/education/hed/guidelines</a>
SLOAN-C	Quality Framework and the Five Pillars	<a href="http://www.sloan-c.org">www.sloan-c.org</a>
Inglis, Ling and Joosten	Quality Framework	In Inglis, Ling, and Joosten (2002)
European Institute for E-Learning – EifEL	Open eQuality Learning Standards	<a href="http://www.eife-l.org">www.eife-l.org</a>

(AFT, 2002; Frydenberg, 2002; Hope, 2001; Inglis, 2005; Moore, 2005; Phipps and Merisotis, 2000; QAA, 2004a; UNESCO, 2005)

In assessing the value of guidelines and standards as a quality assurance mechanism, the Institute for Higher Education Policy (Phipps and Merisotis, 2000) conducted a study to validate these benchmarks in order to ascertain the degree to which they were incorporated in the policies, procedures and practices of six higher education institutions that were recognised leaders in distance education in the US. The first part of the research included a literature search of benchmarks published by different institutions that resulted in a list of forty-five benchmarks specifically oriented to internet-based distance education. Then, staff, administrators and students were visited at the institutions identified as leaders in Internet-based distance education. They were surveyed on the presence and importance of each of the forty-five benchmarks, to determine to what extent they were being followed; and whether they made a difference in terms of academic quality. The results of the survey were presented as a list of twenty-four benchmarks that were considered essential to ensure quality in Internet-based distance education and organised into seven areas: institutional support; course development; teaching/learning; course structure; student support; faculty support; and evaluation and assessment (Phipps and Merisotis, 2000).

Overall, these benchmarks represent a distillation of what was thought to be good practice for practitioners and institutions, as they provide standards to

aim for while designing, delivering and evaluating e-learning courses, and in this sense they offer a very useful tool for assuring quality. It is not possible however to regard them as a mechanism in themselves, as they are only descriptions of what good practice in online learning is.

### Accreditation systems

The use of accreditation systems is closely related to quality guidelines. Accreditation, as a formal process of enquiry against a set of agreed standards, is a well-established quality assurance mechanism, particularly in the US where no national quality assurance agency exists. In the context of e-learning provision, this approach to quality assurance is growing among providers (Middlehurst and Campbell, 2003). But it is not only in the US that it is possible to find certification of e-learning activities and institutions. Also, Canada and in the UK has agencies offering this service. Table 3 gives an overview of some of the most relevant accreditation providers for e-learning provision currently available.

Accrediting agencies build their certification systems on quality standards and guidelines specially devised for this purpose. All agencies have similar procedures that lead to certification and they are all voluntary. The process requires the submission of materials and a self-evaluation report according to the standards set by the agency. After that, the institution receives a visit from a panel of examiners and evaluators to verify the conditions in the field and to carry out interviews. Some agencies also contact students who may be interviewed or surveyed. The resulting certification usually lasts for a period between 3 and 5 years; some last for the life of the material or course.

**Table 3 - Accreditation providers**

Agency	Certification	URL
Global Alliance on Transnational Education – GATE	GATE Accreditation	<a href="http://www.edugate.org">www.edugate.org</a>
Distance Education and Training Council – DETC	DETC Accreditation	<a href="http://www.detc.org">www.detc.org</a>
Open and Distance Learning Quality Council – ODL QC	ODL QC Quality Mark	<a href="http://www.odlqc.org.uk">www.odlqc.org.uk</a>
FuturEd & QualitE-Learning Assurance	eQCHECK	<a href="http://www.futured.com">www.futured.com</a>

(Eaton, 2001; Hope, 2001; OBHE, 2003; Twigg, 2001)

In the US, where the main mechanism for quality assurance is based on accreditation, agencies have included e-learning provision as part of their accreditation services and have also encouraged the establishment of new specialised agencies. The Pew Report suggests that the increasing number of accrediting agencies comes as a result of a trend towards external examination as a way to ensure quality (Twigg, 2001). In other countries with

well-established national quality assurance systems, like England, accreditation as a mechanism to certify the quality of e-learning institutions and programmes is also gaining a foothold. However, the majority of the institutions that look for an accreditation of this type are corporate organisations.

The value of accreditation as a quality assurance system for e-learning relies on the quality and prestige of the agency providing the certification and the thoroughness of their review process. From the point of view of campus-based higher education institutions, accreditation could be a useful mechanism by which the quality of online provision may be certified on a programme basis (as opposed to whole-institution certification), which would allow specific programmes to look for external accreditation in addition to any other internal quality assurance mechanism already in place in the institution.

## **Benchmarking**

The use of benchmarking as a tool for evaluating e-learning is rather new, although it draws upon a larger base of experience on benchmarking in other areas. Benchmarking as a tool for quality assurance is very much related to quality standards and guidelines, although these are not necessarily plainly transferable into a benchmarking tool, and it is argued that benchmarking could be carried out without any explicit standard as a reference (Bacsich, 2005b; ENQA, 2003).

Benchmarking involves the comparison of the quality of a product or service against other providers. Usually the 'other providers' are selected based on competition, thematic areas, or just those deemed to be 'the best' of the others. Its main function is to be a self-evaluation and self-improvement tool by which an institution identifies its own position, compares it with others and then designs an improvement plan to close the gap (Bacsich, 2005b; Inglis, 2005; Jackson, 2001).

Benchmarking is a tool focused on an overall institutional evaluation, with the general aim being to determine the current position in relation to others, rather than being a judgment of the quality itself. However, as the process of benchmarking usually includes a rather detailed analysis and evaluation of the institutional internal services, processes and capacities, it has potential benefits for quality enhancement.

The tools currently available specifically created or adapted for e-learning are mainly designed to establish the institutional level of development on e-learning. Some of the most well-known benchmarking tools for e-learning are listed in Table 4.

**Table 4 - Benchmarking tools**

Organisation/Author	Benchmarking tool	URL
European Association of Distance Teaching Universities (EADTU)	E-XCELLENCE+	<a href="http://www.eadtu.nl/e-xcellenceqs/">http://www.eadtu.nl/e-xcellenceqs/</a>
Joint Information Systems Committee (JISC)	Embedding Learning Technologies Institutionally – ELTI audit tools	<a href="http://www.jisc.ac.uk">www.jisc.ac.uk</a>
Paul Bacsich	Pick & Mix approach	<a href="http://www.matic-media.co.uk/benchmarking.htm">www.matic-media.co.uk/benchmarking.htm</a>
Stephen Marshall	e-Learning Maturity Model (eMM)	<a href="http://www.utdc.vuw.ac.nz/research/emm">www.utdc.vuw.ac.nz/research/emm</a>

(Bacsich, 2005a; Bacsich, 2005b; EADTU, 2009; HEA, 2009; Inglis, 2005)

Benchmarking has recently become an increasingly well-known approach for evaluating e-learning, particularly in England, following on from the HEFCE's e-learning strategy (HEFCE, 2005) proposed it as a tool to evaluate its success. To that end, the Higher Education Academy (HEA) in collaboration with the Joint Information Systems Committee (JISC) were commissioned to carry out a programme to identify e-learning benchmarking tools for higher education institutions. The programme tested five e-learning benchmarking tools and was carried out in 2006 - 07 with the participation of 77 higher education institutions (HEA, 2008).

The programme's stated aims originally included three purposes: to provide higher education institutions with the opportunity to self-evaluate their e-learning development and to identify the extent to which it was embedded in the institution; for universities to be able to compare their level of e-learning development with other universities with similar characteristics; and to get an overall picture of e-learning across the sector. These goals were consistent with the main purposes of benchmarking as described earlier, in which the final intention of a benchmarking exercise is to determine the current position of institutions in relation to others of similar character. However, the evaluation of the pilot phase of the benchmarking programme indicated that the third aim could not be addressed due to confidentiality issues (Mayes, 2006). The remaining phases focused instead on providing opportunities for higher education institutions to make comparisons with other institutions. This change of focus of the programme is an indication of the complexity of issues involved in a benchmarking exercise which is aiming to generate a sector-wide picture. Confidentiality, differences between contexts and selection of common criteria against which to benchmark institutions are some of the issues identified in this programme as difficult to resolve (Mayes, 2006).

In terms of the value that benchmarking tools might offer as tools for assuring the quality of e-learning courses, it seems that benchmarking works at a different level and for a different purpose (institutional comparison) from quality assurance, making its value for quality assurance and enhancement of

courses limited. Although it may be expected that a benchmarking activity eventually provides the basis for improving the quality of the e-learning provision in an institution, this potential benefit might well come as a result of the application of a specific tool (and its specific criteria) rather than from benchmarking as a strategy.

## **Conclusions**

The above review of current practice of quality assurance in online learning reveals the ample concern and debate regarding the quality of e-learning. The approaches reviewed however are not equivalent, as they do not operate at the same level, and in that sense, they could be in place simultaneously in the same institution. An example might be a comparison of the approaches of large open and distance universities and certifications. In the former, the mechanisms correspond to internal procedures, and eventually the same institution could seek for certification from external agencies. Similarly, academic staff could be following the quality standards and internally applying them for the development and delivery of their courses, and at an institutional level be carrying out a benchmarking exercise to compare their overall level of development within the sector. Consequently, it would be possible to argue that these strategies could be seen as complementary and offering distinctive mechanisms by which an institution could deal with the quality assurance of their e-learning provision.

Although these strategies could be considered as complementary to the internal quality assurance procedures in place in campus-based universities, the relationship between them varies. In the case of the approach in operation in open and distance universities, its embedded strategies could also be deployed as quality assurance mechanisms just as the ones observed in on-campus institutions, and as is already the case for this type of institution in England (for example QAA, 2004b).

Accreditation systems are of a different nature when compared with the quality assurance procedures in place in campus-based institutions. As mentioned above, these institutions may be seeking accreditation of their e-learning activities alongside their internal mechanisms. The value of accreditation resides in it being an external, and allegedly, objective process oriented to prove to external audiences (prospective students and other stakeholders) that the course or institution under scrutiny is of sufficiently high quality.

Benchmarking on the other hand has a different link with the quality assurance procedures, as the latter are usually one of the aspects to be evaluated as part of the benchmarking exercise. The different benchmarking tools used in the Higher Education Academy programme give an example of this, as they all include reviewing whether internal quality assurance processes have been adapted for e-learning (see for example Bacsich, 2006; ILRT, 2003). It has been suggested however that the activities involved in carrying out a benchmarking exercise entail a self-reflection process which directly benefits practice, and which could be claimed as oriented towards

enhancement. Following the same argument, accreditation processes could similarly involve a useful internal reflective process. Although accreditations and benchmarking have been described as equivalent to quality assurance (Inglis, 2005; Massy, 1996) they could generate improvement as an unplanned effect, but as they are mainly oriented towards external audiences, enhancement would not be part of their core purpose.

Quality standards and guidelines are possibly the approach most closely related to the procedures in place in campus-based universities, as guidelines are actually an in-built part of the procedures. As an example, higher education institutions in England undergo quality assurance reviews carried out periodically by the Quality Assurance Agency, following a set of predefined standards and a code of best practices. One of these codes is dedicated to collaborative and flexible provision that includes e-learning (QAA, 2004a).

In this sense, the quality assurance procedures are already guided by a set of quality standards and institutions should be following its precepts. These are oriented, as all other guidelines available, to guide institutions in what constitutes good practice and hence intended to be used as a reference point against which to evaluate practice.

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