Australian Government
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Tertiary Education Quality and Standards Agency

Asia-Pacific Economic Cooperation

QUALITY ASSURANCE of ONLINE LEARNING

DISCUSSION PAPER

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Glossary

ACODE	Australasian Council on Open, Distance and e-Learning
AQAF	ASEAN Quality Assurance Framework
AQF	Australian Qualifications Framework
ASEAN	Association of Southeast Asian Nations
BAN-PT	Indonesian National Accreditation Agency of Higher Education
COL	Commonwealth of Learning
CPE	Council of Private Education
DET	Australian Government Department of Education and Training
EADTU	European Association of Distance Teaching Universities
EFQUEL	European Foundation for Quality in E-learning
EHEA	European Higher Education Area
ELQ	E-learning quality
ENQA	European Association for Quality Assurance
ESG	European Standards and Guidelines
HEA	Higher Education Academy
HESF	Higher Education Standards Framework (Australia)
ICT	Information and communication technologies
JISC	Joint Information Systems Committee
LMS	Learning management systems
MOOC	Massive open online courses
MQA	Malaysian Qualifications Agency
MQF	Malaysian Qualifications Framework
NAC	National Accreditation Council
NAHE	National Agency of Higher Education (Sweden)
OLC	Online Learning Consortium
ONESQA	Office of the National Education Standards and Quality Assessment
QA	Quality assurance
QQI	Quality and Qualifications Ireland
RISTEK DIKITI	Ministry of Research, Technology and Higher Education (Malaysia)
SPADA	Sistem Pembelajaran Daring (Indonesia)
TEQSA	Tertiary Education Quality and Standards Agency (Australia)

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Contents

Introduction **4**

Key issues for the quality assurance of online education **6**

Definitions 6

Quality challenges and opportunities 7

Regional and economy contexts **12**

Regional frameworks **18**

Strengthening quality assurance **21**

An integrated approach 21

Institutional practices **27**

Quality domains 29

Practical strategies **31**

Fit-for-purpose systems 31

Benchmarks 32

Evaluation aspects and criteria 32

Toolkit for the Quality Assurance of Online Education 33

Inter-agency and inter-institutional collaborations 33

Conclusion **34**

Resources **35**

Introduction

This discussion paper has been prepared to stimulate new conversations about the quality assurance of online higher education in APEC economies. Higher education is a global, mobile and growing sector, making higher education quality a priority area for policy makers, accreditation agencies, regulators and institutions. As online education increasingly becomes an integrated feature of educational delivery, it is important to ensure that it meets the same quality standards as other modes of education. While online technologies are being used in higher education institutions all around the world for both domestic and cross-border delivery, there are variable approaches to quality assurance across the APEC region, and concerns about the quality of online learning persist.

New forms of technology are creating teaching and learning opportunities with significant benefits for diverse groups of students (see *Figure 1: The benefits of online education for students*). Other benefits include meeting new labour force requirements, facilitating the formation of global partnerships between education institutions, and increasing student mobility. For example, online education has been linked to the development of internationalisation agendas and increasing economic competitiveness. Importantly, online education delivered at scale can meet the educational needs of a broader range of people, particularly in developing economies.

Figure 1: The benefits of online education for students

The benefits of online education for students

Online education can remove the barriers of time and place that might prevent students from participating in traditional on-campus programs. Recent advances in technological capability and teaching methods now mean that the online programs can deliver a high quality, engaging student experience – even in programs such as engineering and medicine that are considered to be 'hands-on'. Online education can provide:

- personalised learning – using learning analytics to gather data on student learning and better respond to the learning needs of individual students
- interactive learning experiences – enabling a range of learning approaches and strategies
- enhanced assessment of skills and knowledge – including the use of technology to track student progress
- international collaboration – using technology to enable students to collaborate with their peers at institutions in other countries
- 'flipped classrooms' – engaging students in work outside the classroom and enabling them to co-create knowledge
- the use of social media platforms – involving educators and students in dialogue.

Having said that, in many areas in the region perceptions persist about online education as a second-rate, cheap, low quality option. It is often associated with high dropout rates, poorly regarded institutions and unaccredited 'degree mills'. When combined with a lack of understanding of the advances in technology and associated pedagogy, these perceptions lead to a general distrust of online education. Because of this the success of online education in the APEC region has been mixed. In addition, interchangeable definitions – which contribute to the confusion – can create barriers.

Over the last decade, however, perceptions about the quality of online learning have shifted in many economies. This shift can be seen most significantly in economies where online education has become mainstream and is delivered by highly respected universities with reputations for quality. Emerging practices such as integrating the quality assurance of online education into established frameworks, or partnering with institutions that are subject to robust quality criteria, have contributed to these changing perceptions.

A number of regional networks are active in developing a more coherent and consistent approach to the quality assurance of online education in the region. By taking stock of recent research and building on recent global and regional initiatives to promote the role of quality assurance in online education, this discussion paper aims to contribute to a shared understanding of the challenges faced by economies in the APEC region and to identify new opportunities. Improving and assuring the quality of online education is vital for APEC economies into the twenty-first century.

This discussion paper focuses on quality assurance of online learning at the system or policy level of higher education; identifies areas of institutional practice as part of a quality culture; and provides models of current practice. Specifically the discussion paper:

- provides a broad overview of the perceptions and variability of online education in the APEC region
- identifies the benefits of regional, domestic and institutional frameworks for assuring the quality of online education
- advances an integrated approach to the quality assurance of online learning in higher education
- promotes a shared understanding of a 'quality culture' within institutions
- provides models of quality assurance of online education to inform the development of a toolkit that will assist APEC economies adapt and manage potential risks associated with new forms of higher education delivery.

Key issues for the quality assurance of online education

Definitions

Interchangeable terminology and varying definitions have contributed to confusion and created barriers, which have hampered the development of a shared understanding of online teaching and learning.

In this discussion paper the following definitions are used:

Traditional face-to-face learning

While students may attend face-to-face lectures on campus, the use of technology to provide additional educational resources and administrative and/or management tools is now standard.

Fully online learning

Fully online learning can take a number of forms. Most talked about are Massive Open Online Courses (MOOCs) (see *Figure 3: Massive open online courses*). Many institutions now deliver fully online degree programs with no requirement for students to physically attend classes on campus. Learning resources are provided online. Interactive activities, communication and assessment occur through a learning management system or other digital platform.

Blended learning

Worldwide, the most common form of online education in the higher education context is blended (also called hybrid or mixed) delivery. Students are likely to attend some face-to-face classes but also access resources, interact with each other and educators, and undertake learning activities in an online environment. As part of a blended learning degree program, some subjects may involve a mix of online activities plus face-to-face learning and assessment. For example, students could be required to complete online simulation activities and quizzes in preparation for tutorial or laboratory sessions held on campus. In addition, however, some subjects within a blended learning program may be delivered completely online (see *Figure 2: The structure of a blended degree program*).

Figure 2: The structure of a blended degree program

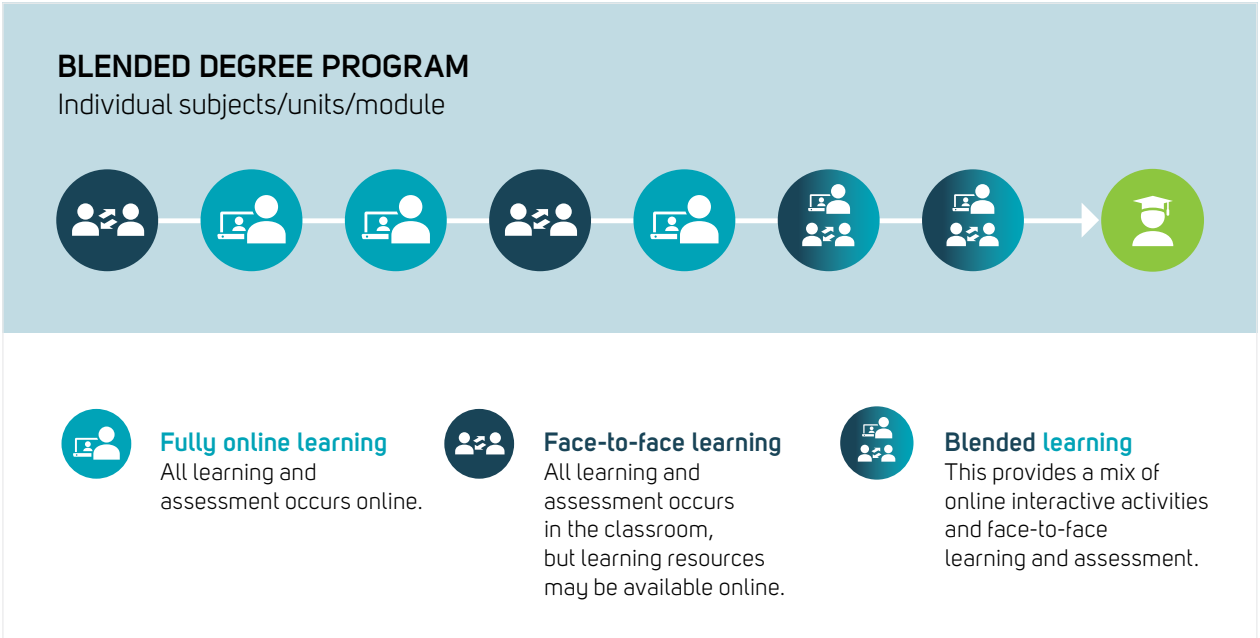


Figure 3: Massive open online courses

Massive open online courses

Massive open online courses (MOOCs) emerged in 2008. Their purpose is to open higher education to a wider audience regardless of socio-economic status, location or previous educational experience.

Although MOOCs have not caused a major disruption to education as initially predicted, they have had a positive influence on approaches to online learning design. MOOCs also offer a new way of marketing degree programs to potential students.

A recent trend in MOOC delivery is the option of earning micro-credentials. In other words, students can obtain credit from a MOOC towards an official degree program within universities.

Micro-credentials

Many institutions are now offering a package of several MOOC courses that can be combined to provide a micro-credential. Some of these courses are offered as part of a partnership with industry.

For example, The University of Melbourne has partnered with the Bank of New York Mellon to offer a specialisation called *Essentials of corporate financial decision making*. This specialisation is made up of four MOOC courses plus a capstone project.

Credit towards degrees

Over the past two years many universities have been exploring the possibility of awarding recognition of prior learning for completed MOOCs. Essentially this allows credit to be transferred to degree programs.

For example, Arizona State University in the USA allows students to complete the first year of a bachelor degree through online MOOC courses. Once students have passed all the requisite courses they are granted admission into the degree program. Only then do they pay the regular tuition fee.

Malaysia has also just launched a 'MOOCs for credit' initiative as part of its agenda to expand flexible learning options for students in public universities.

Quality challenges and opportunities

As online education becomes a pervasive feature of higher education, quality assurance frameworks that encompass it are necessary. Quality assuring all education, regardless of mode, is essential to promote confidence in the quality and validity of any online learning undertaken as part of a higher education qualification. Similarly, confidence in higher education qualifications that include online components is essential to address student mobility, employability and labour demands within economies. Additionally, students need to be satisfied that their investment in online education will be recognised.

As mentioned above, negative perceptions of online education persist. Often these can be attributed to the fact that many people, even some educators, have not been exposed to high quality online learning experiences and do not understand the potential of technology. Concerns persist about the integrity of admission and assessment practices, the quality of disciplinary content, lack of teacher guidance and high attrition rates. This means that online learning is often considered to provide a poor learning experience resulting in inferior outcomes for graduates. The table below lists some of the quality concerns about online education.

Table 1: Quality concerns for online education

Area	Concern	Response
Teaching and learning	Lack of teacher support and guidance.	Design online education programs to ensure learning is interactive, developmental and coherent, and includes student support features.
	Lack of feedback.	Provide personalised feedback through forums, messaging and other synchronous technologies.
	Teachers do not have the relevant skills to teach online.	Provide teachers with professional development in online education.
Course design and content	Units are content heavy.	Ensure course developers and academic staff work together to create interactive features.
	Course structure is lacking.	Apply the same design criteria to all courses, including face-to-face and online units.
Assessment tasks and authenticity	Academic integrity is questionable.	Develop policies and enforce procedures so that the same assessment standards apply to all modes of learning.
	Potential for plagiarism and/or fraud is high.	Use anti-fraud software, such as turnitin® and Damocles for all online submissions.
	Competency is not easily assessed.	Enhance assessment practices by using peer-assessment, self-assessment, automatic marking and formal exams on campus.
Student experience and learning environment	Engagement between students is restricted.	Incorporate group activities in the course design.
	Risk of student isolation is high.	Engage students in chat groups and online forums. Encourage students to blog and tweet about their experiences.
	Support is lacking.	Establish Q&A blogs, employ online tutors, and establish student work groups.
	Drop-out rates are high.	Monitor attrition and completion rates in all courses and develop strategies to address issues.
Qualifications and formal credentials	Units are not recognised.	Increase confidence that online courses are of high quality, recognised professionally and can facilitate mobility through robust quality assurance mechanisms.

Figure 4: Academic integrity

Academic integrity

Many critics of online education raise academic integrity as a major concern. How do we know that the student taking an online exam is the one enrolled? How can we tell students are not accessing Google on their smart phones during exams? How do we know it is the enrolled student participating in an online discussion session?

It is important to acknowledge that some students will try to cheat, irrespective of the mode of delivery. Anecdotes about students hiding notes or writing answers on their arms are commonplace. There have been countless reports in the media about 'pens for hire' and 'ghostwriting' services. The fact remains students are still colluding on assignments, plagiarising ideas and finding novel ways to cheat.

Managing academic integrity is an important issue for educators, irrespective of whether the program is delivered online or face-to-face.

In 2008 the US Congress included an explicit provision in the *Higher Education Act* relating to the academic integrity of online learning:

> "[A]n institution that offers distance education needs to have processes through which the institution establishes that the student who registers in a distance education course or program is the same student who participates in and completes the program and receives the academic credit."

In response to this legislative provision, a number of US institutions have since developed policies and procedures to help mitigate cheating that include:

- Technological prevention
- Physical measures
- Behaviour modification

1. Technological prevention

- Plagiarism detection software and browser lockdowns
- Timed assessment design and limited number of log-ins during exams
- Electronic invigilation

A device is plugged into a standard port on a home computer which scans fingerprints. The device includes a tiny microphone and a camera which record students during exams. Electronic invigilators can observe and listen to as many as 50 students at a time.

- Recognition software for typing styles (e.g. calibrates typing speed and regular pauses between keystrokes)
- Photo records

Photos of the students are saved in a database along with the corresponding exam results. This allows potential employers to verify the graduate's photo and results.

» Fingerprinting and palm vein scanning

» Challenge questions

Institutions gather information from a variety of databases, such as property records and criminal files. Students must answer detailed, personal 'challenge' questions to gain access to an exam.

» Institution-issued laptops that only provide access to the exam

» Real-time exams

Software generates exams that are unique to each student. The exams are created in real time using statistical models that present each student with different questions according to their ability. Ability is determined through students' responses to previous questions.

2. Physical measures

» Banning and/or controlling the use of electronic devices in examinations

» Photo and/or formal identification

» Written assignments and threaded discussions

Students demonstrate their ability to meet learning outcomes through written assignments and by interacting with the instructor via discussion boards. Instructors become familiar with students' writing styles and recognise potential breaches in academic integrity.

3.Behaviour modification

» Academic integrity campaigns

Institutions run targeted marketing campaigns to educate students about what constitutes unacceptable behaviour.

» Honour codes

This approach encourages communities of students to discuss and agree upon an honour code. The code is used as part of the curriculum. For example, students need to refer to the code in order to complete ethical decision-making case studies.

The increasing range of variety in educational contexts forces policy makers and practitioners to look at quality assurance mechanisms through new lenses. Economies, agencies and institutions can respond to emerging and embedded changes either as sceptics or as advocates.

Figure 5: Same points, different perspectives

Same points, different perspectives

Challenges

How can we:

- assess oral communication skills online
- quality assure work-integrated learning in online environments
- change perceptions of online education as the 'last-chance' option
- consider online learning when the national quality assurance system does not acknowledge it
- validate student learning and experience of online programs
- measure equivalency of online, blended and traditional programs.

Opportunities

We can:

- use Skype, online online conferencing technology or establish local assessment centres to assess oral communication skills
- create online portals for students, assessors and supervisors to publish guidelines, assessment tasks, assessment criteria, assessment responses, and feedback
- promote cutting-edge, high quality, innovative online learning modules
- see that online education is now an integral feature of educational delivery
- track student involvement in an online course and adapt survey forms to include questions about online programs
- apply the same quality assurance principles to different delivery modes.

Regional and economy contexts

Higher education systems in South East Asia have developed differently due to a range of factors including historical background and influences, economic resources and nation building. Similarly, a variety of factors at the domestic or regional level have so far limited the widespread success of online education. These include:

- financial constraints
- lack of clear policy settings that provide equal status to online modes of study
- quality concerns about staff and instructional designers
- weak information and communication technology (ICT) infrastructure
- low levels of internet penetration, especially outside urbanised locations (although this may be offset to a certain extent by mobile technologies)
- lack of existing quality assurance frameworks.

While some economies have well developed infrastructure that enables greater access to online education, many regional and remote areas across the region have less reliable systems (see *Figure 6: Internet penetration rates* on page 14).

Variations within economies are also common. For example, ICT penetration can be quite good in urban areas but less reliable in regional areas. Technology is changing quickly. Many governments are aware of the importance of connectivity for economic growth and are investing to improve their platforms.

Case study

Vietnam

Vietnam has a range of universities, from the small and highly specialised to the large and multi-disciplined. There are 223 universities and 219 higher education colleges. Since 1992, two open universities have been established as well as 18 institutions which offer distance programs with blended learning modes. Altogether there are 144 distance learning programs in Vietnam with 87,300 enrolled students (5 per cent of the overall student population).

Since 2000, there has been an increase in internet-based distance learning using the web, media streaming and mobile connections. Distance education is considered important for building a learning society and to overcome challenges of unbalanced development in different regions of the country. Distance education is enabled by widespread availability of broadband and 3G mobile networks. However barriers remain, such as a lack of social recognition, the need for greater technology training of educators, and concerns about accreditation and quality assurance.

In terms of quality assurance developments generally, government policy – which supports increased institutional autonomy – has created a shift in Vietnam's approach to external quality assurance. The Ministry of Education and Training (MOET), Department of Testing and Education Quality Evaluation, is responsible for policy related to quality assurance and for supporting relevant quality units in higher education institutions. Four external accreditation centres in Vietnam have recently been established. Three sit within the Vietnam National Universities in Hanoi and Ho Chi Minh City and Danang University and one belongs to the Association of Universities and Colleges Vietnam. University accreditation is currently largely through a process of internal assessment, however a program of external assessments is expected to be implemented in the near future.

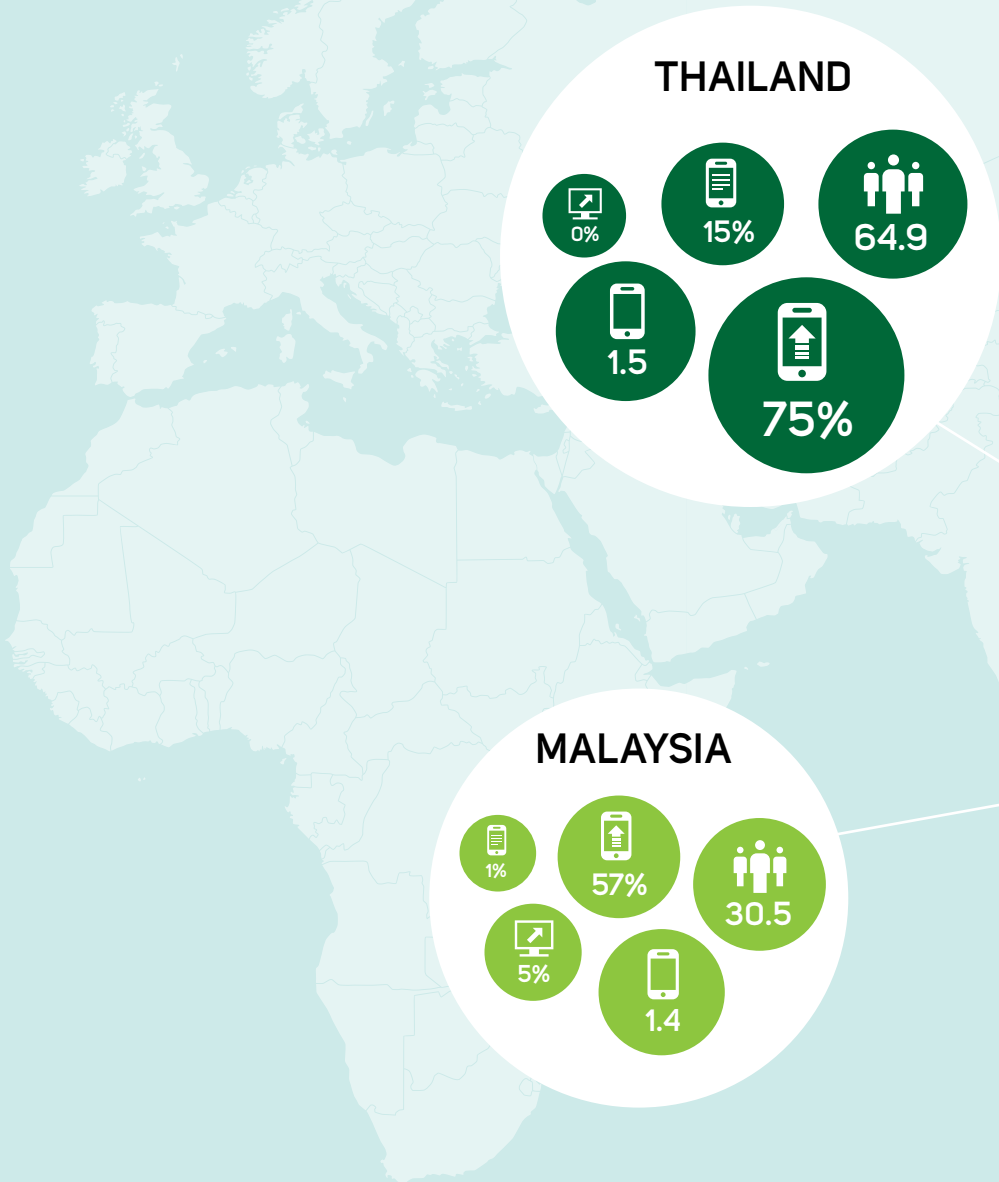
Recently a scheme was approved to develop and improve the quality of distance education by 2020. Planned developments include:

- reviewing and completing regulations on distance education
- establishing accreditation standards for distance learning programs
- ensuring accreditation of all distance learning programs by 2020
- supporting the development of e-learning and new distance learning technologies by more higher education institutions
- enhancing courseware production
- providing training for educators involved in distance education
- facilitating international collaboration
- strengthening infrastructure for e-learning at the two open universities.

Figure 6: Internet penetration rates

Internet and mobile connections in South East Asia

Source: Reviewing Patterns and Trends: Educating Online in South East Asia, page 13



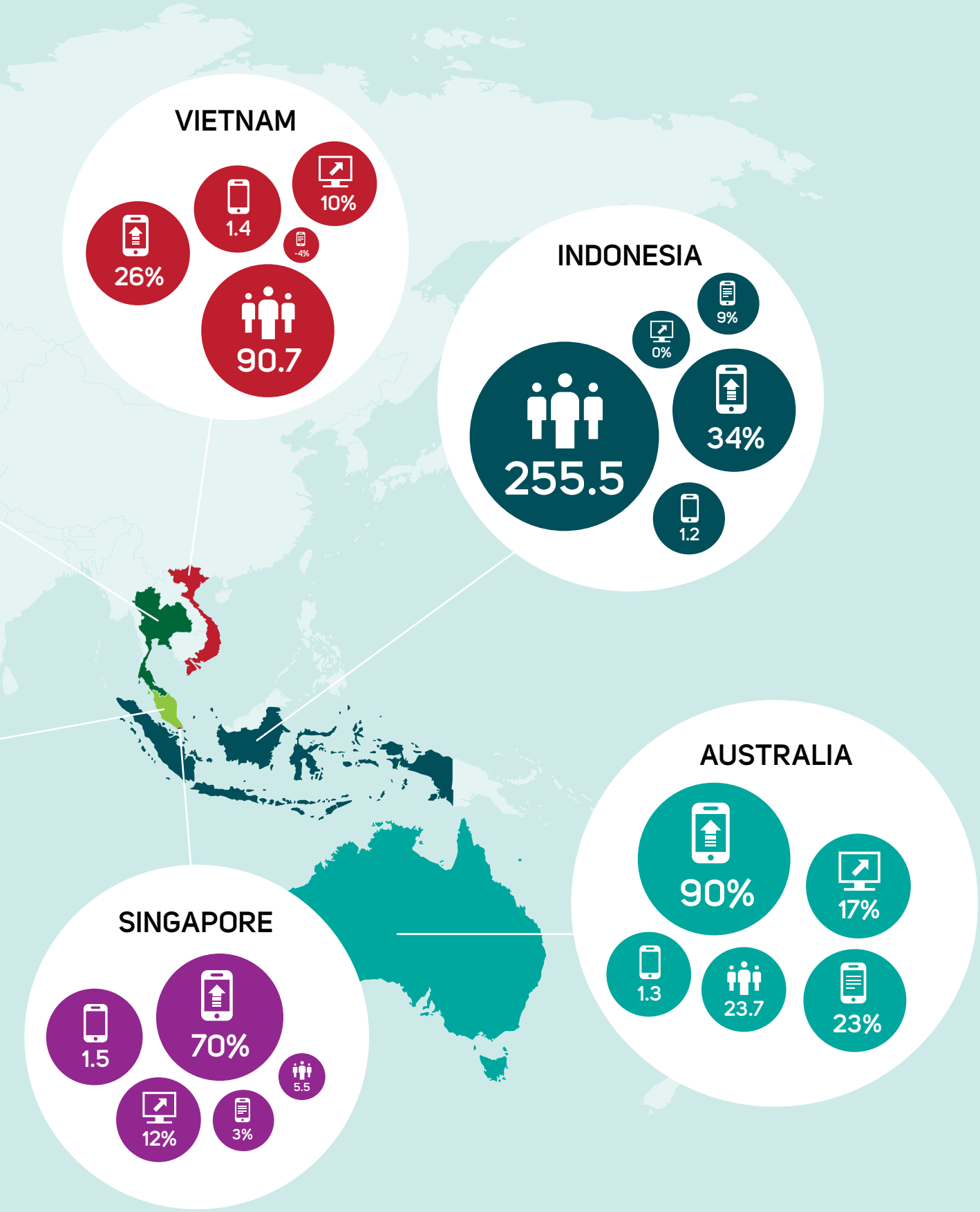
Population (millions)

Growth in internet users since Jan 2014

Mobile connections (per person)

Growth in mobile subscriptions since Jan 2014 (%)

Percentage of mobile connections that are broadband (%)


VIETNAM
10%
1.4
-4%
26%
90.7
INDONESIA
9%
0%
34%
255.5
1.2
AUSTRALIA
90%
17%
1.3
23.7
23%
SINGAPORE
1.5
70%
5.5
12%
3%

Case study

Indonesia

It is estimated that Indonesia will need to increase its skilled workforce from 55 million to 113 million by 2030. To meet this demand, the economy requires more than 3,000 new higher education institutions.

Physical sites are too costly to contemplate and so Indonesia is relying on open and online education to develop its capacity. There are already eight online learning models at the tertiary level including Universitas Terbuka, the only single-mode distance higher education institution in Indonesia.

The 300,000 actively enrolled students at Universitas Terbuka will soon be joined by other online cohorts at Bina Nusantara University, London School of Public Relations, Universitas Pelita Harapan, and Politeknik Elektronika Surabaya.

Following this trend, a number of Indonesian universities have established open-courseware repositories as part of the OpenCourseWare Consortium, and more developments are afoot. A new pilot program – Sistem Pembelajaran Daring Indonesia (SPADA Indonesia) – has attracted 11 higher education institutions as providers and 5,946 students as participants. SPADA Indonesia now offers 137 online courses, 51 open courses, and 94 open-content modules.

All educational institutions are subject to an established quality assurance framework:

- The Ministry of Research, Technology and Higher Education (RISTEK DIKTI) is responsible for all private and public higher education institutions in Indonesia. The Ministry approves new institutions and programs.
- Programs are formally accredited by the Indonesian National Accreditation Agency for Higher Education. This is an independent body that answers to the Minister of Research, Technology and Higher Education.
- An aggregator quality assures all learning objects for SPADA Indonesia before they are released as open content, open courses, or online courses.

SPADA Indonesia helps students to access high quality online courses from reputable providers. As such, online courses are credit-bearing. This allows credit transfers across higher education institutions. Currently students must be registered, but plans are underway to eventually provide open access to members of the general public.

Case study

Malaysia

In April 2015, the Malaysian Government released the *Malaysia Education Blueprint 2015–2025 (Higher Education)* which makes it clear that, in order to achieve a higher education enrolment target of 70 per cent, online learning will become increasingly important. A shift to 'Globalised Online Learning' aims to 'move from a mass production delivery model to one where technology-enabled innovations are harnessed to democratise access to education and offer more personalised learning experiences to all students'.

The strategy includes three key elements:

- developing MOOCs in key subjects such as Islamic Banking and Finance
- requiring up to 70 per cent of a program to use blended learning
- establishing the necessary cyber infrastructure for mass online learning.

Malaysia was the first government in the world to announce a national program of MOOCs to deliver online subjects as part of university degrees. It has also recently announced that credit can be offered for MOOCs.

The Malaysian Qualifications Agency (MQA) is responsible for the management and coordination of quality assurance in public universities in Malaysia. Malaysian online distance education programs and other qualifications must align to the Malaysian Qualifications Framework to be accredited. Although self-accrediting, Malaysian public universities are subject to independent audit through the MQA.

There are 20 public universities and 70 private universities in Malaysia, including nine branch campuses of overseas universities. There are also many private higher education colleges.

Distance education in Malaysia began with private correspondence schools. The Universiti Sains Malaysia became the first Malaysian provider of distance higher education in 1971. Growth was relatively slow until the 1990s when education for adults was made a major priority as part of the Malaysian Government's Seventh Malaysia Plan (1996–2000). The result was a rapid expansion of the provision of distance education by Malaysian universities. Almost all major universities in Malaysia now offer some form of distance learning programs.

For example, Universiti Malaysia Terengganu uses its Learning Management System (LMS) to facilitate push-pull and just-in-time approaches. The aim is to increase engagement and interaction between students and educators. The push-pull approach means that rather than putting all materials on the LMS at the start of semester, educators post coursework throughout the teaching period via email and send SMS alerts to students.

The aim is to keep student engagement in the LMS constant. This better enables staff to monitor student activity and make interventions if student interaction appears to be limited. The just-in-time approach integrates online preparatory activities such as quizzes and assignments with classroom learning. It has been found to enhance student confidence and engagement in class discussions. A case study with 100 Bachelor of Computer Science students found that students also accessed the LMS more often than in other approaches to teaching and learning.

Regional frameworks

Quality assurance frameworks are significant drivers of quality outcomes in education at regional, domestic, institutional and program levels. Frameworks are mechanisms that ensure accountable, transparent and responsible oversight of institutional operations within higher education. At the same time they encompass and articulate the values that underpin a culture of quality.

Europe

Recent initiatives in Europe illustrate the relationship between regional, domestic and institutional qualifications frameworks and outcomes-based quality assurance measures. The Bologna Process established a regional qualifications framework for the European Higher Education Area (EHEA). The introduction of domestic qualifications frameworks has allowed comparability and mutual recognition of qualifications across Europe, increased cooperation between nations, and improved quality assurance for higher education in the region.

While challenges created by diverse contexts and variability of resources across higher education in Europe remain, an outcomes-based framework for the region has established the architecture for cross-border quality assurance to validate differentiated forms of learning, promote international confidence in European qualifications, increase mobility of staff and graduates, and facilitate qualification and professional recognition.

After more than a decade of implementation 46 countries have national qualifications frameworks aligned to the process.

The establishment of the European Standards and Guidelines for internal and external quality assurance do not include specific standards but rather provide good practice guidelines to stimulate diversity and innovation for any mode of learning:

- Higher education institutions have primary responsibility for the quality of their provision and its assurance.
- Quality assurance responds to the diversity of higher education systems, institutions, programs and students.
- Quality assurance supports the development of a quality culture.
- Quality assurance takes into account the needs and expectations of students, all other stakeholders and society.

The establishment of a supra-national quality agency, the European Association for Quality Assurance (ENQA) and a regional registry for quality agencies, the European Quality Assurance Register (EQAR) was vital to the process.

Several independent organisations to aid institutional assessment and benchmarking of online learning have proliferated in Europe, including the European Association of Distance Teaching Universities (EADTU), the E-xcellence initiative, the European Foundation for Quality in E-learning (EFQUEL), the UNIQUe initiative, the Joint Information Systems Committee (JISC), the Higher Education Academy (HEA), and the Pick&Mix benchmarking methodology.

South East Asia

The ASEAN Quality Assurance Framework (AQAF) has been developed to serve as a common reference point and a link for quality assurance agencies and higher education institutions in the region. Core statements listed in the 2016 paper, *State of Play and Development Needs: Higher Education Quality Assurance in the ASEAN Region,* characterise the framework's intentions:

- It is not prescriptive and does not aim to standardise the different national higher education cultures, traditions and strategies.
- It appreciates the cultural diversity of the regional higher education landscape.
- It aims to promote good practice and serve as a link between external and internal quality assurance procedures.
- It is based on generic principles of quality assurance and supports diversity-oriented approaches.
- It promotes consistent quality assurance practices across South East Asia.
- It allows for the effective recognition and mutual credibility of national higher education outcomes.
- It supports mobility in the region and beyond.

The framework consists of four interrelated thematic areas known as quadrants. Each quadrant is based on a quality assurance mechanism.

1. External quality assurance bodies promote a shared set of regional values such as transparency, self-responsibility and self-management.
2. External quality assurance systems focus on a systematic approach to meeting the interests of students, employers and society at large.
3. Internal quality assurance systems safeguard the interests of students and make higher education institutions accountable to their stakeholders for the quality of their programs.
4. A national qualifications framework embeds lifelong learning policies, provides flexible educational pathways, and facilitates the mobility of students.

Collectively the quadrants establish shared values, maintain good practice, define accreditation processes, ensure institutions use quality management systems, and synthesise national qualifications frameworks.

The AQAF represents ASEAN's ongoing commitment to achieving regional convergence through a joint set of quality assurance standards. It demonstrates the concrete steps that are being taken towards the goal of comparable and jointly recognised academic achievement.

Country snapshot

Indonesia

SPADA Indonesia signals the Indonesian Government's interest in flexible and adaptive learning. To date, this pilot program has attracted 11 higher education institutions as providers and 5,946 students as participants. SPADA Indonesia now offers 137 online courses, 51 open courses, and 94 open-content modules.

SPADA Indonesia is not the only project that uses internet communications and MOOCs to enhance learning. Indonesia X (Id-X)[1] is an Indonesian version of Ed-X USA. Initiated by a private university, it offers open courses via video.

To source material, Id-X uses open content and open courses from participating higher education institutions. This enables Id-X students to access a range of experts and resources.

This networked, collaborative approach to learning is not primarily curriculum-driven. Distributed content encourages self-led learning instead. Also, ID-X courses do not necessarily involve formal assessment.

Students explore topics and complete the Id-X courses at their own pace. Thereafter they may pay fees, complete assessments, and apply for certification of their learning. Because certificates are credit-bearing, students can use them to transfer into study programs at higher education institutions.

SPADA Indonesia and Id-X are the foundations for future growth. To facilitate this growth, the Indonesian Research Network (ID-REN) – formally known as the Indonesian Higher Education Research Network (INHERENT) – is being revitalised. This will empower SPADA Indonesia to become a cyber-university and a gateway for large-scale, cross-border education.

1 See https://www.indonesiax.co.id.

Strengthening quality assurance

The purpose of quality assurance is to mitigate risks to higher education systems. Risks to economies, regions and institutions are felt within the broader community through workforce gaps, including skills shortages.

National quality assurance agencies are established to protect the reputational, economic and domestic needs of higher education systems.

Figure 7: The benefits of quality assurance
Adapted from OECD Directorate for Education, Education and Training Policy Division 2008

The benefits of quality assurance

- Ensures high quality provision in higher education
- Prepares the population for participation in the knowledge economy
- Demonstrates the effectiveness of public spending
- Enables governments to give higher education institutions more autonomy in exchange for quality
- Provides better protection of consumers
- Attracts students and secures revenues in competitive environments
- Delivers outcomes in relation to employment and social cohesion
- Increases students' and employers' expectations of higher education
- Monitors cross-border education quality

Higher education quality assurance was originally developed in an era when face-to-face teaching and learning on campus was the sole form of educational delivery. Since then the disruptive effect of online technologies and increased student mobility has contributed to the 'unbundling' of higher education. This means that higher education learning can occur in subjects delivered across institutions, domestic boundaries, and through a variety of forms such as online technologies. Additionally, online education often requires the involvement of non-academic services including ICT providers and technicians, content providers and system administrators. Fundamentally online education presents a new set of challenges for quality assurance policy makers and practitioners who are assessing teaching and learning approaches. Quality assurance frameworks now need to take into consideration the specific contexts for online learning.

As blended learning and online approaches become standard modes of educational delivery, distinguishing between quality assurance modes is no longer appropriate. Rather, quality assurance frameworks focus on educational outcomes rather than the mode of delivery.

An integrated approach

Taking an approach toward the quality assurance of online education, which is integrated within existing frameworks, ensures that standards and quality are equivalent for all modes of learning. This integrated approach of national quality assurance is currently employed by many economies including Australia, Malaysia, Singapore, Sri Lanka, Sweden and the UK.

Bodies responsible for the assurance of online learning in South East Asia and Australia

- Australia: Tertiary Education Quality and Standards Agency (TEQSA)
- Indonesia: Indonesian National Accreditation Agency of Higher Education (BAN-PT)
- Malaysia: Malaysian Qualifications Authority (MQA)
- Thailand: Office of the National Education Standards and Quality Assessment (ONESQA)
- Singapore: Council of Private Education (CPE)
- Vietnam: National Accreditation Council (NAC)

An integrated approach to the quality assurance of online learning in existing domestic frameworks may require specific assessment approaches, contextual interpretation of standards, and new indicators that ensure a standard is met. These and other issues have been identified by Sweden's National Agency of Higher Education (NAHE) which has an integrated approach to the assurance of online education. Specifically, NAHE has noted the need to ensure staff capability within quality assurance agencies to:

- assess the specific contexts of online learning
- interpret and apply standards appropriately for online learning
- increase cooperation between quality assurance agencies for information exchange
- develop assessment methodologies for online learning.

Focus on outcomes

Effective higher education quality assurance frameworks are outcomes focused. This enables a flexible approach, regardless of the mode of delivery. An outcomes-based approach to higher education emphasises:

- student-centric learning rather than teacher-focused education
- demonstration of the desired learning objectives through a variety of assessments
- learning outcomes rather than the method of learning
- the application of skills and abilities that enable employment and mobility.

Adopting an outcomes-based approach for the quality assurance of online education focuses on student learning, skills development, graduate employability and mobility. Additionally, as national qualifications frameworks are adopted at the regional level to promote comparability of qualification types across regions, alignment of outcomes at the program, institutional and domestic level can be achieved.

Qualifications frameworks

The emergence and adoption of domestic qualifications frameworks in APEC economies facilitates greater cooperation for higher education in the region. National qualifications frameworks are high-level policy settings that can be used to guide institutional qualification design domestically, to align qualification outcomes with specific regional labour needs, facilitate mobility and allow recognition of learning across borders.

The strengthening of domestic quality assurance frameworks is a key driver for improving higher education quality within economies. The implementation of outcomes-based frameworks formalises the alignment of outcomes at the domestic qualification level with the learning outcomes at the institutional level.

The relationship between national qualifications frameworks and quality assurance frameworks is intertwined. As higher education becomes increasingly globalised, domestic qualifications frameworks boost confidence in the quality, integrity and recognition of higher education regardless of mode of delivery.

Figure 8: Quality assurance process

As online education can be delivered across borders, the quality assurance or regulation of online higher education has become a priority for many economies. Governments in developing economies can stimulate the growth of cross-border education by introducing or strengthening domestic qualifications and quality assurance frameworks.

One of the challenges facing quality assurance policy makers and practitioners in outcomes-based frameworks is the issue of equivalency. Equivalency is not about treating face-to-face and online programs the same. Rather, it means that students can achieve the same learning outcomes in different educational contexts.

For example, 'critical thinking' skills may be demonstrated by online, blended, or traditional students in a variety of ways. Assessing the equivalence of the learning outcome does not always require the assessment of inputs such as lecture halls, textbooks or campus facilities. The question is whether students are able to demonstrate stated learning outcomes and exhibit graduate attributes as a result of their learning regardless of mode. For online students, this may involve an online video presentation, discussion board interaction or a virtual job interview. Face-to-face students, on the other hand, may have undertaken role play activities, completed group work or attended a lecture to develop the equivalent learning outcomes.

Figure 9: Equivalency

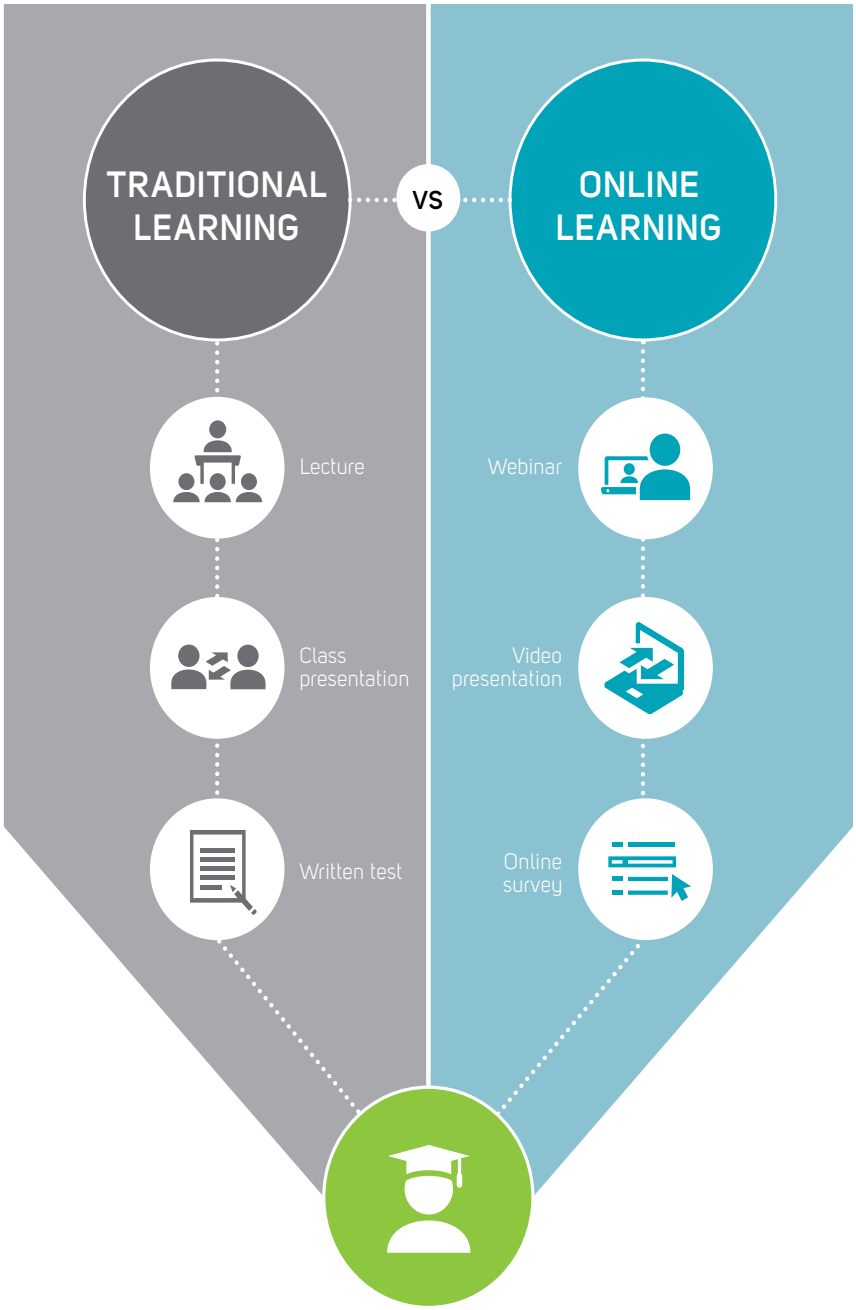


Figure 10: TEQSA's integrated approach

TEQSA's integrated approach

TEQSA is not prescriptive about the way higher education providers quality assure online delivery; rather it allows institutions to present approaches that align with their individual objectives. The Higher Education Standards Framework (HESF) and the Australian Qualifications Framework (AQF) are used by TEQSA to ensure that studying online provides students with the same high-quality education experience and outcomes as other modes of participation and delivery. However, while TEQSA applies the same standards to online education, the application and emphasis of some of those standards may differ. For example, when assessing an online program, TEQSA may ask:

Admission and Information

- Are admission criteria tailored to reflect the particular skills online students will need?
- Are there appropriate policies to assess and grant credit?
- Are students aware of their own responsibility for technological devices or equipment?

Student engagement

- How are online students engaged?
- How is engagement planned and measured?
- Will feedback be sought from students, staff and academic leaders to regularly review the effectiveness of methods of engagement?

Student support

- Are there tailored approaches to providing academic and administrative support to students and regular reviews of their effectiveness?
- Is there sufficient technical support?
- Are there relevant policies and procedures to support students' wellbeing and safety in the online environment (e.g. in relation to hacking or identity theft)?

Staff profile

- Are staff qualified and sufficiently experienced to teach in an online mode and are professional development opportunities aligned with need?
- Are there plans and a budget to develop staff capacity?
- Is feedback sought on the quality of teaching in online environments?

Assessment

- Are there adequate measures for student authentication?
- Are there appropriate technological measures being used to ensure security for teaching, learning and assessment processes?

Figure 10: TEQSA's integrated approach (continued)

- What are the chosen assessment methods and are they appropriate for the online delivery environment?
- Have suitable examples been provided to demonstrate measurable outcomes?
- Is assessment adequately and regularly reviewed?

Academic integrity

- Are assessment policies tailored to the particular challenges posed by the online environment?

Technical infrastructure

- Are the specifications for the online platform appropriate?
- Have the short-term and long-term capacities of the online platform been analysed?
- Are there plans for the platform's future development?

Student performance

- Will performance data – including attrition and completion rates, and graduate employment outcomes – be collected, analysed and compared to KPIs?
- How will the relevant governance bodies use this data?
- Will the data for online learning be benchmarked against face-to-face delivery internally?
- Will external benchmarking be conducted?

Figure 11: Embedding quality assurance

Embedding quality assurance

The Quality Assurance Agency for Higher Education (QAA) is the independent body entrusted with monitoring, and advising on, standards and quality in UK higher education. The QAA monitors institutions against the Quality Code. Part B of the Quality outlines the domains of institutional practice that are considered by the QAA to determine that each provider meets expected standards and demonstrates robust monitoring and improvement strategies. The QAA does not distinguish online learning within the Code but rather takes an integrated approach to assess how quality assurance mechanisms are embedded within institutional practice regardless of mode. The following areas constitute Part B of the Quality Code:

- Chapter B1: Programme Design, Development and Approval
- Chapter B2: Recruitment, Selection and Admission to Higher Education
- Chapter B3: Learning and Teaching
- Chapter B4: Enabling Student Development and Achievement
- Chapter B5: Student Engagement
- Chapter B6: Assessment of Students and the Recognition of Prior Learning
- Chapter B7: External Examining
- Chapter B8: Programme Monitoring and Review
- Chapter B9: Academic Appeals and Student Complaints
- Chapter B10: Managing Higher Education Provision with Others
- Chapter B11: Research Degrees

Institutional practices

As discussed above, an outcomes-based approach to online education can be supported by alignment with national or regional qualifications frameworks. External quality assurance agencies can influence the internal quality processes of universities and higher education institutions by developing, promoting and assessing compliance against quality standards. In many regions including some APEC economies, universities and higher education institutions have enjoyed a large degree of autonomy. Quality has often been assured through long established academic traditions. However, as with global trends, higher education in the APEC region has experienced significant changes and diversification. Institutions now face a number of external accountability measures and reporting requirements as part of a larger higher education ecosystem.

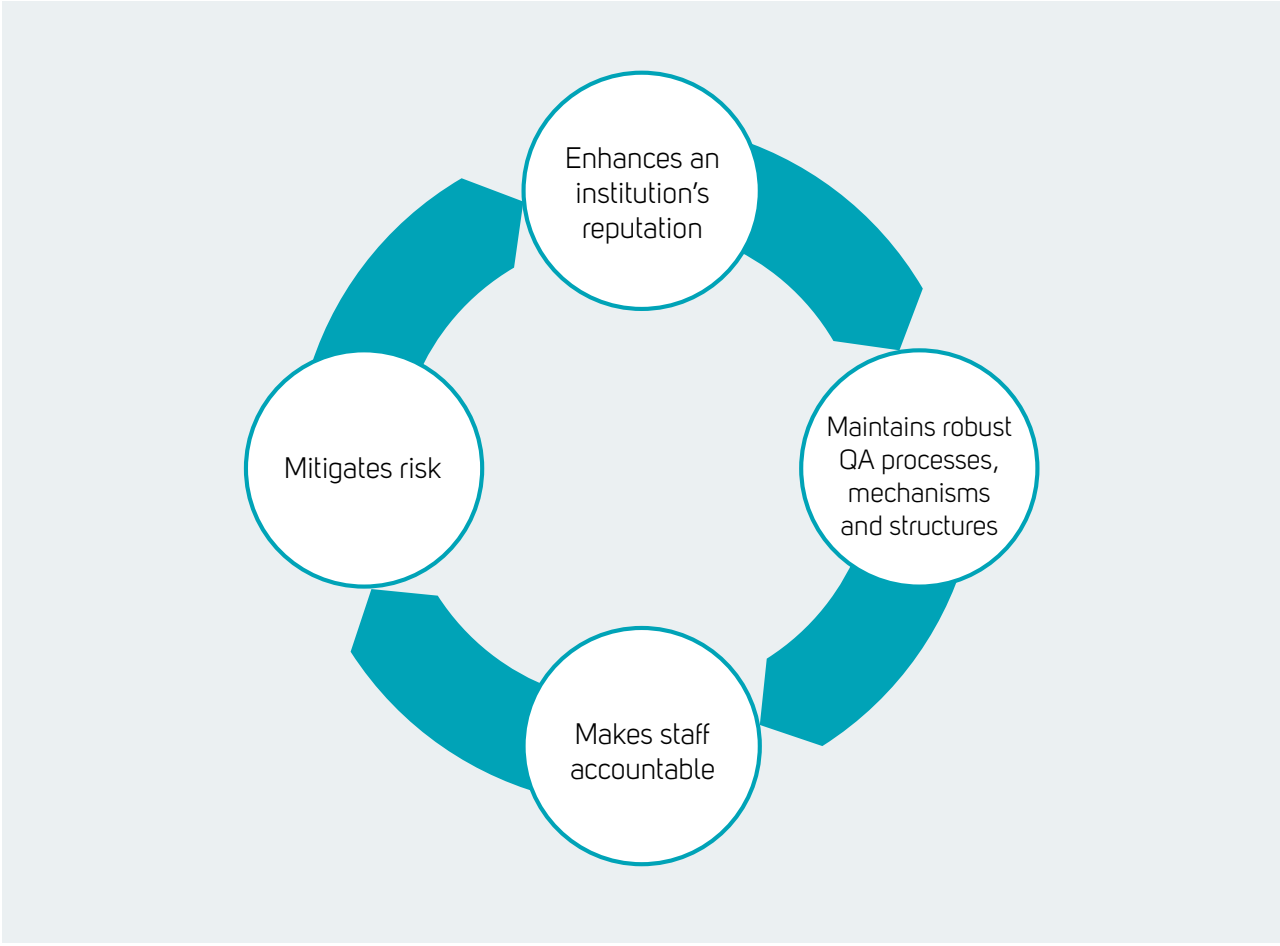
Figure 12: The higher education ecosystem

Within this ecosystem institutions are now obliged to demonstrate how internal quality assurance aligns with the requirements of a number of stakeholders. Demonstrating that all programs, including those delivered online, are subject to robust quality assurance processes is critical. The quality of learning outcomes for online students depends, amongst other things, on effective internal course development and review processes, sound pedagogical approaches, the promotion of academic culture, feedback to students, interaction between staff and students and learner engagement.

A robust and rigorous institutional quality assurance framework is therefore required to assess the inputs and processes as well as the outcomes of higher education regardless of delivery mode. An institutional quality assurance framework provides the structure which supports an internal quality culture which is itself integral to organisational improvement.

A culture of quality is driven by leadership. Institutional leaders influence mission and culture, allocation of funds, investment in resources and work practices. They are responsible for building the systems necessary for continuous improvement, sustainability and accountability.

Figure 13: Four benefits of a quality culture



In summary, institutions with a quality culture:

- develop, implement and maintain an internal quality assurance system
- meet national and global standards for education
- focus on learning outcomes.

Quality domains

The quality assurance domains (Figure 12) have been developed in consultation with a team comprising higher education regulators, international education counsellors from APEC economies, higher education researchers and participants at the Quality Assurance of Online Learning Workshop (APEC/DOET/ TEQSA November, 2016). The domains have been organised under broad headings that are student-centred and underpinned by a commitment to quality.

The Principles (see Table 2: *Domains and principles of quality assurance*) was informed by a range of national quality assurance frameworks, standards, criteria and assessment tools for higher education that, in some cases, were specifically designed for online learning.

Figure 14: Quality assurance domains

Table 2: Domains and principles of quality assurance

Domain	Principle
Innovative Culture	
Leadership and management	Leadership and management actively support the realisation of quality online and blended education by developing strategic plans, creating performance indicators, and by influencing the culture of quality within an institution.
Staffing and professional development	Staff involved in the teaching, management and support of online and blended education have the appropriate qualifications, knowledge and skills required to support the achievement of student learning outcomes.
Review and improvement	Performance data and a broad range of feedback from stakeholders, including students, is fed into planned cyclical reviews.
Student Engagement	
Resources and information	The necessary technical and digital infrastructure including clear information about online study is reliable, accessible and regularly updated.
Student support	Mechanisms to identify students who require additional technical, educational and personal support are implemented and monitored; and each student is aware of all support systems in place.
Student experience	Each student has the opportunity to interact socially and academically with staff and other students and feedback of student experience is acted on through monitoring.
Student Achievement	
Curriculum design	Curriculum design is based on sound educational principles and provides a coherent and interactive series of learning experiences that develop knowledge and skills aligned to learning outcomes appropriate to the qualification level.
Assessment and integrity	A range of policies and mechanisms ensure that assessment tasks for students studying online are clearly communicated, effectively moderated, and allow opportunities for students to demonstrate the program learning outcomes.
Learning outcomes	Learning outcomes for students studying online are equivalent to face-to-face cohorts for the same qualification level and are assessed with rigour.

Practical strategies

We have established that there is a perceived gap in the education sector regarding the quality assurance of online education. That being said, the case studies that follow demonstrate that specialist advice is available about the assessment and improvement of online education.

The case studies are designed to inform choices and decisions. They are neither an exhaustive list of quality assurance criteria, nor a prescribed set of requirements. They simply present some approaches that policy makers, regulators and providers are currently taking to ensure their quality assurance systems and processes remain robust.

Importantly most quality assurance agencies warn institutions against poorly adapting face-to-face programs for online delivery, citing lost pedagogical opportunities and poor student engagement as the primary risks.

The message is clear. It is possible to achieve and sustain equivalent learning outcomes through different delivery modes, so long as education providers identify and integrate the distinctive features of specific learning environments into the course design, delivery and administration of online programs.

Fit-for-purpose systems

Quality and Qualifications Ireland (QQI) recently developed a series of guidelines and indicators which highlight the issues, challenges and opportunities that arise when managing, developing, delivering, and quality assuring online programs.

QQI's guidelines provide a nuanced approach to a set of benchmarks and indicators that were originally developed for face-to-face learning. According to QQI, most of the quality assurance principles that apply to other modes of delivery are equally relevant to online education. Even so, QQI's guidelines focus on raising awareness of issues particular to the online context. Specifically they consider the impact of online delivery on the institution, program design and learner experience.

Key to each guideline is the need to make systems and processes fit-for-purpose. QQI recommends that providers integrate the discrete needs and functions of the online environment into all aspects of blended learning, from the development of the business case and the course design to the institution-wide administration and evaluation of the online or blended program.

As discussed under equivalency, problems arise when institutions apply the same infrastructure to different teaching, learning and assessment contexts. Take course development as an example. Online course developers have the instructional design skills and expertise to create online programs. Yet too often this responsibility falls to academic staff with little to no experience in the mechanics of online course development.

Unlike academics, online course developers are trained in how to:

- define audience demographics and course learning pedagogy
- set course objectives and assessment metrics
- design and sequence course content
- develop interactive features through storyboards and multimedia assets
- compile and publish course content and assessment tasks.

QQI believes that quality online programs are the product of cooperation between several sets of experts: the academic subject matter experts who provide the course with its substance, the online design experts who develop its form, and the IT experts who maintain the online delivery platforms.

Benchmarks

The European Association of Distance Teaching Universities' (EADTU) self-assessment tool for providers of online programs provides 'threshold and excellence benchmarks for effective e-learning'.

The EADTU's self-assessment toolkit for institutions, *Quality Assessment for E-learning: a Benchmarking Approach*, sets benchmarks for strategic management, curriculum design, course design and delivery, staff and student support, resources and support staff.

The toolkit, which establishes parameters and a methodology for the quality assurance of online learning, has been adopted by a community of 25 educational institutions, including Open Universiteit Netherlands, OULU-University Finland, and Universidad Nacional de Educación a Distancia Spain.

It is a supplementary tool for existing quality assurance systems and a reference guide for educational providers wanting to:

- assess online study programs
- review the systems that support blended delivery modes
- develop online performance indicators
- undertake blended learning analytics.

From a regulatory perspective, international quality agencies can use EADTU's benchmarks to:

- develop guidance notes for educational providers
- establish evidence frameworks
- scope assessment parameters for online and blended programs.

Benchmarks provide institutions with a concrete reference point that can enable the integration of a quality assurance framework into daily operations. To do so, institutions must first identify quality assurance aspects and define their evaluation criteria.

Evaluation aspects and criteria

The Malaysian Qualifications Framework (MQF) focuses on learning outcomes and embeds them into the broader culture of the economy. The MQF is Malaysia's declaration about its qualifications and their quality in relation to its education system. It emphasises learning outcomes in relation to 'students and learning'. Accordingly it focuses on the ways students achieve as well as the actual achievement of learning.

The MQF classifies qualifications based on eight principles. The principles in turn relate to specific learning outcomes. These are:

- Knowledge
- Practical skills
- Social skills and responsibilities
- Values, attitudes and professionalism
- Communication, leadership and team skills
- Problem solving and scientific skills
- Information management and lifelong learning skills
- Managerial and entrepreneurial skills.

Like Malaysia, Australia uses principles but to a different end. Australia's principles – which are a compilation of standards within the quality assurance framework – focus mainly on infrastructure. That is, they target a range of operational concerns that Australian institutions are expected to address.

The Swedish model that follows sits between the Malaysian and Australian models in its approach and logic. It anchors its principles in an operational space like Australia and it takes a culturally holistic approach like Malaysia.

E-learning quality: Aspects and criteria for evaluation of e-learning in higher education outlines the Swedish National Agency's model for assessing quality in e-learning. It proposes ten quality principles:

- Material and content
- Structure and the virtual environment
- Communication, cooperation and interactivity
- Student assessment
- Flexibility and adaptability
- Support for students and staff
- Staff qualifications and experience
- Vision and institutional leadership
- Resource allocation
- Holistic and process aspects.

Toolkit for the Quality Assurance of Online Education

The *Toolkit for the Quality Assurance of Online Education* that accompanies this discussion paper sets out nine principles, which represent distinct yet interconnected facets of higher education practice:

- Leadership and management
- Staffing and professional development
- Review and improvement
- Resources and information
- Student support
- Student experience
- Curriculum design
- Assessment and integrity
- Learning outcomes

The principles define the evaluation criteria. They create a bridge between an economy's quality assurance aspirations and the actions required to achieve them. The principles therefore function as a mechanism in the quality assurance process.

Because principles provide institutions with the structure to establish and maintain a quality culture, much can be learned by comparing and contrasting them. While this approach has its merits, there are other options. Economies can tap into source information and learn directly from a range of experts.

Inter-agency and inter-institutional collaborations

The online community is global. The reach of online education promises to be equally broad. Even now online programs extend well beyond teaching and learning because they:

- facilitate staff and student mobility
- extend the digital footprints of institutions
- build international connections and/or partnerships.

Established quality assurance agencies may be willing to help new agencies navigate their way around tried and tested principles.

Conclusion

As we have outlined, at the institutional level quality learning outcomes for online programs depend on the leadership's ability to promote a quality culture, the staff's ability to build pedagogy into a virtual space, and the infrastructure's capacity to deliver programs and services.

The same applies for economies at a policy level. Culture does not shift without explicit and visible signals from leaders. Leaders across all economies need to send clear messages. Institutions are responsible for ensuring that online programs meet the principles or standards set by quality assurance agencies, regulators, professional bodies, employers and the broader community.

To this end, economies require robust and rigorous quality assurance frameworks that assess educational inputs, processes and – most importantly – outcomes, regardless of the delivery mode. As the foundation of a quality culture, higher education institutions rely on these frameworks to develop the necessary quality assurance tools and methods for organisational improvement.

The importance of agencies working together in this area cannot be underestimated. Government agencies seeking to quality assure higher education in all its modes of delivery can benefit from benchmarking their standards, aligning themselves with current practices and participating in inter-agency collaborations.

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