



# Digitization of Credentials: Quality of Shorter-Term Educational Experiences

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# Digitization of Credentials and Assuring Quality Expert Group Meeting

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## 1. New Credentials - New Learning Opportunities

Human beings are compulsive learners. Throughout our ever-longer lives we are constantly processing knowledge. New facts, new experiences and new insights please our nerve cells. While we sleep at night our brain is archiving what we have learned that day. These neurological facts make us all lifelong learners, independent of formal enrolment.

**“Shorter-term educational experiences are on the rise, often using online teaching, learning and assessment and issuing digitally signed credentials.”**

Strong demographic and economic factors coincide with this natural desire to learn. The United Nations Educational, Scientific and Cultural Organization (UNESCO) estimates that, by the year 2030, nearly 200 million young people would like to enter higher education, mainly in the fast-growing global south. Current and future workforces will require frequent training and retraining to adapt to changing labor markets.<sup>1</sup>

Meanwhile, discussions on higher education tend to focus on long programs of formal, initial education, provided by traditional colleges and universities. These long programs are subject to state regulation, inspection, quality assurance and accreditation. Less attention is given to the wealth of learning taking place through

shorter-term educational experiences (e.g., mini-, micro-, nano-credentials) offered inside and outside formal education.

Shorter-term educational experiences are on the rise. They often use online teaching, learning and assessment. Many providers issue digitally signed credentials, a noticeable phenomenon in traditional higher education as well. These novelties raise all sorts of questions on quality, authenticity, transferability, sustainability and potential fraud.

This current paper focuses on quality aspects of shorter-term educational experiences. What features determine quality? What type of quality reviews would be most suitable? Are accreditation and quality assurance as we know them still relevant? What role for the Council for Higher Education International Quality Group (CHEA/CIQG) Quality Platform, one approach to addressing the challenge of assuring quality for these experiences?

The preliminary responses in this paper draw on the discussion of a Working Group convened by CHEA/CIQG and the American Association of Collegiate Registrars and Admissions Officers (AACRAO) in Washington DC on 13 March 2019.<sup>2</sup> The Working Group focused on the current state of shorter-term educational experiences and efforts to assure quality in this emerging sector: Who are the providers? Are numbers growing? What do we know about assuring quality?

## 2. A Wide Variety of Providers

Shorter-term educational experiences vary in content, length and mode of delivery; they vary most significantly in type of provision. In recent years, there is a clear shift towards these alternative providers, notably the online platforms that function as intermediary between content providers and learners. These platforms are very much in the public

<sup>1</sup> Nearly half of the today's jobs are going to either disappear or change significantly through automation and the use of artificial intelligence. Source: *OECD Employment Outlook 2019: The Future of Work*.

<sup>2</sup> The Working Group consisted of nine colleagues from four countries and was chaired by Peter van der Hijden, Higher Education Expert.

eye, whereas other longstanding providers of shorter-term educational experiences, such as professional associations, are not so widely discussed. Six big categories of providers can be distinguished:

## Higher Education Institutions

Most higher education institutions are not currently engaged with the demand for shorter-term educational experiences, but a good number of them are discovering the growing segment of ad hoc learners who appreciate the academic context and prestige. The micro-credentials these institutions offer may be stand-alone or part of stackable degree programs. They may be delivered in partnership with other types of providers listed below. They may or may not be subject to direct or indirect quality reviews and accreditation. By one estimate, for example, 906 universities around the world are offering massive open online courses (MOOCs).<sup>3</sup>

## Online Platforms

Online Platforms offer easy access to education, mainly through massive open online courses (MOOCs), which are mostly produced by traditional higher education institutions. The most prominent platforms are Coursera, Udacity and edX. In addition

***“Shorter-term educational experiences vary in content, length and mode of delivery; they vary most significantly in type of provision.”***

to these U.S. platforms at the forefront of the MOOCs movement, the European MOOC Consortium (EMC)<sup>4</sup> has recently launched a

Common Microcredential Framework<sup>5</sup>. Just five MOOCs – Coursera, edX, XuetangX, Udacity and FutureLearn – enrolled more than 68 million people in 2018<sup>6</sup>. These platforms and the offerings are often free or charge a fee for certification of work that has been completed. MOOCs are often among the first to engage traditional institutions through various partnerships such as those mentioned above.

## Companies

Most companies of a certain size provide some kind of in-house training. These are typically big corporations that develop full degree programs or universities or training institutes of their own. Corporate universities typically provide job- or company-specific training mainly for the managerial personnel of the parent corporation. Examples include Charles Schwab University, Disney University, General Electric’s Crotonville Campus, McDonald’s Hamburger University, Motorola University, Oracle University and University of Toyota, Microsoft certifications, CISCO certifications and Mozilla Open Badges, to name just the most prominent ones.

## Professional Associations

Professional associations serve their members and society by organizing continuous professional development courses and associated licensing. This has been going on for many years. The American Medical Association (AMA), for example, has developed a nationwide accreditation system for Continuing Medical Education providers, the AMA Physician’s Recognition Award (PRA). The World Federation of Medical Education (WFME) provides certification and accreditation of the suitability of medical education programs and the competence of medical schools in the delivery of medical education. The American Society of Mechanical Engineers (ASME) provides assessment and certification. There is a

3 <https://www.classcentral.com/universities>.

4 Consisting of FutureLearn, France Université Numérique, OpenupEd, Miriadix and EduOpen.

5 [https://emc.eadtu.eu/images/Press\\_release\\_European\\_MOOC\\_Consortium\\_launches\\_a\\_Common\\_Microcredential\\_Framework.pdf](https://emc.eadtu.eu/images/Press_release_European_MOOC_Consortium_launches_a_Common_Microcredential_Framework.pdf).

6 <https://www.classcentral.com/report/mooc-stats-2018/>.

host of certifications for accountants (e.g., in the United States, the Certified Public Accountant – CPA) and this is the case for most professional disciplines.

## Associations of Leisure

Leisure organizations, such as sports clubs, provide all kinds of training to their members resulting in various types of certificates. The Boy Scouts of America (which now admits girls) and the Girl Scouts of America, for example, award hundreds of badges for learning achieved in sports, crafts, science, trades, business and future careers.

## Social Media

Social media such as Google, Facebook, YouTube and Wikipedia transmit learning content and increasingly do so in education and training-like formats, including self-assessment arrangements. LinkedIn Learning, for example, offers MOOCs taught by industry experts in software, creative and business skills.

## 3. Expected Growth

The offer and take up of the various kinds of shorter-term experiences are expected to grow exponentially in the years ahead. Formal education will continue to play a major role in the learning landscape as initial provider and overall standard setter. Many institutions

***“The offer and take up of the various kinds of shorter-term experiences are expected to grow exponentially in the years ahead.”***

of higher education will, however, not be able or willing to engage fully with shorter-term educational experiences, thus allowing other parties to step in or extend their role, not least because of the technological advances made in recent years. The fast growth will be both demand-driven and technology-driven.

*Demand-driven growth* will come from citizens worldwide who have no other choice than to regularly refresh their capacities. Individuals nowadays need a steady flow of new knowledge they can learn to handle with the right skills and wider competences, enabling them to cope successfully with the uncertainties of life and the labor market. They seek the latest technical knowledge in a given field, but also soft skills to better interact with others, capacity for critical and systemic thinking and digital skills to process data flows, use artificial intelligence and collaborate with robots.

*Technology-driven growth* will result from the maturing of online learning provision and the emerging standardization of digital certification techniques. Online learning and blended learning are ubiquitous to the extent that the distinction between traditional education and distance education is starting to blur. Campus universities offer all kinds of online services, from admission to examination, whereas online universities proudly promote physical contact opportunities between students (peer to peer) and staff (guidance, seminars, summer courses).

## 4. Digitization of Credentials

Growing numbers of education providers issue digitally signed and certified versions of their credentials, in addition to or instead of the paper formats. The use of electronic formats raises questions but also provides solutions for effective student data management, including but not exclusively through the use of block-chain techniques. eLearning Industry describes “digital credentials” as a digital form of a physical credential across a diverse array of areas, not only higher education but also business and government (Iafate, Mark, November 6, 2017<sup>7</sup>). The Credential Engine, a U.S. nonprofit organization that centralizes credentials at multiple levels, lists 719 digital credentials entries from higher education, businesses and other organizations and quality assurance bodies.<sup>8</sup>

<sup>7</sup> <https://elearningindustry.com/guide-to-digital-badges-how-used>.

<sup>8</sup> <https://credentialfinder.org/>.



The growing impact of digitalization on credentialing worldwide is discussed notably within the Groningen Declaration Network. Signatories of the *2012 Groningen Declaration* include National Student Data Depositories of countries such as the United States, China, France, the Netherlands, South Africa, Australia and India as well as growing numbers of university networks and certification startups. As described on its website: “The Groningen Declaration Network seeks common ground in best serving the academic and professional mobility needs of citizens world wide by bringing together key stakeholders in the Digital Student Data Ecosystem at its Annual Meeting. We make digital student data portability happen.

“Growing numbers of education providers issue digitally signed and certified versions of their credentials.”

Citizens worldwide should be able to consult and share their authentic educational data with whomever they want, whenever they want, wherever they are.”<sup>9</sup>

Of particular interest in the U.S. context are the *Comprehensive Learner Records (CLRs)*, which aim at the development and implementation of a single learner record across a broad number of American colleges and universities. The CLRs seek to capture, record and communicate learning when and where it happens in a student’s higher education experience. This includes learning outcomes from courses, programs and degrees, as well as experience outside the

classroom that help develop career-ready skills and abilities.<sup>10</sup>

Of particular interest in the European context is the *New Europass Framework*, which envisages the creation of learner owned, third party certified, digitally signed credentials, to be stored on personal computers or more conveniently in public or private run “wallets” accessible with learners’ permission only.<sup>11</sup>

## 5. Determining Quality - Basic Features for All Types of Provision

The expected growth of shorter-term educational experiences inevitably raises questions in terms of intrinsic quality and quality review: quality assurance and accreditation. Will the longstanding norms and expectations of quality be effective for shorter-term learning experiences? What, specifically, needs to be examined to judge quality? Might the development of new forms of quality review specifically tailored for shorter-term experiences be desirable and even anticipated?

“Intrinsic quality” of education is hard to define and even harder to measure. There are, however, a number of features that indicate a certain quality (as proxies providing circumstantial evidence). If the following basic features<sup>12</sup> are in place, in whole or in part, a great deal is said about the quality of what is on offer:

### Typology

- Mission statement of the provider
- Level referenced against a qualifications framework<sup>13</sup>

9 <https://www.groningendeclaration.org/>.

10 Developed by AACRAO and NASPA: Association of Student Affairs with the support of the Lumina Foundation.

11 Decision of the European Parliament and of the Council of 18 April 2018.

12 The features listed here derive from: EADTU, *Quality Assessment for E-Learning, a Benchmarking Approach*, Heerlen, 2012; *Academic Partnerships, A Guide to Quality in Post-Traditional Online Higher Education*, Dallas 2014; EHEA Secretariat, *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG 2015)* Brussels, 2015; JRC Science for Policy Report, *Validation of Non-formal MOOC-based learning*, Brussels, 2016; ENIC-NARIC, *Oops a MOOC! Dealing with eclectic learning in credential evaluation*, February 2018; Hochschulforum Digitalisierung Position Paper, *Bologna Digital, Berlin, May 2018*; CHEA-CIQG, *New Approaches to Judging Quality in Higher Education*, Washington, 2018

13 Sector-, national, international, e.g., the Tuning Degree Profiles and the European Qualifications Framework in Europe, the Lumina Degree Qualifications Profiles in the United States and the upcoming World Reference Levels (WRL) of UNESCO.

- Profile indication (e.g., research oriented, profession oriented, general interest oriented)
- Workload indication (average time or credits)
- Learning outcomes descriptors (knowledge, skills, degree of responsibility and autonomy)
- Summative assessment
- Certificates, diploma supplements, badges etc. acknowledging learning

### Appreciation

- Uptake among learners
- Higher education institutions accept the credential as part of accredited degree programs<sup>14</sup>
- Employers or employers' associations recommend the credential for hiring and promotion
- Professional associations accept the credential for licensing purposes or continuing professional development

### Reputation

- Past performance of the provider in education and research (e.g., rankings and citations)
- Partnerships and collaborations of the provider (e.g., leagues)

Over-emphasizing appreciation and reputation works against newcomers on the education market, but this type of information is an inevitable part of the equation.

### Learner information

- Identification
- Partnerships and collaborations of the provider (e.g., leagues)

It should be stressed that the *basic features of quality listed above apply to all modes of delivery of educational experiences at all levels, be they of longer or shorter duration.* The performance standards against which the features are measured will vary inevitably according to the norms defined by the institution, the sponsor and the reviewer.

For shorter-term educational experiences the same basic features would therefore apply, but one would expect more effort going into *situating the experience* in the overall education landscape. The exact level of the experience, possible prerequisites and the veracity of the credential delivered will also raise more concern and require more scrutiny, at least in the beginning, compared to traditional degree programs. What matters most in all offerings is the learning outcomes, expected from and acquired by the students.

**“Will the longstanding norms and expectations of quality be effective for shorter-term learning experiences?”**

If the shorter-term educational experience is online or blended, that also may require specific *knowledge and expertise* on the part of the provider and the accreditor e.g., as regards online didactics. Mechanisms need to be in place as well to ensure that the learner information is correct and related to that individual only.

The features of quality as proposed in this section do not measure quality directly, but they are very informative proxies. A learner, an employer, a sponsor or an admission officer surely will want to know, for example, what learning outcomes are envisaged at what level and how other employers and other institutions appreciate the credential holders so far.

<sup>14</sup> Purposely designed as such or through the recognition of prior learning.

## 6. Nine Review Types

Quality reviews can take very different formats, from purely formative and internal to summative and external. Publication strategies will differ accordingly. Nine review types are identified below. Some review types may be better suited to deal with the high number and variety of shorter-term educational experiences.

### Self-assessment

Providers carry out periodical self-assessments and use the outcomes for internal purposes or as input for external evaluations.

### Peer Review

Providers invite peers to review their performances.

### Benchmarking

Providers use the outcomes of self-assessments and peer reviews to benchmark their performance against each other.

### External Evaluation and Audits

Providers call in external evaluators or may be obliged to do so by their public or private sponsors. If shorter-term educational experiences (mini-, micro-, nano-credentials) are provided by higher education institutions one would expect these types of offering to be covered by the same periodical external evaluations at program or institutional level. Evaluation and audit results may be published in whole or in part.<sup>15</sup> Accreditors themselves may also be subject to reviews, publishable in whole or in part.<sup>16</sup>

### Provider Appreciation

Providers may publish and update lists of third-party micro-credentials, which they accept as part of their degree programs and specify the conditions under which credits could be awarded.<sup>17</sup>

### Employer Appreciation

Individual employers or employer associations may publish and update lists of micro-credentials they recommend for hiring or promotion purposes.

### Professional Appreciation

Professional associations of lawyers, medical doctors, nurses, engineers etc. could publish and update lists of micro credentials they accept for licensing purposes or recommend for continuous professional development.

### Crowd Assessment

Leaners can share their appreciations of micro-credentials on social media or on dedicated platforms of trusted peers.

### Comparative Assessment of Learning Outcomes

Learning outcomes achieved by graduates in given subject areas could be tested and compared across institutions and countries and results thereof could be published in a Program for International Student Assessment (PISA) study fashion.<sup>18</sup>

It is unlikely that the current system of external evaluations and audits by teams of peers can be maintained for all sorts of short-term provisions. A mixed use of review types is more likely, whereby employers, professional associations and crowd assessment would probably take the lion's share in terms numbers and frequency of reviews published.

<sup>15</sup> In Europe entire reports are published on the *Database of External Quality Assurance Results* – DEQAR.

<sup>16</sup> In the United States by CHEA and the US Department of Education, in Europe by EQAR.

<sup>17</sup> Cf. the United States, AACRAO's Transfer Credit Practices (TCP) and ACE Credit Accepting Institutions, the 2016 Regulation for the recognition of MOOCs in India and Recommendation 4 of the March 2018 Position Paper Bologna Digital.

<sup>18</sup> See the reports of the *Assessment of Higher Education Learning Outcomes* (AHELO) project of OECD, completed in 2012 and the university-led *Comparing Achievements of Learning Outcomes in Higher Education in Europe* (CALOHEE) pilot supported by the European Commission, entering a new phase in 2020.

## Virtuous Circle of Trust

Public information resulting from any given combination of these eight types of review may incite various categories of stakeholders to trust each other's judgments and thus create a virtuous circle of trust among the wider community of users and providers.

## 7. Quality Review in Transition

The expected increases in the volume, diversity and uptake of shorter-term educational experiences will have consequences for the organization of quality review inside and outside formal higher education.

Accreditation and quality review of higher education institutions in the future should encompass all learning provision at all levels, from foundation courses, to bachelor, master, doctorate and continuing education. Naturally this would include all shorter-term educational experiences delivered by these institutions.

*“Over-emphasizing reputation works against newcomers on the education market, but this type of information is an inevitable part of the equation.”*

Expanding the scope of accreditation to shorter-term educational experiences would continue the historic mission of accreditation and quality assurance of upholding standards in higher education in respect to the quality features outlined in this note. Accreditors and quality assurance bodies and their networks would continue to identify those standards, debate and promote them in dialogue with stakeholders inside and outside higher education.

Alternative providers of shorter-term educational experiences may also learn to see the benefits of addressing the quality

features for their offerings and having them reviewed (periodically in series) by trusted accreditors and quality assurance bodies. Campaigns could be organized to raise

*“Quality reviews can take very different formats, from purely formative and internal to summative and external.”*

the quality awareness among those non-traditional providers. Learners may also decide to vote with their feet (or mouse) when they experience or read that certain offering is sub-standard.

## 8. The CHEA/CIQG Quality Platform

The *CHEA/CIQG Quality Platform* is one example of how an alternative form of quality review, deriving from but grounded in more traditional accreditation and quality assurance, could *play a pivotal role* in promoting quality review of shorter-term educational experiences. The CHEA Quality Platform, developed by CHEA/CIQG in 2014 and adapted to digital credentials in 2018, can bring together providers of the shorter-term educational experiences to test and explore what is effective in assuring quality in the digital credential sector.

The Platform is an outcomes-based review of digital credentials such as digital badges, digital certificates, nano-degrees and other micro-credentials. These credentials are offered by traditional and alternative higher education providers for shorter term educational experiences. The review is conducted by a panel of experts who examine digital credentialing to assure that the credentials (1) include clear expectations of student learning at the post-secondary level, (2) provide reliable evidence that a student has demonstrated the skills needed to achieve the credential and (3) include evidence of acceptance by both the business sector and higher education institutions.

Other forms of quality review can be applied to digital credentials. These include, for example, organizations that review the design, development and workplace relevance of curriculum such as the U.S. Quality Matters or the American Council on Education. It could include European frameworks such as E-xcellence developed by the European Association of Distance Teaching Universities (EADTU) and OpenUpEd.<sup>19</sup>

In most countries, government-based quality review remains focused on traditional higher education – colleges and universities. This is in part because these governments are assisting students and institutions with funding. Funding is less likely to be available for these newer types of educational experiences. However, as interest in relying on shorter-term educational experiences continues to go, governments may begin to focus on quality review in this emerging sector.

## 9. Conclusions and Next Steps

Several key points emerged from the Working Group discussion of digital credentials for shorter-term educational experiences and assuring quality:

- The basic features of quality do not differ between long-term or shorter-term learning experiences.
- New delivery modes, e.g., online and blended learning, will require some specialized knowledge and expertise to be developed among providers and accreditors.
- Accreditors should include shorter-term educational experiences in their periodical review of institutions and programs.
- Accreditors should organize

reviews for (series of) shorter-term educational experiences offered by alternative providers.

Leaders in higher education, alternative providers, business and government are all involved in the digitization undertaking and, working together, need to continue to address:

- What performance standards they wish to apply when reviewing the basic quality features of educational offerings, be they longer-term programs or shorter-term learning experiences?
- What are the most efficient and effective mechanisms for quality assurance and accreditation in view of the expected exponential growth in shorter-term learning experiences? What is the role of traditional accreditation and quality assurance bodies next to reviewers from professional associations and crowd assessment platforms?
- How might additional attention and reliance on evidence of student learning be encouraged as the central feature of quality for both longer and shorter-term experiences?

*Ensuring easily accessible and reliable information* on the quality features of shorter-term educational experiences is also a challenge for the years ahead. No doubt private portals will discover or expand this niche.<sup>20</sup> Professional associations will make sure to inform their membership.<sup>21</sup> Universities, alternative providers, quality assurance bodies and accreditors all will need to take responsibility and provide their stakeholders and end users with relevant, complete and up to date information on the results of reviews carried out.<sup>22</sup>

<sup>19</sup> <https://eadtu.eu>, <https://www.openuped.eu>.

<sup>20</sup> StudyPortals, the Global Study Choice Platform has set up a Short Courses Portal. The new Europass online platform will provide access to learning opportunities Europe wide.

<sup>21</sup> Engineers Europe is planning a peer review platform for online engineering courses.

<sup>22</sup> The *European Quality Assurance Register for Higher Education* (EQAR) is building a Database of External Quality Assurance Reports (DEQAR).







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