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Quality models in online and open education around the globe: State of the art and recommendations

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Preface

This report is written for:

- institutional leaders responsible for quality in online, open and flexible higher education
- faculty wanting to have an overview of the field
- newcomers that want to develop quality schemes
- policy makers in governments, agencies and organisations
- major educational stakeholders in the international community

It is a **must read** for any person concerned with quality in online, open and flexible higher education.

The report provides **the first global overview of quality models** in online and open education, an overview which is very timely, delivered as it is for Global Education 2030, the new global educational agenda which replaces Education For All, EFA.

The report paints with a broad brush **the landscape of quality in online and open education** – and its challenges. Illustrating that quality in online learning is as complex as the reality of online learning itself. It addresses new needs such as quality in MOOCs and Open Education Resources. It shows that one size does not fit all, that improving quality of student experiences is more than ever extremely important, and it warns against implementation of quality models that restrict innovation and change. These are all important issues to reflect on and discuss.

It delivers insight into the quality concept, the aspects of quality, and describes a selected number of models in relation to certification, benchmarking, accreditation and advisory frameworks, and can therefore **serve as a guide and inspiration for building quality frameworks**.

While its findings on the one hand shows there is no need for new quality schemes as such, it reveals a **huge gap and need for knowledge building, knowledge sharing, capacity building and for coordination among stakeholders**.

The research team makes **11 recommendations**, spanning from important principles such as mainstreaming e-learning quality into traditional institutional quality assurance, to topical issues such as the establishment of quality criteria for mobile learning systems, and addressing unbundling and the emergence of non-traditional providers. Some key recommendations relate to knowledge building and sharing, to ensure knowledge resources for guidance and capacity building among experts and stakeholders.

While It is difficult to pin-point one recommendation as the most important or most urgent, my overall impression is that its findings – and recommendations on **the need for information and knowledge sharing, collaboration and coordination are the most crucial and most urgent to address**. This major and important task can best be carried out in partnership between key stakeholders; inter-governmental organisations (e.g. UNESCO, Commonwealth of Learning), quality assurance networks (e.g. INQAAHE) and networks of higher education institutions (e.g. ICDE and others).

The relevance and importance of the work undertaken by the research team can probably best be understood in light of the main finding from another recent study:

“Our results indicate that distance education, when properly planned, designed, and supported by the appropriate mix of technology and pedagogy, is equivalent to, or in certain scenarios more effective than, traditional face-to-face classroom instruction.” (Kovanović V, Joksimović S, Skrypnyk O, Gašević D, Dawson S and Siemens G (2015) The History and State of Distance Education)

Taking note that 414.2 million students will be enrolled in higher education around the world by 2030 – an increase from 99.4 million in 2000, and that online, open and flexible education is going mainstream, **the importance of quality learning outcomes for learners cannot be overestimated**.

I hope that by making this report broadly available, that ICDE contributes to exciting dialogue, discussion and development of quality **online, open and flexible higher education for the future we want**.

Gard Titlestad
Secretary General, ICDE

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Executive Summary

Goals and Project Outcomes

The global Higher Educational landscape is in a period of dramatic change. Although it is too early to say whether these changes will be disruptive, revolutionary or merely evolutionary, a significant driver of change has been the dramatic rise in the use and availability of new educational technology. More specifically the growth of the Internet is challenging conventional modes of delivery and helping to extend access to higher education beyond traditional campus-based learners. In recent years, the demand for "online learning", whether called open, distance, flexible, or e-learning, has grown exponentially in response to this new environment. Likewise, has the rise of opening up education movement, and the growing development with Open Educational Resources (OER) and Massive Open Online Courses (MOOC), and the entire unbundling approach in education. Increased internationalisation, widening recruitment and upscaling of reaching students are other drivers. Hence, how, where and when students learn, how institutions structure programmes and services, and how these services are structured are global challenges. Improving quality of student experiences is more than ever extremely important.

This quality standard study has been undertaken on behalf of The International Council for Open and Distance Education (ICDE), a global membership organisation in the field of open and distance education, and in formal consultative relations with UNESCO. The study has been conducted by research team coordinated by the European Association of Distance Teaching Universities (EADTU). EADTU is Europe's leading institutional association in online, open and flexible higher education, and is at the heart of the modernisation agenda of European universities.

The objectives for the study are to establish an overview and analysis of the global situation with regard to existing relevant standards and guidelines for open, distance, flexible, and online education, including e-learning, encompassing the fundamental notion of students as active participants in an engaging learning experience. The ICDE Quality Standard Study 2014 will provide a comprehensive baseline study on international quality standards on open and distance learning to underpin further international work by ICDE on quality in open and distance learning e.g. actions in collaboration with members, as well as with UNESCO and OECD. The report will serve as guidelines for communication, dissemination and valorisation activity on quality standards in open and distance learning with stakeholders.

The study was carried out as desk studies by the researchers, in close collaboration with the international Research Advisory Group, ICDE and the ICDE SCOP presidency. The data gathering strategy aimed to cover quality standard models, and the discourse on quality in open, distance, flexible and online education, including e-learning in all continents trying to show similarities and distinctions due to culture, languages and maturity of developing quality. The detailed reviews focused on documents available in English with some use of online translation tools to access documents in other languages. The strategy aimed likewise to identify a quality spectrum, e.g. certification, accreditation, benchmarking, labelling as a frame of reference. The intention was also to address the quality spectrum at macro, meso, and micro levels. However, those quality standard models described deeper here in the report are mainly at macro and meso level as the literature on impact of quality of individuals' practice is diffuse. The intention was also to present the variety of available international quality systems, according to maturity and purpose for measuring and/or enhancing quality in e-learning for institutions and quality assurance bodies.

Lessons Learned

The review of international quality standard models illustrates that there are many existing schemes and models for quality assurance of open, distance, flexible and online education, including e-learning. They share many common features and many are designed to offer flexibility for institutions to adapt to suit national and institutional contexts. The most common structure encountered presents criteria for performance in aspects of institutional management, curriculum design student support and other elements of educational provision, further subdivision into performance indicators and indications of sources of evidence. The most general categorisation of activities is Management (Institutional strategy, visions, and resourcing) Products (processes of curriculum and module development) and Services (student, and staff support, information resources etc.). Differences between the models reviewed lie in the grouping of criteria and the granularity of the detail applied at the performance indicator levels rather than the inherent approach to quality assurance. Some models apply numerical scoring criteria with target performance levels others rely on more subjective assessment of performance. There are models that require performance assessment of 20-30 items others in excess of 100. The originators of the models have each made judgements on the trade-off between generality and specificity in the breakdown of activity to be reviewed. Many are designed to integrate with national systems for quality assurance of Higher Education that are based on peer review and interrogation of institutional self-assessment documents.

More than forty quality standards models or guidelines from organisations were reviewed. Table 1 below summarises features of the most well-known and most used reproduced from the report, and they are categorised by their functions and uses:

Certification/Label is interpreted as a level of recognition granted by the body originating the quality model, award of the certificate/label will follow some form of review and may be accompanied by a requirement that the reviewed institution commits to an improvement plan and later renewal of certification. The originating bodies have various statuses ranging from semi-formal interest groups to international representative bodies.

Benchmarking is a process of comparison of institutional performance with that of others, allocation to the benchmarking group indicates that either the originating organisation operates a benchmarking service or there is evidence of the model having been used in benchmarking exercises.

Accreditation is interpreted as a form of mandatory certification or licensing of institutions and/or their programmes that grants access to national financial support or recognition of awards for employment purposes. Accreditation is a process operated by formal agencies, such as Ministries of Education, Quality Assurance Agencies and Professional Bodies.

Some of the documents reviewed are designed to solely fulfil advisory purposes offering structured guidance to the issues associated with open, distance and online education but not presenting processes of evaluation or performance measurement (Advisory framework).

The table shows that there is evidence of models being used for multiple purposes and in some instances of the models and codes developed for Certification/Labelling purposes being formally or informally

adopted within national Accreditation processes. There is no shortage of core resource for institutions or agencies seeking to formulate to Quality Assurance of Open, Online and Distance and education.

There are, understandably, more limited sources relating in the areas of OER and particularly MOOCs. Some of those that have been reviewed may be considered as derivatives or subsets of earlier systems applicable to open, distance and online education, extracting and modifying appropriate criteria from the spectrum of Management, Product and Service categories.

Table 1 Most Used Quality Model (From Table 1 in Ossiannilsson, Williams, Camilleri and Brown 2015). The name of the quality model is written in bold and italic then follows the governing organisation, first the abbreviation and then the full name spelled out in brackets. In case the organisation doesn´t have a special model, the organisation is just written with the name.

Quality Model	Certification	Benchmarking	Accreditation	Advisory Framework
ACDE (the African Council for Distance Education Quality Assurance and Accreditation Agency)		■		■
ACODE (the Australasian Council of Open, Distance and e-Learning)		■	■	
AVU (the African Virtual University)		■		■
CALED (the Latin American and Caribbean Institute for Quality in Distance Education)	■	■	■	
CHEA (the Council for Higher Education Accreditation), US			■	
E-xellence EADTU (the European Association of Distance Teaching Universities),NL	■	■		
OpenupEd EADTU (the European Association of Distance Teaching Universities), NL	■	■		
UNIQUe EFQUEL(the European Foundation for Quality in e-learning), BE	■			
ECB Check EFQUEL (the European Foundation for Quality in e-	■			

Learning). From Dec 2014 GIZ (Deutche Gesellshaft fur International Zuzammenarbeit), DE	■			
The eLearning guidelines (eLg) Ako Aotearoa, developed by Tertiary Education Commission, led by AUT University and Massey University, New Zealand				■
The E-Learning Maturity Model (eMM) New Zealand Ministry of Education Tertiary E-Learning Research Fund				■
E-learning Quality Model (ELQ) NAHE (The Swedish National Agency for Higher education)				■
Epprobate The Learning Agency Network (LANETO e V), DE	■			■
Khan* eight-*dimensional e-learning framework Badrul Khan				■
The OLC Quality Scorecard Online Learning Consortium, (former Sloan-C), US	■			■
OER TIPS The Commonwealth Educational Media Centre for Asia (CEMCA)				■
Pick&Mix Matic Media, SERO ConsultingLtd, UK		■		

The review indicates that concepts of quality can be applied at Macro (National/international) Meso (institutional) and Micro (individual practice) levels with the formal models reviewed addressing the issues at Macro and Meso levels. Less evidence has been found of performance standards at the Micro level, but no doubt this will exist within staff development and performance management criteria of those institutions that are engaged in quality assurance of their open, distance and online education programmes.

The report explores the concept of the development of maturity in quality assurance processes at both institutional and national levels through a progression from quality assurance applied to ensure compliance with fixed standards and norms to quality assurance as mechanism for improvement and

enhancement and enhancement of provision. The distance education sector with its dependence on development of teaching materials, management of scalable systems of student support, etc., has in many instances, better developed quality assurance processes than institutions operating traditional campus/classroom provision. As conventional institutions and their accrediting agencies seek to adapt to the challenges of integrating e-learning and online provision within their quality assurance processes, they have much to gain by exchange of experience and approach with the Distance Education sector.

An extensive selection of quality standard models has been reviewed and analysed. Each one was developed for specific purposes, in different contexts, and in different times. It is neither possible nor appropriate to recommend one before another, as a selection very much depends on institutional context, aim, and maturity. However, the research study identified characteristics, which needs to be addressed for quality assurance and quality enhancement. Those can be summarised as below:

- **Multifaceted –** e.g. systems use a multiplicity of measures for quality, and will often consider strategy, policy, infrastructure, processes, outputs and more so as to come to a well-rounded view of holistic quality.
- **Dynamic –** e.g. flexibility is built in to systems, to accommodate for rapid-changes in technology, as well as social norms. For this reason, they rarely refer to specific technological measures, and rather concentrate on the services provided to users through that technology.
- **Mainstreamed** – e.g. while all the quality tools surveyed aim at high-level quality improvement, this is intended to trickle down throughout the institution and be used as a tool for reflective practice by individual members of staff in their daily work.
- **Representative –** e.g. quality systems seek to balance the perspectives and demands of various interested stakeholders, including students, staff, enterprise, government and society at large.
- **Multifunctional –** e.g. most systems serve a triple function of instilling a quality culture within an institution, providing a roadmap for future improvement, as well as serving as a label of quality for outside perspectives.

Recommendations to Stakeholders

From the research study, a set of recommendations were formulated**,** together with proposed actions for stakeholders. The recommendations are:

1. Mainstream e-learning quality into traditional institutional quality assurance;
2. Support the contextualisation of quality systems;
3. Support professional development, in particular through documentation of best practice and exchange of information;
4. Communicate and promote general principles;
5. Assist institutions in designing a personalised quality management system;
6. Address unbundling and the emergence of non-traditional educational providers;
7. Address quality issues around credentialisation through qualifications frameworks;
8. Support knowledge transfer from open and distance learning to traditional quality systems;
9. Support quality assurance audits and benchmarking exercises in the field of online, open, flexible, e-learning and distance education;
10. Encourage, facilitate and support research and scholarship in the field of quality; and
11. Encourage, facilitate and support implementing quality assurance related to new modes of

teaching.

From the research study, a set of proposals to ICDE was also suggested, which related to the above mentioned recommendations.

Summarising the survey, analysis and recommendations:

- There is an extremely large variety of quality tools catering to many audiences and needs.
- There is no significant gap in terms of analysis of institutional systems, which would require a new scheme to be developed.
- In the case of recognition and unbundling, which are not e-learning specific, there are definite deficiencies with scope for further developments.
- All the quality systems suffer certain deficiencies (lack of universal applicability, unclear which maturity levels they are best for, widely divergent quality of reviews and of advice given, challenges to respond to change, etc.)
- There is a role for ICDE working with other international organisations in the following main areas, all of which are critical:
    - providing a register of effective quality systems, and a guide to members on which are appropriate for their context and purpose
    - addressing common issues around training, best practice sharing, localisation, etc., for providers of quality systems
    - working with international organisations to ensure a harmonised regulatory environment
    - working with international agencies to ensure student engagement in determining quality standards

1 Setting the Scene

1.1 Rationale for the Study

This Quality Standard Study is conducted on behalf of The International Council for Open and Distance Education (ICDE), a global membership organisation in the field of open, distance, flexible and online education, including e-learning, and in formal consultative relations with UNESCO (see Appendix 2).

The objectives for this ICDE Quality Standard Study 2014 were to provide an overview of the global state of the art regards to existing relevant global guidelines, benchmarks and quality standard models for open, distance, flexible, online education, and e-learning, including online post Higher Education, like Massive Open Online Courses (MOOC) and Open Educational Resources (OER). The research also aimed to analyse stakeholders' perspectives. The objectives for the study were also to provide and present analysis and recommendations to ICDE regarding future work. This research and the report is a contribution and can serve as a communication and foundation for policy and strategy visions and missions. The background and aim for this Quality Standards Study 2014[1] is further described in Appendix 3.

1.1.1 Impact of the study

The ICDE Quality Standard Study 2014 will provide a comprehensive baseline study on international quality standards on Open and Distance Learning to underpin further international work by ICDE on quality in Open and Distance Learning, e.g. actions in collaboration with members, as well as with UNESCO and OECD. The report will serve as guidelines for communication, dissemination and valorisation on quality standards in Open and Distance Learning with stakeholders.

The impact of the study will serve as guidelines for ICDE and its members both related to required resources, but also to ICDE's current 2013-2016 (Appendix 2), and next Strategic Plan 2017 and onwards according to the call (Appendix 3).

1.1.2 Project approach

The ICDE Quality Standard Study 2014 was mainly based on desk analysis and previous research work by the project team and other international researchers, and through earlier conducted projects in the area of quality. Primarily, the secondary sources mentioned in the Joint Bid were used for the mapping and classification. Although, an update review of currently assembled resources was undertaken. The project team initially established a research advisory group (RAG) with global outreach and with organisations and persons who had impact in the areas of quality standards study models. A stakeholder identification and analysis exercise was also carried out for the study.

The data gathering strategy aimed to cover all continents trying to show similarities and distinctions due to culture, languages and maturity of developing quality in online learning, including e-learning. The study focused mainly on documents available in English language versions. Documents in other languages e.g. Spanish, were, in some instances translated, using online translation tools.

The strategy aimed likewise to identify quality spectrum, e.g. certification, accreditation, benchmarking, labelling and frame of references. The purpose of this strategy was to cover quality spectrum at macro, meso level, and micro levels. However, those described deeper here in the report are mainly at macro

[1] http://www.icde.org/filestore/News/Callforproposal-ICDEqualitystandardsstudy.pdf

and meso level as literature on impact on quality of individuals' practice is diffuse. The purpose was also to present the variety of available international quality systems, according to maturity and purpose for measuring and/or enhancing quality in e-learning for institutions and quality assurance bodies.

The data gathering strategy also aimed to include or at least to discuss and reflect on the emerging movement of opening up education like post-traditional online Higher Education as OER and MOOCs and likewise. An overview of the methodology and research design is described in Appendix 5.

1.1.3 Governance of the project and its organisation

The European Association of Distance Teaching Universities (EADTU)[2] is the contractor for this project. EADTU is Europe's leading institutional association in online, open and flexible higher education, and is at the heart of the modernisation agenda of European universities (Appendix 1).

The project lasted between August 2014 and March 2015. The project management approach adopted by the project team is broadly based on Prince 2[3] methodology and terminology (Appendix 4). A research advisory board (RAG) was established at the beginning of the project, as well as the project assurance monitoring group. The project activities have continuously been discussed with the RAG, and the project assurance monitoring group, as well as with ICDE. The preliminary results of the research study were presented during the ICDE SCOP meeting in November 2014.

1.1.4 Structure of the report

The structure of this report consists of five parts. Part 1 describes the project context. In Appendix 1, a presentation of the authors is given. Appendix 2 describes briefly ICDE's Strategic Plan 2013-2016 and Appendix 3 reproduces the call for proposals for this study. In Appendix 4, a presentation of the project management and governance is given, while in Appendix 5, a glossary is presented. Part 2 is a short description of the methodology. A more extended description of the research methodology is given in Appendix 6. Part 3 presents the results and findings. In Appendix 7, descriptions are given of the most well-known and used quality standard models. In part 4, a discussion and conclusions can be found. In part 5, a set of recommendations and proposals are given. The report ends with references and the appendices.

1.2 Context

The global landscape of Higher Education is in a period of dramatic change. Some have labelled the changes as disruptive, others evolutionary, and some revolutionary. By whatever label: how students learn, where and when they learn, how institutions structure programmes and services, and how these services are priced and organised are global challenges. A significant driver of the changing landscape has been the dramatic rise in the use of technology and, through various modes of delivery, the extension of the traditional campus to more learners. The new concept and consequences of unbundling in the educational area are drivers as well. Hence, quality issues are more than ever on the educational agenda.

Globally, Higher Education faces challenges associated with changing social, developmental and technological change, and there are many initiatives and reports on modernisation of Higher Education.

[2] http://www.eadtu.eu/about-eadtu/about-eadtu
[3] http://www.best-management-practice.com/gempdf/bmp-glossary-prince2.pdf

In some contexts the challenges relates to changing perceptions of the function and value of Higher Education as public or private good resulting from the increased participation rates. In other contexts the challenge is of transforming Higher Education systems that have failed to keep pace with increasing populations and struggle to provide campus capacity to maintain participation rates let alone increase them. In the middle ground, there are education systems that are maturing as national economies develop, but where participation in Higher Education is significantly below that of developed western economies. Other trends are associated with globalisation of commerce and trade enabled by technological developments, affecting both goods and services; result in an increasingly global market for those with graduate level qualifications. Thus, not at least according to UNESCO (2015) nations and institutions must consider the future directions of what is taught and how it is taught.[4] Policy statements will inevitably refer to Quality in Higher Education, but without necessarily defining quality. Few would deny that quality is "a good thing", but views on what constitutes quality are very frequently subjective and subject to context specific factors. The rapid spread of digital technologies and the variations in the use patterns based on regional infrastructure and social factors means that they provide tools for addressing educational challenges, but patterns of use will vary.

The online education sector, with its history of pioneering new modes of education, is rich in experience of many of the factors that are cited as relevant to the challenges of expansion and utilisation of digital technologies. In the 1990s, John Daniel, in his book *Mega universities and Knowledge Media* (Daniel 1996), challenged the longstanding assumptions of the linkage between exclusivity and excellence in Higher Education, citing the structured approaches to module development and student support pioneered by the distance education sector. Yet, two decades on quality assurance of the e-learning sector is still considered to be a challenge.

Thus, the online and distance education sector is well accustomed to rising to the challenges now facing the education sector and is in a position to contribute strongly and show leadership in many areas. In addressing the global challenge three very broad contextual categories can be drawn:

i) the old developed world of N America, Europe and Australasia
ii) the newly developed world, South and East Asia, Latin America
iii) the still developing world of Africa and outliers in Asia and Latin America

In i) the landscape is characterised by mature higher educational systems, each with a small cluster of institutions dating back hundreds of years, a more significant cohort of institutions with origins in the late 19th century and significant expansion from mid-20th century onwards. In ii) oldest institutions may typically date from mid-19th century, but with most significant growth being from mid-20th century onwards. In iii) systems with token Higher Education provision in colonial era, significant expansion in early decolonisation era, but in more recent decade's growth failing to meet needs of expanding populations and changing technologies.

Irrespective of regions, the following challenges may be encountered in introducing or adapting quality assurance regimes appropriate for current contexts.

[4] http://www.utpl.edu.ec/ingles/?q=linking/interinstitutional/international-project

i) Adaptation and minor modification of current systems to remove constraints that unnecessarily relate to norms related to traditional face-to-face provision.
ii) Introduction of credible systems of quality assurance that simultaneously address both face to face and online provision.
iii) Historical patterns of development of distance education that lock in norms and standards relevant to a particular set of delivery modes and do not facilitate innovation or introduction of new technologies.

While in all systems face-to-face delivery of teaching remains the predominant mode requirements for expansion have led to adoption of technologically assisted teaching systems, exploiting in turn print and post, web-based and social networking technologies. The longstanding Open University systems have vast experience in delivery and quality assurance of programmes delivered through the technologies of the 1980s and 1990s, but their scale may constrain them from easy adaptation to more recent technologies; hence there is an urgent need to develop quality assurance processes and performance standards for large scale systems based on the low-cost personal devices that may offer the best prospects for transformation of for example African Higher Education.

The recent Tuning Africa report jointly funded by European Union and African Union describes the challenges faced by the Higher Education sector and the role of distance learning and ICT.[5] They highlight arguments on distance learning, ICT and quality assurance, as follows:

Distance Learning
The huge need for access to tertiary education, economies of scale for small countries, the growing trend of ephemeral knowledge and the necessity for lifelong learning, flexibility, versatility and robust outreach will continue to fuel growth in distance learning. But weak quality assurance mechanisms, poor publicity, personnel who are inadequately trained in distance education, limited and unreliable ICT access and controversial content dimensions confront its success.

ICT
While major strides in ICT access have been made, there remain significant institutional, infrastructural and technical challenges to institutions making effective use of the technologies.

Quality Assurance
By 2012, twenty-one African countries had established such agencies and a dozen other countries were at relatively advanced stages in moving towards this direction. Francophone Africa is lagging; only five such countries in Sub-Saharan Africa have quality assurance agencies.
More than 60% of these quality assurance agencies have been created during the last decade and many of them still lack the capacity needed to implement their mandates effectively, necessitating capacity building in quality assurance.

[5] www.tuningafrica.org Report on Tuning Africa project EU/African Union Univ Deusto 2013

Recent initiatives by distance education agencies, the African Council for Distance Education (ACDE) and African Virtual University (AVU) aim to support institutions. ACDEs development of the COL/DEMP framework was finalised in 2012 and has been used for institutional review processes in several of the African Open University systems, notably National Open University Nigeria and Open University Tanzania. The AVU's Quality Assurance Framework was published in September 2014. There is much common ground between the ACDE and AVU frameworks and it is likely that they will be influential in shaping future developments with AVU having particular relevance in Francophone and Lusophone countries.

In Europe, the initiative from the European Commission on Opening Up Education in 2013 aimed to set out a framework for enhancing learning and teaching through new technologies and open digital content at all levels of education. They argued that how online and open education is changing will have an impact on how education is resourced, delivered and taken up. Over the next couple of years, e-learning will grow fifteen-fold, and accounting for 30% of all educational provision, thus this transformation should be shaped by educators and policymakers, rather than something that simply happens to them. Especially in higher education, new technologies act as change agents as they enable universities to meet a broader range of learners' needs, adapting traditional teaching methods and offering a mix of face–to-face and online learning possibilities that allow individuals to learn anywhere, anytime. They also create openings to engage in new kinds of collaboration and offer opportunities to distribute resources more effectively. However, many universities and even governments have been slow to take the lead (EC 2013). Hence, the European Commission followed up with a set of recommendations to drive national authorities and institutions forward to enhance increased digitization for higher quality and competitiveness in education (EC2014).

However, the overarching paradox is that online and distance education systems with their digital content and the persistent record of online transactions provide a rich source of evidence to enable quality assurance and audit processes. If open and distance learning were the current dominant mode of Higher Education and lecture-based education the innovation, the challenge would lie in how to quality assure a form of education in which interactions at the core of the system were ephemeral, highly dependent on personal interpretation by the teacher and student and seldom directly monitored.

1.3 Global Challenges in Open Online Education

The online education sector with its history of pioneering new modes of education is rich in experience of many of the factors that are cited as relevant to the challenges of expansion and utilisation of digital technologies. Some rising global challenges on opening up education are outlined as below:

Scalability: Delivery at scale has been the essence of the founding missions of the many national Open University systems established from the 70s onwards. For these institutions, current challenges relate to managing transitions to new technologies in a way that does not disrupt well-understood existing system. Increased demand for rapid response to enquiries, increased personalisation of study, driven by expectations set by online services in the commercial sector, challenge the economies of scale achieved by these institutions.

Openness: Open, distance, flexible and online education, including e-learning by definition, offers openness in location and in most cases also of time of study, but the strong traditions of openness with respect to entry qualification give some distance education providers significant experience of non-traditional students. Open, distance, flexible and online education, including e-learning providers have also been influential in initiation of the Open Educational Resources (OER) movements and the Massive Open Online Courses (MOOCS) of both x and c categories.

Individualisation: Seen by many as the reciprocal of scalability, however through their use of student centred resource-based teaching systems, distance education institutions deliver individualised learning experiences. Sophistication in their use of Virtual Learning Environment (VLE) systems may enable the delivery of individualised programmes more effectively than the transformation of the conventional sector. Related to individualisation or personalisation is the entire discourse on accessibility, which also raise a lot of questions and demands on how to tailor learning pathways.

Unbundling and the rise of non-traditional educational providers: Unbundling is a new paradigm in the educational sector, hence a longer explanation follows. The separation of the various aspects of education, resources, teaching, assessment, etc., is again central to the operations of distance education. Open, distance, flexible and online education, including e-learning institutions in creating business models appropriate to their context, undertake a thorough analysis of systems requirements and evolve structures that may be significantly different from those of conventional institutions.

Non-traditional educational providers generally offer education that is mostly coursework or modules, with a range of courses that could be career-focused or general education or general interest. They often offer student support by course assistants rather than academic faculty; students attend episodically and up until now providers have relied mainly on market forces for judgements as to their quality. Until recently, providers of adult and/or professional training have formed the most prominent part of this group. In employment related domains, the certifications offered by IT and software providers are highly valued for their immediate applicability in the workplace environment and used to complement or even substitute for formal Higher Education qualification. For example, South Asian based providers of Information and Technology (IT) training and certifications have expanded both geographically and in the scope of their offerings. They provide qualifications that are designed to provide evidence of generic employability skills that complement a degree from a standard state university. Likewise, major mobile phone networks are adding educational services to their portfolio of customer services. They bring to their activities extensive experience of the operation of the quality assurance regimes operated the software and customer service industries.

The partitioning of teaching responsibilities has long been commonplace in open, distance, flexible and online education, including e-learning institutions whose scalability is often dependent on the use of locally based tutors to interface directly with students. Monitoring the performance of these staff is part and parcel of their quality assurance processes. There is widespread evidence, from Europe, Asia and Americas that open, distance, flexible and online education, including e-learning providers, satisfy national regulators with the quality of their student support services and often rank higher than conventional institutions.

The rise of MOOCs, and the creation of providers such as Coursera, and others, where institutions and companies collaborate on course design and provision, has created a significant new category of provider,

which falls neither under the category of Higher Educational/Vocational Institutions or of typical adult training centres.

In addition, the open education movement is serving as a catalyst for other types of companies providing only specific steps in the process, including:

- Companies licensing course content produced by educational institutions;
- Universities who specialise in awarding credit for recognition of prior learning, and supplementing it with a few taught credits to acquire a degree;
- Specialist examination and certification companies; and
- Textbook publishers who enhance the classroom experience by creating online learning experiences and communities to accompany their textbooks.

Thus open, distance, flexible and online education sector is well accustomed to rising to the challenges now facing the broader education sector and is in a position to contribute strongly and show leadership in many areas.

2 Research methodology

The issues addressed in this project were the provision of an overview of standards, guidelines and benchmarks for quality in open, distance, flexible, and online education, including e-learning, described in a systematic and easy understandable way. The analysis of and the recommendation for which standards and guidelines that are most relevant for the ICDE membership, should take into account the main differences among the ICDE membership throughout the world, e.g. geographical area, state versus private institutions, political support for open and distance education, and existing quality structures. Furthermore an analysis of opportunities for ICDE should be addressed to align ICDE's work with that of key national and international stakeholders, including quality agencies. Recommendations for ICDE's future work and strategies on quality guidelines, benchmarks, standards and quality should be given together with a presentation of a series of proposals, which ICDE may realistically pursue, including an analysis of resources required.

The schedule and resources available did not allow for an extensive interview process, so research was based predominantly on readily available documentation and targeted contact with known activist in the field of quality.

There is probably no topic in education which is so discussed and controversial as quality. One discourse on quality in the domain of open learning in the 21st century is, as Ossiannilsson (2012) discussed in her research, in the area on quality in e-learning. This is also emphasised by Uvalić-Trumbić and Daniel (2013 2014), and recently, Bates (2015) argues that quality is defined:

...as methods that successfully help learners develop the knowledge and skills they will require in a digital age.[6]

The concept of a "quality e-learning system" refers to "one in which the learner has a reasonable opportunity for success in reaching their learning goals".

A glossary is given in Appendix 5. In this report, often the term open online education is used; however, the concept refers as well to e-learning, flexible learning, online learning, distance education and distance learning, etc. A more comprehensive description of the research methodology is given in Appendix 6.

[6] http://www.tonybates.ca/2015/02/23/what-do-we-mean-by-quality-when-teaching-in-a-digital-age/#comments

3 Results and Findings

Throughout the research, there is an evident conflict between use of the word quality as a comparative term and its use in the description of systems for the management of institutional processes. A literature survey presents an overview of the state of international situation and the subsequent presentation of results attempts to provide a pathway through the various interpretations and systems in use. The concept of a spectrum of approaches to quality is introduced, as are concepts of progression to maturity by both institutions and quality agencies. Key characteristics of quality systems are introduced and stakeholder interests and perceptions explored.

3.1 Literature Survey

The challenges of quality assurance of e-learning are a longstanding topic of interest with a growing literature base for review. Frydenberg (2002) analysed quality dimensions in a number of quality models for e-learning, and she proposed nine criteria areas as domains of e-learning quality. They are as follows: executive commitment, technology infrastructure, student services, instructional design and course development, instruction and instructor services, financial health, program delivery, legal and regulatory requirements and program evaluation (in Ossiannilsson 2012 p 65). In a study of quality in online education programs Shelton (2011) argued that quality is strongly related to and requires strong and ongoing support, motivation and overall policies. In this survey, this was more important than technology, cost-efficiency and management (in Ossiannilsson 2012 p 68). Ossiannilsson (2012) investigated and reviewed in her research on benchmarking e-learning in Higher Education also international Quality Standard models (e.g. available in English). She argues for a conceptual and holistic approach to quality, and to see quality as a dynamic process, as the area of e-learning is changing rapidly. Furthermore, she argued the importance to raise and create culture of quality at all levels, within the Institution, with staff and students, more than to rely on standards set from above. She also emphasised the importance to include students in the quality enhancement work and mission. Jung and Latchem (2012) make the following important points about general quality assurance processes within institutions, based on a review of quality assessment processes in a large number of online and distance education institutions around the world. They stress the needs to take a systemic approach to quality assurance, to see quality assurance as a process of continuous improvement, and to move the institution from external controls to an internal culture of quality. Furthermore they argue that the leading measures of quality focus on outcomes. Finally, they state that as poor quality has very high costs, so investment in quality is worthwhile.

ICDE's 2011 study of quality assurance regimes in the Asia Pacific region indicated that almost all governments in the region had systems in place for the accreditation and quality assurance of Higher Education with many, specifically addressing distance education and online provision. While the ICDE study comprehensively documents the systems a study funded by the International research Centre (IDRC) Openness and Quality in Asian Distance Education, investigated the actions of institutions. It covered 16 distance educators' providers/programmes from a wide range of countries, e.g. India, China, Thailand, Indonesia, Sri Lanka, the Philippines, Malaysia, Japan, Singapore, Hong Kong, Korea, Pakistan and Mongolia. It shows a variety of approaches taken to develop and improve quality assurance systems in Higher Education and in addition useful insights on their own quality context have been given (Jung,

Wong & Belawati 2013). Some lessons learned from this survey are that most important is the creation of a quality culture. It is difficult to create a culture of quality through just top-down processes. A culture of quality can only be implemented and become sustainable when the staffs involved take ownership of the processes. Responsibilities for quality need to be situated as close as possible to the people involved, and to the operations of given processes. However, it was shown in addition that in countries with national quality policies in place, institutions are keener and have stronger potential and motivation to work on development of sustainable quality cultures down the line. Furthermore, it was explicit in the survey that top institutional leadership had an important role to play encouraging and providing necessary infrastructure, resources, training and support, including incentives for staff and students. Similar findings were explicit in research by Ossiannilsson (2012) on benchmarking e-learning in Higher Education, lessons learned from international projects.

In the Asian survey (Jung, Wong & Belawati 2013), many institutions reported use of the ISO 9000 system demonstrating the applicability of approaches to quality used in the commercial world to Higher Education. For example, the Open University of China (OUC) developed a quality assurance framework with 35 quality indicators across five quality areas: teaching resources development and management; teaching process management; learning support services; teaching management, and, teaching and learning environment (Du, Yang, Yin, and Zhang 2009, in Jung, Wong & Belawati 2013). Most of the other institutions had similar quality indicators for success.

Important challenges for quality development and quality assurance were raised from the Open University of Sri Lanka, they argue that a quality framework should be flexible and dynamic and have the capacity to adapt to changing environments. They also identify the importance and challenges of capacity building for e-learning to be successful; there are needs for investment in human resources for knowledge, training and research in online learning and e-learning. Many academics are not familiar with online learning, hence there are huge demands for professional development and institutions should consider needs and resources on both staff recruitment, and induction, but also provide in-house training, retraining through investment in staff development centres. Other significant problems lie in convincing all staff members that quality is a matter of continuous enhancement to achieve excellence and to be sustainable. It is also very much about trust and commitment for each individual to develop a culture of quality. This was confirmed by several of the other institutions. Overall concluding lessons from the Asian study by Jung, Wong & Belawati (2013) were to:

- Adopt a balanced, systemic approach
- Focus on pedagogy, learner support and management
- Move towards a performance and outcomes-based approach
- Promote a culture of quality and continuous improvement

A comprehensive review of quality assurance of distance and online education in Latin America[7] identifies that the majority of countries in the region have national quality assurance agencies and a growing number have specific requirements relating to the provision of distance and online education. A consortium of nations and institutions was established to develop quality assurance methodologies and criteria. From 2003 the CALED guidelines and criteria based around nine major criteria and cascading sub-criteria have been used for institutional self-assessment purposes across Latin America (La calidad y los estándares

[7] https://abelsuing.files.wordpress.com/2011/05/libro-la-calidad-de-la-educaciocc81n-virtual-virtual-educa-uladech.pdf

de medición de la educación virtual y a distancia en Ecuador: María José Rubio Gómez p 227). As in Latin America there have been barriers to the establishment of large scale unimodal distance education institutions the CALED criteria are particularly applicable to the implementation of distance and online education in bimodal institutions. The principles of self-assessment and flexibility to tailor the criteria and any scoring mechanism to the particulars of institutional purposes renders makes them particularly valuable as a regional resource. Integration with other regional systems, such as those developing in Europe, is identified as a goal of the CALED organisation.

The African Council for Distance Education development of the COL/DEMP framework was finalised in 2012 and has been used for institutional review processes in several of the African Open University systems, notably National Open University Nigeria and Open University Tanzania. The recently published AVU Quality Assurance Framework (Sept 2014) sets out performance criteria in seven major areas. Six of these are commonly encountered in other systems for QA of ODL, but the seventh relates to Community Capacity Building, Development and Engagement. These capacity building factors are core to AVU's objectives of facilitating expansion of Higher Education in Africa through provision of resources and services to enhance the capacity of existing institutions and agencies. The AVU criteria build on COL experience and other examples of international best practice. The Framework is adaptable to specific institutional or national contexts. The 92 criteria statements are accompanied by suggested performance indicators and evidence sources with a proposed five point score rating associated with each performance indicator. There is much common ground, as mentioned above between the ACDE and AVU frameworks and it is likely that they will be influential in shaping future developments with AVU having particular relevance in Francophone and Lusophone countries. At national level, the Kenyan quality assurance agency incorporates sections devoted to online and distance learning within its quality code.

Recently, the European University Association (EUA 2014) conducted a research survey and mapped the state of the art of e-learning in Higher Education in Europe, with responses from 37 countries in EU and the wider Europe. The main issues of the survey were on support structures/services, intra-institutional infrastructure, coordination, quality assurance and recognition. The research showed that the rationales of offering e-learning courses were mainly due to pedagogical and economic motives, demands and needs for flexibility in time and place for learners, both for residential students and a wider range of professionals and other lifelong learners. Rationales were also better use of resources and to enable learners with transversal skills and training, and for entrepreneurial skills. All participants in the survey called for the demands of curriculum changes, as well as assessment methods. The research showed in addition that most Higher Education institutions were reviewing their e-learning strategies, in order to mainstream and to implement e-learning. Additionally, they emphasised that e-learning is a catalyst for innovation. The research showed however, that institutions did not pay much attention to mainstreaming quality assurance or quality enhancement related to e-learning.

Nevertheless, the results from the survey emphasised the demands of mainstreaming e-learning and hence quality issues and strategies both on national and institutional level, rather than reliance on single departments or some enthusiastic teachers and students. The results emphasised demands on Institutional governance and management, in addition with both internal and external quality assurance and quality enhancement.

From the European Commission's report on Modernisation of Higher Education (EC 2014) at least three recommendations directly focusing on quality, those three refers to:

- The integration of digital technologies and pedagogies should form an integral element of Higher Education institutions' strategies for teaching and learning. Clear goals and objectives should be defined and necessary organisational support structures established to drive implementation (recommendation 3).
- All staff teaching in Higher Education institutions should receive training in relevant digital technologies and pedagogies as part of initial training and continuous professional development (recommendation 5).
- Governments and Higher Education institutions should work towards full open access of educational resources (recommendation 13).

The concept and consequences of those recommendations were highlighted as lessons learned even in the report from Asia mentioned above & Jung, Wong & Belawati (2013).

According to Uvalić-Trumbić and Daniel (2014), quality assurance of post-traditional Higher Education is not straightforward, due to openness and flexibility being primary characteristics of new approaches, as traditional approaches to quality assurance are designed for teaching and learning with more tightly structured frameworks

3.2 Quality Concepts

The term "quality" may be used as a comparator to distinguish a product displaying good attributes from one displaying bad, and its use in this way is encountered in higher education through references to *quality universities* by the press and politicians. In this report, the focus is on the use of the term quality in the context of the quality management processes used in the provision of education and their deployment with the purpose of improving performance from key stakeholder perspectives. The terminology adopted aligns closely with that of quality assurance in the business and service sectors and of Quality Codes such as ISO 9001. They are dependent on clarity of purpose at organisational level and of personal responsibility and accountability at individual level. Thus in organisations using a quality approach clear and explicit statements of the organisations' goals should result in a downward cascade to departmental and individual levels so that all can recognise their role in achieving organisational goals. Quality assurance audits aim to test this cascade process through examination of documentation and interview of staff. The adoption of this concept in higher education is now widespread.

3.3 Quality Spectrum

The concept of quality in online education can be elusive and complex. Conversely, educators continue to seek out ideal learning environments and share effective practices for advancing quality. Uvalić-Trumbić and Daniel (2013 2014) argues that the concept of quality in online learning is as complex as the reality of online learning itself. It used to be emphasised that quality is not anything which *is,* but something which is created or caused due to its context. According to Pirsing (1994, p 241, In: Uvalić-Trumbić & Daniel 2014) Quality is not a *thing,* it is something which forms itself in its process. It is an *addiction* (Italics in original). There is a saying which states that quality is in the eye of the beholder. Hence, there are needs to even focus on what the learners (students) themselves see and define as quality. As

consumers/customers their views may not necessarily be the same as other stakeholders. Accordingly there are demands for their involvement in co-definition of quality. [8]

3.3.1 **Quality on macro, meso and micro levels**

As the concept quality is complex and with a variety of stakeholders quality in e-learning can, according to Nordkvelle, Fossland & Nettleland (2013), be reviewed from three levels, e.g. macro, meso and micro level. The three levels can in short be described as macro level meaning national/global general dimensions, meso level refers to institutional matters, and finally, micro level refers to the course/module as such. Hence, when deciding to enhance or review quality in e-learning in Higher Education selection of quality model or quality systems to use, will be influenced by the level and aim of the review. The majority of systems reviewed operate at the meso level.

3.3.2 Interpretations of quality concepts

It is possible to categorise quality assurance systems in Higher Education as presenting a spectrum of interpretations of quality concepts, often dependent on national (macro) and institutional (meso) context and potentially identify steps on a progression to maturity.

The concept of organisations progressing through levels of maturity in their internal competences is best exemplified in the software industry in which the Software Engineering Institute (SEI) Competency Maturity Model's five levels are used to categorise software development companies. Those levels are:

- The first level is the initial *state* (there are no knowledge, nor any enhancement process or quality control or costs mechanisms).
- The second level is the *repeatable* (there are some knowledge*,* work is done on repeatable base, there are some enhancement processes, and quality and costs can be explicit afterwards).
- The third level is the *defined* (this means fully knowledge, there are enhancement processes, and quality and costs can be explicit predicted).
- The fourth level is *managed* (there are some eligibility, changes and processes can be measured and even the impact of enhancement processes can be improved).
- The fifth and last one is *optimised (organisations operate internal quality assurance systems that provide full confidence in their ability to identify and rectify systems deficiencies).*

There is no formal equivalent in the quality assurance of Higher Education, but the concept is broadly relevant in presenting a progression from quality assurance approaches that focus on compliance with standards to those that focus on enhancement.

[8] From a Quality Assurance code perspective there are needs/requirements for students to be consulted in the preparation of the institutional self-assessment and engaged in meetings associated with the quality reviews. This is what ENQA ESG says and many European systems require.

In exploring this journey to maturity it is important to differentiate between norm-based and process-based interpretations of what constitutes quality.

Norm-Based Accreditation  Process-Based Enhancement

As in other sections of the report we characterise the terminology as:

> ***Accreditation*** as being a formal process of recognition or licensing operated by or on behalf of a regulating agency.
>
> ***Certification*** as a process of recognition by a non-statutory organisation such as a grouping of universities or membership organisation (such as ICDE itself).

3.3.3 Accreditation-based systems

Accreditation is interpreted as a process conducted by a national regulatory agency, or similar, empowered with ensuring that institutions comply with the set of defined requirements to operate as a Higher Education Institution and offer defined qualifications and awards.

The terms of accreditation may define both the physical and human resources deemed necessary. In its simplest terms, an accreditation process might operate as a strictly applied compliance test or as more flexible review of an institution's capabilities of meeting national standards.

Institutional accreditation against norms may happen within three environments:

1. Those where the government acts as a regulator, (and often as a funder of a large part of the system), providing institutions licenses to operate against well-defined parameters.
2. Those where there is very little distinction between institutions and the government, with government policy significantly implemented within and by institutions.
3. Management of accreditation processes by an independent agency, but access to governmental funding is dependent on accreditation by the agency.

In unregulated systems, where all Higher Education institutions (or sometimes only certain transnational education providers) are operating without formal regulation concerns over quality and consumer protection have been powerful drivers for the introduction of mandatory accreditation.

3.3.4 Norm-based systems

Accreditation is sometimes operated as a tool to ensure conformity with norms for staffing, accommodation and resourcing and may be based on traditional expectations of Higher Education institutions. Norms are often a blunt and inflexible instruments. For distance/online education, the challenge is to secure adaptation of norms to address relevant factors in such a way as to encompass

open and distance learning methodologies without undue prescription of institution's operating model or inhibiting future technological innovation.

There is the risk that attempts to embrace distance education might result in the creation of inappropriate and rigid norms that lock distance and online education providers into a specific set of pedagogies and technologies.

High Levels of reporting may be required to demonstrate compliance with standards and norms with significant institutional effort consequently invested in maintaining and presenting data at the expense of improvement and enhancement activities.

Norm-based Accreditation systems may be perceived as control mechanisms that restrict innovation and change.

3.3.5 Maintenance of standards

Accreditation-based systems may reach a state of stability where norms are routinely adhered to as indicated by regular reporting. Institutions operate internal data collection and monitoring systems that provide assurance of adherence to norms, but do not address quality improvement in a structured fashion. The bureaucracies of agencies and institutions conduct dialogues that bypass the academic activities of the institution.

These systems are unlikely to encourage innovation and improvement and inappropriate norms may inhibit the launch of open and distance learning initiatives as their operation would require significant deviation from existing standards and norms.

3.3.6 Quality assurance-based

Institutions operate systems of quality assurance that are based on principles of the quality movement requiring higher levels of engagement over and above simple reporting of statistics. These systems generally depend on the interrogation of some form of institutional self-assessment structured by nationally determined activity areas. Originating in practices in North America, Europe and Australia, these principles form the core of most current quality assurance systems. The operating agencies generally have a degree of separation from direct governmental involvement and may be representative of or even "owned" by the university sector. Peer participation in review processes is generally employed and engagement with both staff and students is a routine component of reviews. Review outcomes may present both an evaluation of current performance against broadly interpreted national standards and also recommendations for improvement.

They share much in common with the principles of the industrial quality movement in focusing on clarity of organisational purpose that is cascaded through the organisation so as to ensure that individuals understand the contribution of their role and how improvements may impact on overall achievements.

Successful implementation of these systems should result in incremental improvement of institutional performance and departments/ individuals should be able to identify their contributions to these. When these conditions pertain, the systems operate in a fashion consistent with the principles of the quality movement.

Though these systems may allow institutions significant scope to define their own mission and purpose within the prevailing national context, they may still present significant challenges for open and distance learning institutions if defined activity areas are rigidly interpreted by reviewers or institutional managers and do not allow for variation in pedagogic methodologies and changing technologies.

Providing open and distance learning institutions are allowed scope to present and justify their modes of operation, there few reasons why they should not operate effectively within this sector of the quality assurance spectrum.

3.3.7 Mature enhancement based systems

In some instances, national Quality Assurance Systems enable institutions to operate their own internal quality assurance processes with light touch oversight by national bodies. National standards are adhered to across Higher Education institutions; their students and sponsors have broad confidence in the Higher Education system. Internal quality assurance systems are mature and review processes may be used to ensure that these systems operate effectively. Consistent with the principles of the quality movement, the focus is on improvement and the main function of external review is to ensure institutional focus is on enhancement of teaching quality. Systems should be neutral in respect of selection of pedagogy and technology and supportive of justified pedagogic innovation.

This analysis presents a journey to maturity for quality assurance regimes. The starting point will vary dependent on the national context, but the direction of travel should be towards increasing reliance on institutional processes matched to institutional mission rather than adherence to strict norms.

3.4 Quality Standard Models

The analysis on the quality models confirms research by Ossiannilsson (2012) that most quality standard models relate to three to six main dimensions, as for example described in the E-xcellence by EADTU (Williams, Kear & Rosewell 2012), and also confirmed by Bacsich (2009-2011). Those three main domains are sub-divided into six areas, set out in Figure 1 below:

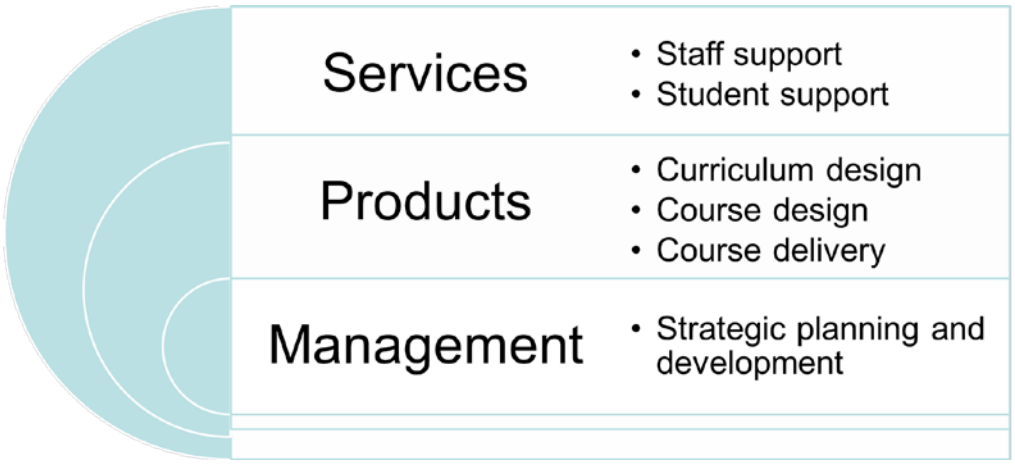

Fig 1 Three significant main areas related to quality in online learning, including e-learning (Ossiannilsson 2012)

Though some in the educational world may feel uncomfortable with the titling of the areas, they do represent a logical presentation of provision of education within a strategically managed organisation. Direct mapping to a specific traditional academic organisational structure might not easily translate to the structures best fitted to innovative modes of educational delivery.

In the context of unbundled education, separation into these three areas could be seen as a coarse grained model of how the disaggregated service components of in the unbundled world might be grouped for quality assurance purposes.

The methodologies reviewed show a great deal of common ground with differences largely in the grouping and detailed granularity of the topic areas and benchmarks. The typical structure of the documentation associated with the quality tool is set out below, as in Fig 2, from EADTU E-xcellence, the first part on Strategic Management and the first Benchmark no 1.

The institution has an e-learning strategy that is widely understood and integrated into the overall strategies for institutional development and quality improvement. E-learning policies conform to legal and ethical frameworks.

All excellent	Some excellent	Adequate	Mainly adequate	Inadequate
☐	☐	☐	☐	☐

Please add your comments or refer to evidence:

Fig 2 The first part on Strategic Management and the first Benchmark no 1, from EADTU E-xcellence

From this statement cascade further subsidiary statements, possibly four or five, presenting contributory components e.g. “1.1 The plan outlines the physical and human resource implications”. Each of these is accompanied by performance indicators and a guidance note on sources of evidence to demonstrate compliance. Many systems include some form of scoring system, typically based on a Lickert scale that can be used for advisory purposes if the system is designed for internal use within institutions, but may be numerically scored if the system is implemented by an accreditation agency.

Systems may be paper-based but several offer online versions with automated generation of performance profiles. Though typically structured around 6-10 main topic areas, the extensive use of subtopics can result in frameworks with in excess of 100 scored items. Arguably, the more numerous the topics, the more constrained the system may be in its application, as it may define levels of activity that are not found in all institutions. This is a particular risk in systems that emanate from the practices of a single institution, are not generalised and may include very specific performance indicators.

Implementation of accreditation and certification schemes is dependent on peer review teams interrogating documentation and staff to verify the statements and assertions made in documentary submissions. The availability of suitably experienced and trained personnel has been seen as a barrier to implementation, but increased use of open and distance learning techniques should reduce this challenge.

Use of the systems to develop an institutional improvement plans is a specific objective of several of the schemes reviewed. The EADTU E-xcellence scheme makes this a specific requirement of for the award of the E-xcellence Associate in Quality Label with periodic re-assessment focusing on progress in implementation of the improvement plan.

Below in the quality matrix follow some examples from our reviewed quality standard models, and those represented here are some of the most used and well-known quality models. In the matrix, they are related to the purpose of the model.

3.5 Quality Matrix

In the second stage of review, we clustered the Quality Standard Systems from a selection of those considered the first round, e.g. those which were in use, covering all (most continents), target groups, stakeholders, post online Higher Education (OER; MOOCs and similar Academic Partnerships). Other criteria for clustering were global and/or national level, and their intended use in benchmarking, accreditation or certification, Table 1. In addition, authority body, e.g. association, agency or just as a theoretical or practical frame of reference, were also seen as criteria.

Table 1 Most Used Quality Models

Quality Model	Certification	Benchmarking	Accreditation	Advisory Framework
ACDE (the African Council for Distance Education Quality Assurance and Accreditation Agency)				
ACODE (the Australasian Council of Open, Distance and e-Learning)				
AVU (the African Virtual University)				
CALED (the Latin American and Caribbean Institute for Quality in Distance Education)				
CHEA (the Council for Higher Education Accreditation), US				
E-xellence EADTU (the European Association of Distance Teaching Universities), NL				
OpenupEd EADTU (the European Association of Distance Teaching Universities), NL				

UNIQUe EFQUEL(the European Foundation for Quality in e-Learning), BE	■			
ECB Check EFQUEL (the European Foundation for Quality in e-Learning). From Dec 2014 GIZ (Deutche Gesellshaft fur International Zuzammenarbeit), DE	■			
The eLearning guidelines (eLg) Ako Aotearoa, developed by Tertiary Education Commission, led by AUT University and Massey University, New Zealand				■
The E-Learning Maturity Model (eMM) New Zealand Ministry of Education Tertiary E-Learning Research Fund				■
E-learning Quality Model (ELQ) NAHE (The Swedish National Agency for Higher education)				■
Epprobate The Learning Agency Network (LANETO e V), DE	■			■
Khan* eight-*dimensional e-learning framework **Badrul Khan**				■
The OLC Quality Scorecard Online Learning Consortium, (former Sloan-C), US	■			■
OER TIPS The Commonwealth Educational Media Centre for Asia (CEMCA)				■
Pick&Mix Matic Media, SERO Consulting Ltd, UK		■		

3.6 Characteristics of Quality Systems

Our analysis yielded a set of elements, which we found characterise the majority of the systems analysed, and which, in our view should form core characteristics of any quality system for e-learning. As such, they

can be seen as both useful for a high-level analysis of the field and further as a framework for improvement and benchmarking of the systems themselves.

Thus, we find that quality systems in the field are:

- **Multifaceted –** systems use a multiplicity of measures for quality, and will often consider strategy, policy, infrastructure, processes, outputs and more so as to come to a well-rounded view of holistic quality.
- **Dynamic –** flexibility is built in to systems, to accommodate for rapid-changes in technology, as well as social norms. For this reason, they rarely refer to specific technological measures, and rather concentrate on the services provided to users through that technology.
- **Mainstreamed** – while all the quality tools surveyed aim at high-level quality improvement, this is intended to trickle down throughout the institution and be used as a tool for reflective practice by individual members of staff in their daily work.
- **Representative –** quality systems seek to balance the perspectives and demands of various interested stakeholders, including students, staff, enterprise, government and society at large
- **Multifunctional –** most systems serve a triple function of instilling a quality culture within an institution, providing a roadmap for future improvement, as well as serving as a label of quality for outside perspectives

Furthermore, the majority of systems reviewed are designed to be complementary with the dominant, institutional self-assessment based, model of quality assurance thus integration of quality assurance with that of its conventional provision is in most cases a practicable option. Whatever quality model, which is chosen or used, existing ones, or ones developed in the future, the above mentioned characteristics have to be considered. Above that, considerations have to cover a set of principles, such as:

- **Contestable/ debatable –** As there are many stakeholders with a variety of interests, as well as quality is multifaceted, etc., there are many opinions that constitute bad, good, and or excellence quality. While the review systems are designed to provide a structure for objective assessment of quality, it is difficult to remove all elements of subjective judgement, as quality used to be described as being … "in the eye of the beholder". Those systems that invoke peer review and seek to form a community of users assist in the development of shared perceptions of quality levels.
- **Context bound contextualises generic vs content, e.g. subject-based – T**here is a tension between whether quality can be based on generic dimensions, and or if quality is content-/subject-based. In the context of open and distance learning, the delivery and support mechanisms must have parity with academic rigor if effective teaching is to be delivered. Hence, local contexts of culture, language and infrastructure will influence assessments of institutional quality,
- **Open culture/practice core of culture –** The way we measure and look at quality will surely differ in emerging open cultures and practices in changing learning landscapes and unbundling contexts and with increased personalisation. Flexible systems for quality assurance offer better prospects for adaptation to changing practice and effective operation of improvement strategies will facilitate innovation.
- **Personalisation –** Personalisation of learning and education is more and more valued, and there might be tensions what that means for quality and quality dimensions, as those are often set from organisation's points of view. As Bates (12/01/2015) phrases it: …*we will not talk about online*

learning in the near future (2020). The future is about choices and this gives consequences for students and learners, for faculties and instructors, for institutions, as well as for governments. Accessibility, related to individuals with special needs, is strongly related to personalisation, and this feature needs to be addressed in any quality model, if not it is a gap in quality enhancement and quality assurance.

Those set of characteristics might have impact on how quality in e-learning, online learning is discussed.

3.7 Nature of Quality Interventions

We find that the type of quality system applied, and/or the way in which a particular system is applied, varies widely depending on the institution's maturity with e-learning processes, Table 2. Based on the stage at which an institution is, we find differences in:

- the type of quality criteria and methods employed
- the role of quality managers, reviewers and external assessors

Table 2 Quality interventions

	Initial / Early Stage	Developing	Mature	Evolving
Stage description	planning or just beginning to introduce e-learning	e-learning is introduced, but system is scaling up, and processes are still in flux	the e-learning system is established, and running using well-established processes	the institution is moving beyond well-established processes to achieve excellence
Purpose of quality schemes	provide a template for system-design	verify correct implementation of processes – address failures	stimulate and support continuous improvement	provide an excellence benchmark
Role of quality managers /reviewers	consulting as to implementation of the standard	auditing as to whether the specificities of the standard are reached	monitoring of processes and outputs, and recommending improvements	benchmarking outputs against excellence criteria

3.8 Stakeholder Perspectives

The major stakeholders in the processes of education are the institutions, their staff and students, governments and other funders, professional bodies, employers, and the general public as direct or indirect consumers of the outputs of the educational system. Their interests will variously focus on the quality of educational experience provided to students, the contribution graduates make to the economy and national well-being and the costs and efficiency of the system. Protection of the interests of these

stakeholders is among the reasons for the introduction of national quality assurance regimes. There may be particular interests in the application of regulation and quality assurance to novel modes of educational delivery to protect existing institutions from international competition, but analysis at the macro level of the political complexities lies outside the scope of this study. The analysis presented focuses at the meso level and concerns stakeholder groups identifiable at institutional level.

3.8.1 Perspectives of institutional stakeholder groups

Many of the methodologies reviewed make reference to addressing the needs of stakeholder groups within their criteria particularly in those sections addressing institutional strategy and selection of curriculum. However, the Ako Aotearoa-funded project led by New Zealand Tertiary College (2014 is unique in developing e-learning guidelines for quality in e-learning, that consider both stakeholder perspectives and aspects of institutional maturity aspects. The e-Learning guidelines (eLg) have been developed to assist the tertiary sector in its engagement with e-learning. The guidelines offer prompts for reflection from five perspectives – the learner, teacher, manager, organisational leader and quality assurance body. When considering one of these perspectives in the e-learning and e-teaching process, the guidelines assist the design, implementation and enhancement of practice to ensure thoughtful and effective e-learning provision. Table 3 provides an exemplar of the document's structure and approach. The stakeholder perspectives are maintained in the more detailed topic by topic guidance.

Table 3 Stakeholders perspectives and maturity levels (eLg 2014)

	Designing	Implementing	Enhancing
Learners perspective	*The planning, design and preparation of e-learning and assessment materials for delivery to a set of learners. It considers collaborative design, teaching, learner skills, needs and support (p 4)*	*To support the effective delivery of e-teaching and e-learning. It considers teaching, collaboration, professional development and technical aspects (pp 4-5)*	*The forward planning for ongoing improvement and sustainability of e-learning. It considers ongoing professional development and the gathering and use of evidence for continued improvement and effectiveness (p 5)*
Teacher perspective	*The planning, design and preparation of e-learning and assessment materials for delivery to a set of learners. It considers collaborative design, teaching, learner skills, needs and support (p 9)*	*To support the effective delivery of e-teaching and e-learning. It considers teaching, collaboration, professional development and technical aspects (pp 9-10)*	*The forward planning for ongoing improvement and sustainability of e-learning. It considers ongoing professional development and the gathering and use of evidence for continued improvement and effectiveness (p 10)*
Manager perspective	*The planning, design and preparation of e-learning and assessment materials for delivery to a set of learners. It considers collaborative design, teaching, learner*	*To support the effective delivery of e-teaching and e-learning. It considers teaching, collaboration, professional development and technical aspects (p 17)*	*The forward planning for ongoing improvement and sustainability of e-learning. It considers ongoing professional development and the gathering and use of evidence for continued*

	skills, needs and support (p 17)		*improvement and effectiveness (p 18)*
Organisational leader perspective	*The planning, design and preparation of e-learning and assessment materials for delivery to a set of learners. It considers collaborative design, teaching, learner skills, needs and support (p 23)*	*To support the effective delivery of e-teaching and e-learning. It considers teaching, collaboration, professional development and technical aspects (p 23)*	*The forward planning for ongoing improvement and sustainability of e-learning. It considers ongoing professional development, and the gathering and use of evidence for continued improvement and effectiveness (p 24)*
Quality assurance perspective	*The planning, design and preparation of e-learning and assessment materials for delivery to a set of learners. It considers collaborative design, teaching, learner skills, needs and support (p 28)*	*To support the effective delivery of e-teaching and e-learning. It considers teaching, collaboration, professional development and technical aspects (pp 28-29)*	*The forward planning for ongoing improvement and sustainability of e-learning. It considers ongoing professional development and the gathering and use of evidence for continued improvement and effectiveness (p 29)*

3.8.2 Work of specific international stakeholders

UNESCO and OECD together published the Trans National Guidelines for Quality Provision in Trans National Higher Education to assist in understanding the issues associated with liberalisation of cross border, or transnational education. While the guidelines do not make specific reference to online or post-traditional Higher Education, they create a set of overarching recommendations for governments in dealing with quality of cross border education, including an invitation to:

- Governments to establish comprehensive systems of quality assurance and accreditation for cross border Higher Education, recognising that this involves both sending and receiving countries.
- Higher Education institutions and providers to ensure that the programmes that they deliver across borders and in their home countries are of comparable quality and that they also take into account the cultural and linguistic sensitivities of the receiving country.
- Student bodies to get involved as active partners at international, national and institutional levels in the development, monitoring and maintenance of the quality provision of cross border Higher Education.

In particular, the recommendations on ensuring “comprehensive systems” of quality assurance puts the onus on governments to revise current systems to take account of developments being realised to opening up of education and unbundling as discussed earlier.

In the UNESCO 2012 Paris declaration, it is recommended that member states “promote quality assurance and peer review of OER. Encourage the development of mechanisms for the assessment and certification of learning outcomes achieved through OER.” In its communication on “Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational

Resources" the European Commission recommends the creation of "new quality frameworks for OER and mapping with curricula".

The US Council for Higher Education Accreditation (CHEA) has established a specific group of international experts to specifically task with discussing issues surrounding OER, open education, post-traditional education and other challenges facing education, and providing policy advice on how to deal with them from a quality standpoint.

The International Standards Organisation (ISO) has set up a Project Committee to propose a Quality Management Standard for Educational Organisations (ISO 21001) – providers of e-learning have been included as a specific target of the standard.

The European Association of Distance Teaching Universities created the OpenupEd Consortium – an alliance of MOOC providers who all agree to follow the same quality principles and practices.

3.8.3 National approaches to quality

At national level, governments and quality assurance agencies often work closely on issues surrounding recognition, accreditation and quality assurance. With respect to quality assurance and accreditation in particular, four approaches have been identified in dealing with the challenges posed by e-learning and distance education:

- **Creation of specific criteria**: several countries have specific, comprehensive sets of criteria for e-learning providers, and/or distance teaching institutions.
- **Mainstreaming into overall quality assurance:** several other countries, have updated or reviewed their existing quality assurance criteria, and found that a single set of criteria can cover all types of institutions. A notable example of this is the UK, which moved from advisory guidance in its code of practice to a mainstreamed system that is neutral on modes of delivery.
- **Hybrid/personalised system:** while at the moment only partially implemented or under discussion, quality assurance systems can have a standard 'core' applicable to all kinds of education and organisations, with add-on 'modules' specific to distance or e-provision.
- **No approach** – other systems have not considered the impact of e-learning onto their criteria, creating sometimes perverse results, such as limitations on the size of classrooms, or requirements for physical facilities which are not required for e-learning.

3.8.4 International coordination of quality systems

Trans National Education, and in particular e-learning has been a frequent subject of trade negotiations in recent years, in particular of the:

- General Agreement on Trade Services (Multilateral – World Trade Organisation)
- Directive on Services in the Internal Market (Multilateral – European Union)
- Transatlantic Trade and Investment Partnership (Bilateral – EU-US)

The aim of such negotiations is a harmonisation of regulations around trade, to remove unnecessary barriers created by over-regulation. Examples of such barriers include:[9]

- Restriction on electronic transmission of course material
- Non-recognition of degrees obtained through distance mode
- Prescription of minimum standards or attainments
- Insistence that providers be accredited in the home country
- Insistence on a local partner to allow provision

While in theory, the removal of such barriers would aid internationalisation of education, and digital education in particular, the inclusion of education in these trade negotiations is widely opposed by university groups, teacher unions, student unions and others, on the grounds that national autonomy over quality standards might be lost, with a consequent weakening of national quality standards.

However it must be recognised that in some contexts there are strong market motivations for individuals to secure transnational qualifications, whether formally recognised or not, in the belief that they will provide an advantage in securing private and multinational sector employment. The MOOCs movement is also promoting the value of additionally in the range of formal and informal credentials that individuals might hold citing the advantages of access to the teaching of world class institutions to students in nations whose educational systems are challenged through lack of resources.

Resolution of the stakeholder tensions between protection of national systems and access to high-quality services irrespective of origin is currently best handled in those countries where transnational education is regarded as a valued national business. Regulation and quality assurance requirements acknowledge the importance of institutional legitimacy and adherence to quality assurance standards of both host and originating countries in some instances invoking joint review activity between agencies. Instances of good practice are evolving in South East Asia and the Middle East.

In an increasingly complex and changing environment for transnational education provision all legitimate stakeholders have a responsibility to work collaboratively to protect students from degree mills and bogus accreditation and credential systems.

[9] http://unesdoc.unesco.org/images/0014/001473/147363e.pdf

4 Discussion and Conclusions

Internationally, there is a movement towards convergence in the processes of quality assurance in Higher Education through the work of regional and global bodies, such as ENQA, CHEA, APQNE, INQAAHE, etc. Universities are complex and sophisticated institutions; their "products" are not tangible and readily assessed against definable physical norms hence any process of evaluation is likely to have a significant subjective and comparative component. The emerging standard model is one based on the preparation and review of institutional self-assessments that give institutions scope to describe their institutional missions and the processes in place to deliver them. In the Higher Education sector peer, review forms an important component of many quality assurance systems with peer judgements standing in place of defined standards and norms.

In differing national and regional contexts, it is possible to identify a spectrum of quality systems ranging from tightly defined regulatory systems to more open systems allowing institutions significant latitude in the interpretation of national standards. Models of the progression to maturity of quality assurance systems have been developed and presented, which address approaches to quality at macro level (national systems), meso level (institutional) and micro level (team or individual practice) Table 4.

Table 4 Quality Assurance Agencies vs Institutions

QA AGENCY ► Institution ▼	**Norm Based**	**Institutional Review based**	**Enhancement Focused**
Enhancement Focused			
Institutional Review Based			
Norm Based			

In parallel, it is possible to identify institutional journeys to maturity in their use of e-learning. In many conventional institutions, e-learning activities had their origins in initiatives at departmental or even individual level. With this cottage industry/bottom up style of development expansion was often slow with little experience sharing and knowledge transfer between departments. While students may enjoy stimulating teaching, quality assurance and resilience is highly dependent on individual rather than institutional systems. The introduction of Virtual Learning Environments (VLEs) as essential components

of institutional infrastructure enabling e-learning and off campus provision has ensured that the majority of institutional strategies acknowledges the role of e-learning and increasingly addresses its development in institutional strategy. In the US, the Online learning Consortium (formerly Sloan Consortium) has tracked these trends in its annual surveys[10] with the most recent data indicating online provision is regarded as critical to future strategy in 70% of institutions. In the cascade of institution policy downwards to departmental level top-down and bottom up innovation meet. Negotiation of appropriate internal quality assurance processes that both ensure conformity to institutional norms and encourage innovation can present a challenge.

Applying these concepts of progression to maturity in quality assurance to both institutions and national systems offers the possibility to classify the prevailing context for particular institutions and identify routes for improvement.

At the lowest levels of maturity (cell 1.1), quality assurance systems are norm-based and institutional systems confined to reporting of compliance. Poorly resourced quality assurance agencies may face challenges associated with regulation of rapidly expanding private providers whose motivations range from the high levels of philanthropy to profit maximisation. Regulation of online learning adds significantly to the difficulties these organisations face and progression to higher levels of maturity may be challenging.

We speculate that in the majority of European, North and South American and Asian countries cell 2:2 best represents the situation pertaining with stable quality assurance regimes and many institutions aspiring to higher levels of performance. However, the challenge of integrating non-traditional teaching modes may not be fully resolved in all cases

At the highest level of maturity (cell 3.3), institutions meet their institutional objectives with processes in place to ensure enhancement. At this level, quality assurance systems have become neutral on mode and technologies of delivery enabling institutions to establish their own mix of campus and off campus delivery modes to meet their institutional objectives.[11]

Distance education and online providers with their reliance on systematised approaches to curriculum development are likely to outperform their conventional counterparts in quality assurance regimes operating at levels 1 and 2 in which clarity of institutional purpose and availability of data predominate. However, the rigidity of their systems may prejudice their abilities to show flexibility in timely enhancement of teaching.

This matrix is presented as a simplistic model, but offers scope for refinement through examination at macro, meso and micro levels.

[10] http://en.wikipedia.org/wiki/Benchmarking_e-learning#eMM_.28e-learning_Maturity_Model.29

[11] The UK's Quality Assurance Agency, as an exemplar, earlier included specific references to distance and e-learning in sections of its code of practice relating to Collaborative provision. Following consultations in 2010/11 its codes have been updated and now contain no specific conditions relating to these methods of delivery. Their expectation is that all institutions will deploy technology-enhanced learning in some form in their provision but they leave determination of styles, services and quality assurance as institutional responsibilities. The UK Quality Assurance Agency stance may be the most liberal but other western developed world agencies adopt similar approaches supplemented by advisory documents or referencing such documents developed by other agencies.

While the detailed terminology and grouping of criteria might differ, all quality models we reviewed addressed the major areas of strategic management, curriculum and course development, and the support of students and staff. The specifics of indicators and benchmarks showed differentiation in emphasis and style, but none stood out as adopting a unique approach. Some presented quantified performance indicators in areas, such as staff and student ratios addressing both teaching and administrative functions. Other systems concentrated on principles rather than tight specification.

The documents reviewed fell into three broad classes:

- Accreditation and recognition requirements issued by regulatory bodies
- Labelling and Badging methodologies and schemes operated by membership organisations
- Advisory documents and resources from a variety of sources

The majority of the systems reviewed emphasised the need for a holistic approach to quality and in the use of the quality dimensions adopted, however, some of the accreditation systems placed significant emphasis on baseline staffing and resource requirements.

In undertaking a study such as this, the influence of history in the development of standards and norms becomes apparent through the legacy of successful innovations shaping the expectations of subsequent developments. The accreditation models examined can be aligned with the developments mapped by Taylors Five Generations of distance learning that characterised the media centred approaches to distance and online learning of the large scale institutions of 1970s-1990s.[12]

Institutional case studies presented in Jung, Wong, Belawati illustrate the adoption by Open University Hong Kong and UNISIM of Open University UK-derived quality assurance processes, negotiation of their recognition with local accreditation agencies and their subsequent modification to meet the differing requirements of institutions operating at reduced scale and with more limited resources. Similarly the COL supported DEMP project embedded and codified the quality assurance experience of Open University Sri Lanka. Through the work of ACDE, the DEMP model has been modified and is now being promoted for application in African distance education systems for institutional review purposes. Staffing norms derived from IGNOU experience are embedded in India's Distance Education Council (DEC) accreditation criteria, but the future direction of quality assurance of distance learning in India is uncertain since the transfer of responsibility of DEC from IGNOU to Ministry Education.

Use of ISO 9000/1 systems as the scaffolding for the creation of internal quality assurance systems is illustrated in the development of Universitas Terbuka and Korean Cyber University systems demonstrating that standard quality systems approaches are applicable in developing systems for distance and online learning. However, this pattern of pioneer institutions influencing the development of national systems there is an inevitable lag between innovation and its mainstream into formal regulatory systems.

[12] Developed by Professor Jim Taylor in late 90s and early 2000s as a sequential development model, based on introduction of new technologies into distance education. As many Quality Assurance agencies have yet to engage with the early generations of the Taylor model it illustrates of how regulators can lag behind the innovation. http://www.c3l.uni-oldenburg.de/cde/media/readings/taylor01.pdf

Many of the quality models reviewed gained prominence in the early years of the century and reflect the processes associated with content rich forms of online delivery corresponding with the final tier of the Taylor model. Thus, the experience of the industrialised print-based approach of the early generations of Taylor's evolutionary model is captured and lives on in some accreditation systems, whereas more recent developments have yet to be generalised and standardised.

There is little evidence of the experience of online-community focused education systems being embedded in accreditation systems and any identified national accreditation system that explicitly embraces their use within its criteria have not been found.

In several countries, there is evidence of Quality Assurance Agencies seeking to add guidance and informal standards relating to distance and online education to their existing systems of institutional quality assurance. Notable examples are the Malaysian Qualifications Agency, which provides advice for institutions already accredited, but seeking to extend their activities and Nigeria's National University Commission (NUCN) that has a supplementary accreditation process designed to support expansion of distance learning provision. Neither of these adopts an overly prescriptive approach. In Malaysia, it appears that distance and online learning will be reviewed as an integral component of the institution's provision in line with the increasing maturity of a quality assurance regime that has progressed from control and regulation of the large private Higher Education sector to oversight of quality in both public and private sector institutions. In Nigeria, quality assurance processes are at a lower level of maturity and the NUCN aim is to both improve quality in conventional teaching institutions and enable them to increase capacity significantly through expansion of distance education provision. Their distance education guidelines have both a facilitative and regulatory role providing guiding principles for the development of new modes of delivery and a non-prescriptive approach to consideration of institutional proposals. Proposals are scored in the review process, but no absolute norms are applied. It is believed that this approach will have a positive impact on distance education and conventional sectors to the benefit of all stakeholders. In Kenya, the Commission for University Education guidelines devotes a chapter to distance education offering a flexible, well-balanced presentation of requirements.

Whether addressed at macro, meso- and micro level. There is not one quality model which will fit for all contexts. It is obvious that there are needs for cultural and contextual adaptations, but there is a set of principles for quality in online learning, which allow flexibility and dynamic changes to embrace new technology and pedagogy. These principles have been presented and discussed.

The growth of the MOOCs movement again raises issues relating to the function and practice of quality assurance. The separation of services lends itself to independent quality assurance of each component to appropriate industry norms: media development, customer service provision, etc. However, quality assurance of the full package experienced by students remains unresolved. The traditional universities leading the movement have established their reputations on the basis of their campus-based teaching and, in many cases, the close association of quality with highly selective intake and excellence, a notion that runs counter to the principles of openness espoused by some sectors of the distance teaching community. The stance of Quality Assurance Agencies is cautious, they have no mechanisms in place for MOOCs; however, encourage institutions to adapt the principles and processes used in general provisions to MOOC activity in order to preserves institutional and national reputation. However, the impact of MOOCs remains extremely limited in comparison to the overall scale of global Higher Education provision

and institutions at the core of the open education movement, such as EADTU, are active in pursuing principles based and student focused approaches to the quality assurance of MOOCS.

This study showed well that e-learning today needs to be mainstreamed as we globally are living in an e-society, and in many regions digital native learners are in majority nowadays at Universities around the globe. There are also worldwide debate on opening up education and use the potentials of increased digitization. Likewise, it has been obvious that there are needs to include post online Higher Education, like OERs and MOOCs, and informal learning into quality related issues. Thus, there are questions if quality assurance bodies have the capacity to extend their work beyond traditional Higher Education providers?

The MOOCs movement has emphasised innovation and mass participation outside the mainstream of Higher Education, free mass participation placing it outside the sphere of influence of quality assurance regimes intended to ensure quality provision for registered students supported through public or private purse. The commercial MOOC platforms will focus their attention on the quality assurance of production and support service provision. Models of MOOC production for the content focused xMOOCs may share common features with the modes of module production employed in many distance education institutions being reliant on close collaboration between academic subject matter experts, instructional designers and media professionals; hence, quality assurance processes may be interchangeable. Similarly principles of student support quality assurance may also be transferable, though the larger populations may demand differing service standards than those prevailing in the distance education sector. There is already evidence of initiatives to adapt and transfer methodologies between the standard system and MOOC space. For example, EADTU's OpenupEd project proposes quality assurance criteria for MOOCs that are derived from criteria and benchmarks derived from its earlier E-xcellence scheme. There are indications that statutory Quality Assurance Agencies are exercising caution regarding formal accreditation of MOOCs that lie outside their current remits. For example, the UK Quality Assurance Agency has recently published a statement on MOOCs.[13] It outlines their interests in protection of student interests and of the reputation of UK Higher Education noting that while it has no formal responsibility for the quality assurance, it is actively reviewing developments and those institutions may wish to refer to their MOOC activity in self-assessment and audit documents they prepare for Quality Assurance Agencies reviews.

Thus, in this innovative phase, users have two broad indicators of quality, the reputation of the platform provider and the reputation of the Institution based on its performance and standing of its mainstream teaching activities.

MOOCs are a high-profile example of more general trends for unbundling of education in which learners may use multiple sources to assemble learning packages suited to the specific requirements. They might access content from one source, tutorial support from another and assessment/certification from another. In this unbundled world, each component might be quality assured by different organisations implementing standards relevant to the industry sector, training material development, customer service etc.

[13] http://www.qaa.ac.uk/en/Publications/Documents/QAA-position-statement-MOOCs.pdf

As delivery of teaching and support services via mobile devices assumes greater importance both in the "full service" institutions and the unbundled education space so engagement with telecoms providers will be of increasing importance. They routinely manage customer information, charge for connection and data services and in a growing number of countries manage secure financial transfers. Already they provide educational services to their customers such as online quizzes associated with school level qualifications, language studies.[14] Increased engagement between organisations shaping the future of quality assurance and telecoms organisations is of significant importance.

Agile approaches to quality are recommended as the educational landscape is changing. We are shooting at a moving target group. It is obvious that here are needs for both innovation and excellence on quality in e-learning and online learning, including post online Higher Education.

Judging by our survey, our analysis and our recommendations, we can summarise that:

- There is an extremely large variety of quality tools catering to every variety of audience and need.
- We have not found a gap in terms of analysis of institutional systems, which would require a new scheme to be developed. Although in the case of recognition and unbundling, which are not e-learning specific, there are definite deficiencies.
- We have however found that all the quality systems suffer certain deficiencies (lack of universal applicability, unclear which maturity levels they are best for, widely divergent quality of reviews and of advice given, challenges to respond to change, etc.).
- We do not think that an organisation such as ICDE with its limited resources and staff, is in a position to address these problems by creating a better quality review service.
- We do see a role for an international organisation in the following main areas, all of which are critical:
    - providing a register of good quality systems, and a guide to members on which ones to use for which purpose
    - addressing common issues around training, best practice sharing, localisation, etc., for providers of quality systems
    - working with international organisations to ensure a harmonised regulatory environment
    - working with international agencies to ensure student engagement in determining quality standards

Although we tried to cover all continents, through our extended RAG, and in contact with the ICDE SCOP presidency, many reports, etc., of the most common and used models, are from western countries and in English. Thus, we are seriously aware that there might be gaps in the study and with our results. However, from contacts and through desk analyses of reports, we found similarities how quality in online teaching and learning are discussed, reflected and measured with progression towards a unified approach.

From the result of the study, it is recommended that ICDE and COL might work together with the mobile telecom sector, together with educational experts, to create a set of quality criteria specifically related to mobile learning systems delivered by feature-phone/low-end (cheap inexpensive smart phone, basic smart phone functions) smart phones. Given the lag between technical innovation and implementation of quality standards, this is one area with potentially very high impact that would benefit from concerted

[14] http://www.airtel.in/education

development of appropriate standards that integrate the telecoms sector experience of customer account and service management with the requirements of the educational world.

5 Recommendations

This research study aimed to result in a set of recommendations and proposals to ICDE for communication with their stakeholders, and to set strategic goals. In this section, we present a set of 11 recommendations, and aligned with the recommendations, we also make some proposals for ICDE for their future work, and to be communicated with members, as well as with stakeholders (Appendix 8).

Recommendation 1: Mainstream e-learning quality into traditional institutional quality assurance

Our investigations with stakeholders highlighted two related problems. The first of these is an exhaustion with existing quality assurance processes, indicating that they are already too resource intensive when evaluated on a cost-benefit basis. The second is concern of overlap, or in some cases even contradictions, between different quality labels / systems.

Mainstreaming of 'e-learning' into quality assurance requires disaggregation of the common components of e-learning quality systems and integrating each of these into the appropriate part of the quality assurance process. These are:

- E-learning as technology-enhanced learning: TEL here mainly refers to technology-supported optimisation of learning and teaching processes, but also of governance/administration processes. This could include addition of criteria on providing access to high-quality learning resources electronically, having appropriate technological infrastructure to support classroom-based teaching and/or optimising administrative processes through a paperless workflow to existing quality assurance criteria.
- E-learning as a mode of provision: distance learning, blended learning, problem-based learning, lectures, work-based learning and simulation are all distinct forms of provision, which require distinct measures of quality. Rather than present an entire quality label for each, a mainstreamed quality system would set out a common core of criteria applicable to all teaching and learning, and augment these with modules for each mode of learning – with each module containing only those criteria which are specific to the mode in question.
- E-learning as a driver for innovation: most of the e-learning quality assurance systems reviewed include a focus on innovation. This is displayed through requirements for innovation strategies, rapid iterative review, connection between research and pedagogy and/or an emphasis on learning design (which requires knowledge of latest innovations to select the most appropriate means to reach learning objectives). Mainstream quality assurance systems tend to focus on guaranteeing a set level of quality rather than on acting as a tool for pushing innovation, and could thus benefit from the inclusion of such criteria.

Recommendation 2: Support the contextualisation of quality systems

Many of the quality systems we studied make socio-economic-cultural assumptions that are not equally true in all contexts. Examples of such assumptions include:

- Access to high-bandwidth Internet: a stress is often put on interactivity without considering the access implications of such interactivity in all places.
- Existence of a multi-stakeholder, participatory governance environment: a strong feature of western democracies, this does not necessarily apply in the case of top-down, less participative governance.
- Personal Computers (PC) are the main way to interact with e-learning, when in fact mobile devices are the connection method of choice in many countries.
- Academia universally speaks English or a national language: most quality assurance models are available only in English or in the language of the country from where they originate.

It would be mistaken to limit ourselves to a context assuming that high quality e-learning can only be delivered over high-speed Internet to a Personal Computer, in an English speaking western democracy.

This would suggest a need for stakeholders to:

- Translate existing quality systems to allow for wider access (along with providing for multi-lingual reviewers with knowledge of the cultures, etc.).
- Work with quality assurance model providers to widen the interpretation of specific criteria within existing systems, to allow for more international applicability, and regional sensitivity.
- Support the development of regional quality labels, derived from existing tools and adapted for context.
- Explore possibilities of ICDE and COL working together with the mobile telecom sector and educational experts to create a set of quality criteria specifically related to mobile learning systems delivered by feature-phone/low-end smart phones. This is an area in which there is little current experience and could yield major benefits.

Recommendation 3: Support professional development, in particular through documentation of best practice and exchange of information

All of the systems reviewed took an approach to quality, which required significant knowledge on the part of the reviewers, as in many cases the criteria on their own did not specify the best practice being required. Criteria were littered with terms such as ‘appropriate, suitable, relevant, standard-practice’ and so on, without giving examples of what would be considered to match any of these terms. We see this as a substantial risk inherent to many of the systems, as the quality of the reviews conducted is directly correlated to and heavily dependent on the knowledge and experience of the reviewers. A secondary risk, is that where the standards leave scope for value and/or experience based judgements, there can be significant difference between the opinions of different reviewers, depending on their background.

Practically all review schemes offer some sort of training for reviewers, but follow-up on this is usually limited. For this reason, it is critical to support professional development of reviewers by building up databases of reference materials, which they can use to better understand their role, and improve their skills.

From an institutional perspective, Tony Bates points out[15] that "it is one thing to have a set of standards for e-learning; it´s quite another to implement them. Even rarer are studies that attempt to measure the impact of a quality assurance process on actual quality of teaching and learning".

In particular, we believe that the need for better documentation and reference materials could be achieved by stakeholders through two initiatives, aimed at sharing best practice:

- Creation of an e-learning quality resource hub – an online collection of research papers, quality tools, training materials, etc., which could be useful to both institutions seeking to improve their quality systems, and to quality assurance reviewers. We would recommend that such a hub would be carefully curated to ensure that it focuses exclusively on the best research and tools, without creating unnecessary 'noise'. Examples of more general hubs in related areas include the OER Research Portal,[16] and the Open Education Europa Portal.[17] Also, the EADTU's EMPOWERING Universities initiative guides universities in considering all aspects related to online and open education.[18]

- Create a best practice database, containing curated examples of best practices in institutions around the world, contributed by quality reviewers from examples in real reviews. The database would not necessarily be mapped to any particular quality label/scheme, but rather contain best-in-class examples under a number of categories, such as "institutional policies, Human Resource development, media design, learning design, learning environment", etc. The database would be of particular use to reviewers in writing recommendations for improvement (since it would provide examples of what those recommendations could achieve), and for institutions trying to benchmark themselves against others, in preparation for a review, or in the process of implementing recommendations. It could be complemented by social functionality in the form of forums, wiki or other similar tools.

- Compile and maintain a register of professional development programmes and training materials appropriate for use by institutions and Quality Assurance Agencies.

Recommendation 4: Communicate and promote general principles

We believe a holistic and conceptual approach to quality management is essential towards the implementation of well-functioning quality infrastructure. To this end, in section three, this study set forth a set of universally applicable characteristics for e-learning quality systems, derived from a survey of the principles as included within existing quality systems, from stakeholder opinions/positions, and policy documents. We find that each of the characteristics is essential and intrinsic to a well-operating quality system, whether at programme, institutional or regional/national/international levels.

[15] in his blogpost (15/08/2010) http://www.tonybates.ca/2010/08/15/e-learning-quality-assurance-standards-organizations-and-research/
[16] http://www.oerresearchhub.org
[17] http://openeducationeuropa.eu/
[18] http://empower.eadtu.eu/

We believe that stakeholders should take a primary role in communicating and promoting these general quality principles, through a combination of actions:

- Train reviewers on the quality principles, and providing information about the principles
- Promote the quality principles to distance education institutions, as a foundation on which to build their quality policies, and write their quality manuals.
- Stakeholders should work towards international adoption and mainstreaming of the principles. In particular, we recommend that ICDE engage with ISO, and propose these principles for incorporation in the upcoming ISO 21001 standard on Quality Management Systems for Educational Organisations.

Recommendation 5: Assist institutions in designing a personalised quality management system

This study shows that a wide variety of quality tools are available for e-learning – including tools for evaluation, quality assurance, quality enhancement, self-evaluation, benchmarking, certification, assessment, standardisation and more. All the tools stress that they should be used in the context of creating a quality culture within their institutions.

On the other hand, in particular with regards to e-learning policy and practice, institutions show a wide level of maturity levels, with some needing consultancy on how to develop a quality system for an initial foray into the field, and others seek incremental improvements to a well-developed and widely-deployed system.

To this end, several of the quality systems reviewed provide eligibility checks (e.g. UNIQUe), quick checks with self-evaluation (e.g. E-xcellence) or other similar tools to allow institutions to determine their eligibility to use the tool in question. However, quality-service managers from several of the schemes still mention that queries from institutions that are not appropriate or not ready for the schemes remains a recurring problem.

Recommendation 6: Address unbundling and the emergence of non-traditional educational providers

Technological disruption of educational provision is rapidly leading to a situation where any institution with sufficient expertise can design and deploy a course globally at minimal cost. Coupled with the phenomenon of unbundling facilitated through regulatory changes, pedagogical innovations, and technological evolution, a multitude of specialised providers is entering the certification and assessment space. While still in their infancy, these changes promise to shake up the entire trust infrastructure that has been built around education, particularly Higher Education, in the past years.

Unbundling means that quality systems can no longer be focused exclusively on educational institutions as all-in-one learning design, teaching, testing, and certification providers. New providers are specialising in specific functions of educational provision – however, quality assurance standards and other regulatory instruments which apply to educational institutions do not necessarily apply to them directly, as they not designed to regulate such entities. On the other hand, limitations in legislation could also hinder the same

companies from offering services – e.g. currently only universities can offer ECTS, even though other institutions are capable of offering individual modules at an EQF level of 5 or above.

A diversified (unbundled) landscape will likely require widely (internationally) recognised standards for provision and providers at each unbundled level, backed up by appropriate inspection and compliance bodies regulated by law.

Recommendation 7: Address quality issues around credentialisation through qualifications frameworks

Open education has recently led to an inexorable rise in 'open' or non-traditional qualifications. The same course, depending on various factors, might offer a learner learning badges, a certificate of attendance, a certificate of completion, a 'verified' certificate and/or a full qualification, translatable into university credit. A quality qualification should allow for the dual aim of:

- certifying learning acquired (and the level of it where applicable)
- facilitating the recognition of that learning for purposes of education and employment

The Council of Europe considers recognition to be a "key element of the right to education and a responsibility of society". The current expanding landscape of non-standard and/or institution-specific certification types, as outlined above, is significantly hindering the aim of recognition of that learning, in particular at global level, as well as creating considerable confusion among learners' would-be learners as to the status of their credentials upon course completion.

Global coordination of recognition needs to allow for a variety of qualification-types while at the same time keeping systems harmonised enough to allow for some level of standardisation. Actions for stakeholders to improve the recognition of open learning credentials might include:

- At regional level, working with the hosts of the regional recognition conventions[19], to address the emergence of open learning credentialisation through the coordinating structures created by each of the conventions.
- At national level, working with recognition support offices to ensure they understand and 'support' open learning credentials.
- At institutional level, incorporating the idea of 'quality of credentials' into the quality assurance systems, with a quality credential being one that certifies learning as accurately as possible, while facilitating recognition to the highest degree possible.

Recommendation 8: Support knowledge transfer from open and distance learning to traditional quality systems

Large scale online distance learning programmes have reached significant maturity in a number of countries, having already been active for over four decades. During this time, the institutions in question have gained significant experience in utilising technology to improve process management, course

[19] List of the conventions available from http://www.unesco.org/new/en/education/themes/strengthening-education-systems/higher-education/conventions-and-recommendations/

content and student outcomes. In particular, the burgeoning field of learning analytics is providing insights into processes of teaching and learning, which were never before available for purposes of quality improvement.

The experiences of open and distance learning institutions in implementing and using learning analytics, as well as other technically backed solutions for the enhancement of quality, has clear learning value for the rest of the education and quality assurance community. We therefore recommend that stakeholders should support a programme of best practice sharing between actors in the field, possibly through instruments such as master classes, knowledge sharing workshops and the like.

Recommendation 9: Support quality assurance audits and benchmarking exercises in the field of online, open, flexible, e-learning and distance education

There is a rapid development within the area, of open, flexible, e-learning and distance education. During this present study, stakeholders consulted have shown tremendous interested in this international quality research study. There have been suggestions that a quality assurance audit (such as this one) of the field on a 3-5 year cycle. The resulting reports could become the *de facto* reference point for quality assurance practices around the globe.

This recommendation can be a natural input to the suggested quality Hub, in recommendation 3.

It is proposed that ICDE should take on the responsibilities to carry out this task, as with ICDE's international membership and reach render it is well placed to coordinate international reviews and ensure regular updating. Undertaking a regular cycle of audits can thus be a task for ICDE. Leadership of quality assurance audits would position ICDE as the meta-level resource keeping abreast of improvements in the field.

Recommendation 10: Encourage, facilitate and support research and scholarship in the field of quality

This study has highlighted the urgent needs for research in the field of open and online learning, including e-learning to match the speed in technological development. In addition there are also urgent needs for rapid dissemination and valorisation of research within the area, not at least to mainstream quality in e-learning.

Implementation should address not just best practice, but also next practice and the needs for innovation and sustainability for the 21st century.

Recommendation 11: Encourage, facilitate and support implementing quality assurance related to new modes of teaching

There are urgent needs for stakeholders in the field to implement quality assurance related to new modes of teaching at the governmental, institutional and quality assurance agency level.

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