

New Approaches to the Assessment of Learning: New Possibilities for Business Education

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Abstract A key design challenge for any online course or program relates to the ways in which students will be able to assess their own learning (assessment for learning) and faculty are able to assess the students' learning (assessment of learning). Recent developments in both practice and technology are enabling new approaches to design and assessment, which in turn are leading to new credentials, new approaches to assessment in business programs and new ways of engaging potential employers in the assessment of students. These developments are described here and their implications are discussed.

Keywords Assessment • Adaptive assessment • Video-based assessment • Competency • Micro-credentials

1 Introduction

Current forms of assessment – periodic pen and paper tests administered at the faculty members' discretion – are being replaced by online, anytime, anywhere assessments using smart technologies. Hill and Barber (2014) suggest that we are entering into a new renaissance in assessment – a period of significant change in practice, driven by online assessment.

Such online assessments can be:

- Unique to the content and skills domain, refreshed daily using machine intelligence systems able to automatically generate relevant items and item banking (Gierl, Houston, Rich, & Boughton, 2015)
- Valid and reliable competency analysis based on standards for business skills and competency profiles

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- Multimedia-based assessments, where learners share video or audio (or other media) as the basis for both peer and instructor assessments, enabling collaborative assessment between the learner and their instructor
- Automated marking for all forms of assessment, including video, audio, essays, multiple choice and short-form writing, driven by machine and artificial intelligence
- Automated item generation in multiple languages
- Assessment of literacy through text analysis for all written forms of assessment
- Use of simulation (including 3D simulators) for assessment, like the way in which pilots are assessed for competency
- Using standard profiles to benchmark a specific student against all other students who have taken a test

This list is not exhaustive, but the point is clear: students can secure a much richer, deeper understanding of their knowledge, skills and competencies, and faculty members can have a much deeper understanding of how effective their teaching and learning design strategy by making more extensive use of emerging assessment technologies.

The potential for rethinking business education, driven by new thinking about competency and capability-based assessment, can already been seen. The University of Wisconsin, together with several other public and private universities in the United States, is now using capability-based assessments to offer flex degrees. These permit (a) students to progress in a program at their own pace, with assessment modules beginning at the start of each month; (b) students complete competency-based assessments based on a clear statement of requirements – no courses and no classes to attend; and (c) students receive concierge and mentoring support on an on-demand basis. A Bachelor of Science in Business Administration is available through this route, as are undergraduate certificate programs in business communications, project management and information sciences. At Western Governors University, it is also possible to obtain a competency-based MBA this way.

MOOC providers, such as edX and Coursera, are using new approaches to assessment, including peer assessment, to offer micro-credit and non-degrees which can be transferred into formal business education degree programs, including the MBA. For example, Arizona State University is partnering with the MOOC provider EdX (jointly owned by Harvard and Stanford) to offer almost all of its first year 100 level courses, including those required by business degree students, as on-demand MOOCs. Students who successfully complete MOOCs and pass a proctored examination will have credit awarded by Arizona State. The Malaysian public university system is also offering all of its first 2 years of undergraduate courses in this same way (Fadzil, Katif, & Minira, 2015).

The Open University, in partnership with others, is experimenting with the use of a combination of blockchain technology (Tapscott & Tapscott, 2016) and digital badges for accrediting learning by students using open education resources, including students in business education (Sharples & Domingue, 2016). These smart contracts plus progressive badge assessments enable learners to progress at their own pace using freely available learning materials on the open learn platform provided by the Open University.

In this chapter, a range of developments which are changing the nature of assessment are explored. The focus throughout is on understanding the developments that are occurring and demonstrating the implications these may have for business education, especially online education.

2 Understanding Assessment

If we are to understand the developments taking place in assessment and the opportunities they afford for rethinking online business education, we need to thoroughly understand assessment as a deliberate design process.

2.1 *Designing an Assessment for Capabilities*

The process of assessment design, like that for instruction, requires a systematic approach. Such an approach involves these steps:

1. *Specifying knowledge, skills and capabilities:* For the program of studies and for each course within it, determining the knowledge, skills and capabilities, a successful learner needs to demonstrate reliably for that learning to be recognized and awarded credit. This requires:
 - (a) Establishing learning outcomes and then designing appropriate assessments for each outcome
 - (b) Agreeing these outcomes with colleagues who offer other courses or modules within the same program – reducing duplication, aligning assessment and building a program map of knowledge, capabilities and skills
 - (c) Developing a shared understanding of what each course requires with each student so that there are “no surprises”

This work requires a detailed and informed understanding of the strengths and weaknesses of students pursuing the program, understanding the ways in which instructional strategies enable the development of knowledge, skills and capabilities and a systematic approach to evidence gathering.

2. *Developing assessments for learning:* As a student progresses through a course and the program of studies, they require feedback which confirms that they are mastering the knowledge, skills and capabilities required. These “practice and feedback” opportunities, often called formative assessments, enable the student to move quickly in relation to knowledge and skills at which they are proficient and to spend more time on those they need to demonstrate significant improvement. These assessments also enable appropriate coaching and mentoring by the instructor or peers.

3. *Developing assessment of learning*: Designing appropriate, timely and authentic assessments which will have real consequences for student progress within the course and program, often called summative assessments. Such assessments need to be both thorough in terms of “signing off” the student as possessing the knowledge, capabilities and skills but also consistent with the formative assessments the student has completed.
4. *Documenting the assessments and sharing with others*: This is also a design challenge. What is to be recorded, not just on a transcript, but in the students’ e-portfolio or record of performance and what is to be shared with peers, potential employers and other institutions? Given that many institutions have adopted e-portfolios or Higher Education Achievement Reports (over 90 universities and colleges in the UK use HEARs, capturing the work of over 500,000 students), how much information and materials (assignments, projects, presentations, videos, audio materials) should be captured and retained and by whom? How does the student “own” their record and how secure is the university or college’s “official” part of that record? These are all questions that need to be addressed in the design of a “smart” assessment system.

These four domains of design constitute an assessment ecosystem which both the student and all who engage with them must fully understand and own. Given the growth of legal challenges to assessment (Lichtenberg et al., 2007; Kamvounias & Vernham, 2010) and the growing concerns with corruption in higher education (Daniel, 2016), it is also important that these design processes are rigorous and thorough.

2.2 *Continuing Professional Education*

Once the learning outcomes for courses and programs have been established, the assessment regime within a program needs to be rigorous and fair. In large organizations offering online and distance learning, there may be many individuals engaged in reviewing and assessing students’ work. In a course with 45,000 students, there is a need to ensure fair and equivalent marking across this range of markers and students. Analytics have been used for this work for some time, together with other processes for marker moderation (Beutel, Adie, & Lloyd, 2016) and the equalization of grades. The key is that students receive the same assessment of their knowledge, skills and capabilities no matter who the assessor is.

For business education, the key in this work is to align the knowledge, skills and competencies with the needs of a range of roles for the organizations in which graduates are likely to be employed. Many professional bodies (e.g. accountancy, administrative professionals, human resources, consulting, project management) have adopted capability or competency frameworks. One example is that from the Association for Operations Management (APICS). To become a certified supply chain manager, candidates must demonstrate competency in business foundational

knowledge and skills (workplace leadership, personal effectiveness and core skills), specified professional skills (operations management knowledge and technical competencies, supply chain management competencies) and materials management competencies (APICS, 2009). Many business schools also have advisory bodies which help them identify what emerging competencies and capabilities need to be designed into their programs.

3 New Developments in Assessment

The last section provided context for understanding the design and development process for effective assessment of business knowledge, skills and capabilities. This section will describe a range of developments which have occurred over the last 5 years which create opportunities to rethink assessment and to design richer and more authentic assessment processes. These can be used for either the assessments for learning or the assessment of learning.

3.1 Adaptive Assessment

A feature of some learning management systems (LMS) including Desire2Learn, Moodle and Blackboard Learn, is known as “adaptive assessment”. This enables learning materials to be automatically adjusted (sequenced differently, remedial materials brought forward and new materials added automatically) based on a learner’s own self-assessment. For example, a student taking statistics might not fully understand how a correlation coefficient should be interpreted (as demonstrated by their assessment score). The LMS would then bring to their next learning session materials that would help them better understand just how coefficients are interpreted and give them more examples to work with. Thus, adaptive assessment enables differentiated instruction. In some advanced adaptive systems, the students’ preference for learning materials – video, audio, text, simulation and games – may also affect the materials used for the next learning activity, with the intelligent system responded not just to specific learning requirements but also to learning preference.

All of the major LMS systems have adaptive learning engines embedded within them. These permit the easy creation of varied routes for students with different needs within a course. For example, a student who is struggling can be provided with a remediation route, and a student who is successful and learning quickly can find an accelerated route through the course. Using a combination of machine learning and artificial intelligence, modern LMS systems make the creation of these pathways quick and relatively easy, with the role of faculty one of confirmation rather than development of all of the needed materials and activities. We are likely to see a greater use of intelligent systems, especially now that Blackboard will connect to IBM Watson.

Imagine, then, a student struggling with key aspects of accounting. As students progress through the same course, each student will see and experience a different sequence of material and different learning challenges, yet all who complete the course will have mastered the same body of knowledge, same skills and capabilities. Their route to doing so will be personalized.

This also enables business courses to have a variety of routes through them. For example, the same course could have different cases, problems, activities, projects, learning materials from private sector, non-profits, public sector and military contexts. All students would have the same body of knowledge, competencies and skills, but their studies would have focused on their area of interest or commitment. This could be especially important for part-time students in work who are seeking a credential, such as an executive MBA.

3.2 Learner Progress Analytics

Performance analytics generated from student assessments for learning (self-assessments) can also provide powerful information for the faculty member. Imagine an online class of 30 pursuing a specific module on supply chain management, with each competency involved in the course requiring the completion of an assessment of some kind. As students progress, the faculty member can see quickly who is mastering which construct, skill or capability and then design appropriate interventions. For those who are fast-tracking through the course, more challenging problems can be set, creating projects which require advanced use of the skills and capabilities they are developing. For student struggling with the material, additional support can be provided.

A variety of algorithms have been created which can, based on past behaviour in the same course by many cohorts of students, predict which students are likely to drop out and when. For an example, a student who postpones submission of a first assignment or does not complete any practice assessments in the first 2 weeks of a course is, in one specific course, more likely to drop out than a student who submits on time and is a frequent self-evaluator. In the UK, JISC is working with 50 universities establishing a national database of student behaviours to refine and improve the veracity of the algorithms used for this work (Sclater & Mullan, 2017). The key here is that knowing the consequences of their current behaviour can help a student change unsuccessful behaviours (Fritz, 2013).

3.3 The End of Average and the Bell Curve: Criterion-Referenced Grading

Many faculty members have been required to mark students on a bell curve, assuming the distribution of capabilities and competencies is to be found on a “normal” curve. The major objective of such grading curves is to minimize the influence of

variation between different instructors of the same course, ensuring that the students in any given class are assessed relative to their peers. This also circumvents problems associated with utilizing multiple versions of an examination, a method often employed where test administration dates vary between class sections. Regardless of any difference in the level of difficulty, real or perceived, the grading curve is intended to ensure a balanced comparative distribution of academic results.

One aspect of the use of technology-based assessment is that such use of the bell curve can now be replaced by criterion-referenced grading. Rather than look at a specific cohort in a specific institution and seek to place all students in that cohort on a bell curve, it is now possible to develop assessment rubrics which look at all who take a test against a rubric for that competency, capability or body of knowledge and have a criterion for placing them in a specific performance category. This limits the potential abuse of the bell curve – covering poorly designed assessments – and ensures that a person awarded with a specific performance category has the capabilities associated with that category (e.g. Level 1, 2, 3 or 4). It also puts an end to the idea that skills and competencies have an “average” (Rose, 2016).

In a business education context, especially with so much data now available for competency assessments from professional bodies, the idea can be considered of aggregating all known data about the performance of students on a competency or capability assessment and then using criterion-referenced rubrics, informed by these data, to place a specific student on a capability framework. Charles Sturt University in Australia uses this method in its business school, as does Deakin University.

3.4 Competency and Capability Assessment and the Growth of Micro-Credit Programs

Employers are increasingly less impressed by formal qualifications and more interested in what a given individual can do (Christie, 2014). What they are looking for is experience, competency and demonstrable skills. At least, this is the case for many leading employers, such as Alphabet/Google, who look for leadership capabilities, problem-solving and finding, humility, an ability to learn quickly and competencies as the basis for employment (Block, 2015). The more evidence a person can demonstrate their knowledge, capabilities and skills, the better.

For these reasons, standards-based assessment and recognition are growing quickly. For example, the use of digital badges to recognize skills is in wide use – one in five US colleges and universities use them (Fein, 2016). A digital badge uses a competency-framed assessment to provide recognition of abilities. Students can collect such badges as they develop the needed skills, perhaps as part of a course or as part of a work experience, internship or personal learning pursuit. A variety of institutions are using badges to recognize achievements and connect these badges to e-portfolios which they can share with potential employers. Continuing education programs, in particular, are making considerable use of badges linked to clear specifications of competencies and capabilities. Oregon State University, for example, offers over 40 badges ranging from technical skills to leadership and facilitation

skills. Some universities and colleges are connecting their award of badges to the learners LinkedIn profile. The badges are also issued by a variety of organizations, including employers and educational institutions.

In business education, micro-credentials are growing quickly. The Harvard-MIT MOOC provider EdX is offering micro-masters degrees. These are a series of four to five aligned MOOCs (e.g. in supply chain management, project management, entrepreneurship, leadership in global development) taken by anyone which, on completion, can be transferred into an accelerated MBA. They are also recognized by employers, such as Walmart, GE, IBM, Adobe, Volvo and the Carnegie Foundation. Udacity, another MOOC provider, is offering a similar program known as “nano-degrees” in some business fields (e.g. analytics for business), though the focus for Udacity is on technology-related fields. FutureLearn, the Open University (UK) MOOC platform, will offer full Masters of Professional Practice degrees, including one in Financial Planning, in partnership with Deakin University (Australia). Coursera, the largest MOOC provider, offers “specializations” in several business fields.

Another way in which business can see the value of the work of students is through business engagement in the assessment of student work, based on a competency-capability framework. This is how RIIPEN works with over 70 higher education institutions and close to 3,000 employers. Instructors design assessments linked to specific capabilities of interests to employers. The rubrics used for assessment are refined through a collaborative process. Once the student completes their assignment – often project work based on a placement or an applied research project – companies provide feedback to both the student and the instructor in addition to the assessment by the instructor. This is then captured and logged on the students’ e-portfolio. Business schools, such as those at Berkeley, Suffolk (UK), McMaster, Boston, BCIT, UBC, Ryerson and many others, are using RIIPEN’s platform to enable such assessment.

3.5 Peer-to-Peer Assessment for and of Learning

Peer-to-peer assessment has been in use for some time (Topping, 1998). Students use a competency and capability framework to provide feedback to their peers, and peers value this feedback, which counts towards their final assessment for a course or program. For example, in a group assignment on an MBA program, each group member rates and gives feedback on each other group members’ contribution to the final project which counts towards each student grade for participation in the online course. Many MOOC providers have used peer-to-peer assessment as a way of increasing student engagement and securing completions in massive online courses (Kulkarni et al., 2015), especially those with exceptionally large enrolments. It has been used in connection with over 100 MOOC courses on the Coursera platform alone.

The key elements of best practice in peer assessment involve these processes, according to Langan and Wheeler (2003): “(a) keeping everybody in the picture

(e.g. about how the marks are allocated and why); (b) a simple assessment system (i.e. of high objectivity based on competency statements and clear rubrics); (c) sharing and sometimes negotiating assessment criteria with classes in advance (although this is not always possible); (d) having a moderation system by instructors (for example 10–20% of the assessments being second marked by tutors); (e) a complaints or review procedure so that peer awarded marks can be discussed/challenged; (f) allowing plenty of time for peer-assessment, whether in person or online; and (g), some form of feedback to students to confirm that peer marks are valid and similar to that of their tutors”. These make clear that students are more than capable of assessing each other (Hughes, 2001).

3.6 Valid8 as a Competency-Driven Portfolio

One specific kind of e-portfolio, developed by Vametric and now in use in Canada, is Valid8. Described as a “twenty-first-century ring binder” for knowledge, capability and skills, is a comprehensive, integrated e-portfolio system which uses video-based assessment to capture students demonstrating their abilities and competencies. It has become a highly regarded platform for the validation and accreditation of learning.

This is now being adopted by some Canadian banks (CIBC and the Royal Bank), colleges and universities. It incorporates a range of technologies to permit rapid review and assessment, including both hard and soft skills related to business and professional development. It provides a systematic, rigorous basis for rich and authentic assessment.

3.7 Replacing Faculty as Writers and Markers of Assessment Items with Machine and Artificial Intelligence

As a faculty member, one of the challenging tasks each of us has to do is to create unique and new assessment items which fully reflect the competencies, knowledge and capabilities related to a course or area of study and have appropriate rubrics associated with them. This is demanding work. Now, with the support of machine and artificial intelligence, the faculty role is changing. The task now is to develop a model prototype of the ideal question or case study and the related rubric. New systems, such as the free-to-use/open-source platform TAO or the commercially available solution Varafy, enable a variety of different kinds of assessment items to be automatically generated (in multiple languages), delivered and administered and graded if required. Faculty’s role is oversight and quality assurance, but sound robust systems are quickly emerging which make rigorous oversight of multiple offerings of an assessment possible (Gierl & Haladyna, 2013).

The significant implication of many of the developments outlined in this chapter is captured in this specific development: faculty members are design engineers for learning and mentors and coaches for the work of learners. They no longer must do everything. This is why IBM Watson and Pearson are partnering to create personalized learning solutions, including for business education at the college and university level, ending with personalized, capability and criterion reference-based assessments.

3.8 National Standards-Based Assessment

Several jurisdictions, including England, Wales, Scotland and Australia, have a variety of trades, professions and disciplines, national standards and qualification frameworks. National Vocational Qualification (NVQ) assessments are based on the practical activity undertaken in the workplace and a portfolio of evidence showing the learner has meet occupational standards. A qualified assessor will observe an individual while they work and question them to test knowledge and understanding. NVQs are quality assured by qualified external verifiers who examine the work of assessors and review the e-portfolios of individual learners. The use of verified national assessment systems, such as those developed by Pearson or Valid8, is growing to ensure quality assessment. Recently it has been suggested that Canada needs such a system, already used for Canada's Red Seal certification, for all skills and competency-based programs (Lane & Griffiths, 2017) needed for effective business operations.

Nursing provides an interesting case study here. While each undergraduate nursing program assesses their own students, and awards their own credentials, entry to practice requires the completion of the computer-adaptive NCLEX-RN exam, administered by the National Council of State Boards of Nursing (NCSBN) – a US-based organization. Not all students who have completed a Bachelor of Nursing degree in Canada pass this national qualification at the first sitting, with failure rates amongst Canadian francophone students being especially high. As more of the health professions move to competency-based assessment against national and international standards, more such entry to practice assessments will be developed.

The same applies to some fields of business education. Individuals who earn an undergraduate or graduate degree are not automatically guaranteed admission to a professional body related to business. For example, Certified Management Consultants require both a relevant first degree and 3 years of consulting practice and the completion of a tailored peer assessment based on nine competencies. Similar processes exist for other business domains, including accounting and supply chain management. Certification in many business professions generally also requires a formalized commitment to continuing professional development (CPD), and many professional bodies, universities and colleges provide this through a combination of online, blended and workshop sessions.

3.9 Innovation in Prior Learning Assessment and Recognition (PLAR)

PLAR permits students to have prior learning and prior work and related experience to be assessed “for credit” so that they can reduce the number of courses they are required to complete a university or college credential. One way to think about this work is that it enables a student a more flexible, rapid program completion based on the gaps in the students’ knowledge and experience.

When PLAR became formalized in the 1970s, the basic premise was to compare what the students’ prior learning and experience were with the specific course outlines they claimed credit for – a form of equivalency-based assessment. Now there are more options. Through [LearningCounts.org](https://learningcounts.org), developed by the Council for Adult and Experiential Learning (US), students can leverage multiple approaches to PLA, including standardized exams, institutional challenge exams, existing evaluations of non-collegiate programs (including corporate and government training) and individualized portfolios. The free-to-use website [LearningCounts.org](https://learningcounts.org) provides information about these formats. The service goes further. [LearningCounts.org](https://learningcounts.org) provides independent academic assessment of e-portfolios which are then accepted by several colleges and universities across the United States.

Some colleges are using competency-based assessment of skills, for example, in accounting, rather than ask “is this learning equivalent to course X?” the question now becomes “what knowledge, competencies and capabilities can this student demonstrate and what does an assessment mean for their individualized program of study for a degree, certificate or diploma?”. The Kentucky Technical Community College System (KTCCS) uses competency-based assessment to determine credit allocations and then is able to design a modular-based program for each student which takes account of this prior learning.

3.10 Learner Mobility, Assessment and Transnational Qualification Frameworks

There are now great many international agreements, both educational and trade agreements, which seek to enable the mobility of learners and graduates of college and university programs. For example, the Canada-EU agreement contains a streamlined process for the mutual recognition of professional qualifications, which focuses on the development of mutual recognition agreements (MRAs) between professional bodies where the skills and competencies, especially as assessed through professional competency assessments and examinations, will form a key component for such MRAs.

Amongst the most comprehensive educational agreements is that created by the small states of the Commonwealth in their Transnational Qualification Framework

(TQF). This agreement, signed by some 31 countries, provides small states with more up-to-date procedures and guidelines and a referencing tool for alignment of qualifications in individual countries to an agreed international framework. The TQF functions as a translation device, making qualifications more readable, transferable and transparent, which, in turn, will help learners and workers move between countries or change jobs. The Erasmus, Tempus and Erasmus Mundus programs in the European Union are also aimed at high levels of interchange of learners within the EU (Ferdinande, Hosokawa, Yamada, & Nishimori, 2013).

What matters here is that the integrity of assessment across jurisdictions does not weaken these agreements – the real quality control relates to competency and capability assessment as well as to course design and the quality of instruction.

4 Unbundling and the Future of Online Business Education

“Unbundling” refers to the separation of the components of the learning and credentialing process. Who designs and develops courses will not be the same as the group which then delivers courses and programs. Who assesses learning and skills will be different from who delivers learning. Who provides credentials will differ from who assesses learning and skills. Learners will be able to “mix and match” the providers of content, the mentoring and coaching for mastery, and then undertake assessment in dedicated assessment centres to secure recognition by professional bodies, credit coordinating agencies, universities and colleges. Given that quality no longer relates to “residency” (in Canada, it is generally the case that 50% or more of a learners learning must take place at a given institution for that institution to provide degrees, diplomas or certificates), but to competencies and mastery, unbundling is the key to personalized learning routes and differentiation of providers.

Elements of this are already occurring:

- *Course Development Separate from Delivery:* MOOCs and open education resources make content freely available for learners to use to develop knowledge, skills and competencies. Most large online learning institutions (e.g. Open University (UK), Athabasca University, Thompson Rivers University, Western Governors University (US), Indira Gandhi University (India)) use course development teams which then may not teach the courses they have developed. MOOC providers are investing in instructional design and development to improve the efficacy and quality of the learning experience for learners, showcasing what difference design can make to the quality of learning. By doing so, they are showing faculty and students what a quality course can look like.
- *Delivery Separate from Course Development:* The development of an adjunct faculty, peer support and tutoring and other systems of support provides for models in which a standard course is delivered in multiple sites to a very large number of learners (the largest MOOC in 2015 had some 440,000 learners) by qualified individuals who did not develop that course. This is how all the dedicated online

distance learning institutions have achieved scale and how programs and courses could follow suit. MOOCs have shown how scale can be achieved.

- *Assessment Separate from Delivery:* The MOOC developments in Malaysia are important in terms of this component of unbundling. In Malaysia, the 20 public universities have developed a set of MOOCs (64 so far with more to come) which are fully integrated into their on-campus program offerings. Anyone can take a MOOC and then asked to be assessed on admission to the University they have chosen for their program studies. Malaysia is the first country in the world to implement a nationwide strategy that integrates MOOCs with on-campus classes. Some professions (e.g. accounting) and other occupations (e.g. supply chain managers in the USA) already undertake assessment independent of the learning providers and assessment processes of institutions. The growth of competency-based certification is now being accelerated by the development of micro-credentials, nano-degrees, badges and other forms of skill and competency recognition. Skills assessment centres in Australia cover a range of different professions and trades. Western Governors University is based on this construct of outcome-based assessment of learning – it is how they award degrees.
- *Certification Separate from Assessment:* Some qualifications use credit coordination as the basis for the award of a degree or diploma. Athabasca University's Bachelor of General Studies is one such degree, but other similar prior learning and competency-based qualifications are available around the world. There are emerging collaborative programs between a variety of institutions – up to five collaborating partners – where the learner completes their competency journey and then chooses which institution is the primary provider of their qualification.

A key component of unbundling is the effective use of peer coaching and assessment. A typical MOOCs' use of peer assessment involves (a) the use of common rubrics; (b) the random distribution of learners work to peer raters and assessors; (c) written feedback and comments on each work assessed – what is often called “coaching through the script”; and (d) peer ratings and an indication of how this rating “sits” (average or median) with all ratings provided to all learners. Some have suggested a range of modifications to this work (Suen, 2013), including a Calibrated Peer Review™ system. While it is currently the case that those MOOCs which make the most extensive use of peer review and assessment have the lowest completion rates (Suen, 2013), the extensive use of these methods is triggering interesting developments of peer-based coaching and mentoring and peer assessment in post-secondary education generally (Lawrence & Zollinger, 2015).

The emergence of unbundling is not due entirely to MOOCs – it has been taking place for many years. But MOOCs are accelerating the process of unbundling and are showcasing the power of scale. Given that many universities and colleges are struggling financially, including dedicated distance teaching institutions, getting to scale is an attractive proposition if revenue can be attached to the large learner numbers. Micro-credentials and assessment seem to provide a route to leverage MOOCs for institutional development.

One observation rarely made with respect to unbundling is that these developments accelerate innovation for each “bundle” of activity – design, development, deployment, delivery, assessment and credentials. Rather than having to create a comprehensive system level innovation, breakthroughs and disruption can occur at the level of one or more components of this system. While unbundling is at an early stage with some significant developments occurring, especially in emerging nations, it is the underlying trend being observed by many who have been engaged in online learning for some time (Craig & Williams, 2015).

5 Conclusion

Hill and Barber’s (2014) suggestion that we are entering a period of renaissance in assessment seems to be supported by the range of developments reported here. As the ways in which assessments are conducted continue to change, we can expect to see significant and further “unbundling” of assessment from the delivery of courses. This will particularly occur in professions, like medicine, which are shifting from time-based credentials to competency-based credentials, but will also be seen in business education, especially, that closely tied to specific professional competencies. Indeed, the underlying theme of this chapter is that it is assessment, especially rich online assessments (including video, peer-to-peer and anytime/anywhere assessments), that will provide the backbone for the next phase of work in ensuring the relevance and value of business education.

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