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Using the Badged Open Course, *Taking your first steps into Higher Education*, this case study examines how assessment on online open courses draws on concepts of assessment used within formal and informal learning. Our experience was that assessment used within open courses, such as MOOCs (Massive Open Online Courses), is primarily determined by the requirements of quality assurance processes to award a digital badge or statement of participation as well as what is technologically possible However, this disregards much recent work in universities to use assessment in support of learning.   We suggest that designers of online open courses should pay greater attention to the relationship of assessment and learning to improve participant course completion.

Keywords: open online course, informal learning, assessment, badging, MOOC

Introduction

The Open University UK (OU) has existed as a provider of ODE courses for over four decades. Over this period these courses have been 'open' in the sense that no prior qualifications are required to enrol. Since 2006 the sense of openness has been extended with the development of open online courses that are free but not formally accredited. This heritage is evident in the creation of OpenLearn (www.open.edu/openlearn), which continues to be a free resource of materials which draws on OU materials originally developed for modules in qualifications. Then in 2013, the OU founded the MOOC platform FutureLearn (www.futurelearn.com) in which it was the leading partner, a world-wide consortium of universities both ODE and campus-based.

However, whilst FutureLearn is to date somewhat remote from the core teaching business of the OU, a more recent initiative seeks to strengthen the relationship between free learning and paid-for learning. This is the development of Badged Open Courses (BOCs), the first tranche of which were launched in 2015. Badged Open Courses are open educational resources housed on the OpenLearn platform which provide more structured pathways through OpenLearn materials (Law and Law, 2014). They differ from other OpenLearn courses in that they have assessment, successful completion of which results in the learner being able to claim a 'badge'. Badges can be described as an "assessment and credentialing mechanism that is housed and managed online" (MacArthur Foundation, 2015) and can be viewed as a virtual form of the type of badges typically associated with scouting. They can also be displayed on learners' social media profiles, using software such as Mozilla (http://openbadges.org), and therefore shared with friends and employers.

Each of these BOCs involves 24 hours of study spread over 8 weeks, with formative assessment (quizzes) each week and summative assessment at the mid- and end-points of the course. The format for both formative and summative quizzes is the same, including free text, drag and drop and multiple choice, with three attempts allowed for each question, and an increasing amount of feedback being given after each attempt (See appendix, figures 1 to 4). However, only the summative quizzes contribute to the overall course mark. Passing the course results in a Mozilla-compatible OU badge.

A particular feature of the OU BOCs is that they require learners to engage for a significantly longer period of time and to do significantly more, in terms of activities and assessment, than is required in

most badged courses, which are usually only a few hours long. They therefore aim to deliver a structured means to prepare learners who are considering or about to enrol for qualifications in online and distance education. As a result, the BOCs have the specific aim of developing skills and confidence to encourage what is conceptualised by the OU as a personal 'journey from informal to formal learning' (or JIFL); they offer a stepping stone into accredited education. Evidence suggests that 28% of BOC learners 'click-through' to make an enquiry to the Open University (Hills, Gore and Hughes, 2016). They include subject areas such as introductory mathematics, English language skills, and learning to learn. They are therefore aimed at a wider group of learners than many existing MOOCs, which have tended to attract an already well-educated audience (Lane, 2012). They target learners who fit into 'widening participation' categories and in this respect BOCs are a development of the 'traditional' OU curriculum offer designed to encourage under-represented groups into higher education.

The focus of this paper is on the *Taking your first steps into higher education* BOC (www.open.edu/openlearn/ocw/course/view.php?id=1139), and the experience of the authors in developing an appropriate assessment strategy for the course. Working within the prescribed structure of the platform (based on Moodle), we endeavoured to develop an approach which provided learners both with evidence of achievement and adequate feedback on their progress (assessment for learning). In doing so, we looked to models of assessment from within formal education, in particular higher education, and also informal learning, including OERs and traditional informal and lifelong learning. In so doing we identified two critical tensions; between what we wanted from a pedagogical perspective versus what the technology allowed; and between the conceptualisation of the BOC as an instrument for purely informal learning, and the institutional requirements associated with awarding an institutional branded badge. Such tensions are increasingly pertinent within the broader higher education sector as it diversifies and the distinction between formal and informal learning becomes less defined.

The BOC: informal or formal learning?

Attempting to differentiate between informal learning and formal learning presents a paradox. In some ways this difference appears straightforward. The European Commission (2000) suggests that formal learning takes place in institutional settings and leads to recognised qualifications. Learners intentionally participate and are aware that learning is occurring. In contrast, informal learning is described as "the natural accompaniment to everyday life" (European Commission, 2000 p.8) and is held to be such an integral part of life that it is often not recognised as learning.

However underneath these definitions lie many layers of complexity and a wide range of typologies and approaches. These include attempts to enlist metaphors, such as the comparison with food production made by Golding, Brown and Foley (2009) in which formal learning is compared to large-scale food production while informal learning is seen to be "more organic and home-grown" (Golding et al 2009, p.41). Such a metaphorical approach might provide a comfortingly easy distinction between formal and informal learning as if there is some 'deterministic dichotomy between formality and informality' (Cameron and Harrison 2012, p. 277). Challenging this binary characterisation, Colley, Hodkinson and Malcolm (2003) indicate that key attributes of informal and formal learning will play out differently in specific learning situations. They note:

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> Attributes of in/formality are interrelated differently in different learning situations. Those attributes and their interrelationships influence the nature and effectiveness of learning. Changing the balance between formal and informal attributes changes the nature of the learning. (Colley et al, 2003, Executive Summary)

Such a contextual approach is particularly useful for considering the design, approval and enactment of assessment in open online courses.

Our BOC, *Taking your first steps into Higher Education,* includes characteristics of both formal and informal learning. Teaching is provided by a university and is structured for the learner with clearly defined activities for each week of study and the learning is summatively assessed– all normally characteristics of formal learning. However, the BOC is permanently available on OpenLearn, meaning that anyone can enrol at any time and read through all the materials over a period of time of their own choosing; and no direct interaction with a teacher is needed to study the course. Moreover, no credit is conferred for successful completion and in these senses it could be described as an instance of informal learning.

Even this fairly cursory look at *Taking your first steps into higher education* highlights how attributes of both formal and informal learning are apparent and the exact balance will be relational, depending on the motivation, future plans and context of each individual learner (Colley et al, 2003). For some, study on the BOC will indeed be a 'step up' from undirected browsing on websites like OpenLearn and a step towards the formality of accredited university modules. For others a BOC will be an instance of learning leading onto another learning episode comparable in its level of informality. This diversity has implications for how assessment in the course is perceived by different stakeholders.

Assessment and the BOC

As academics charged with writing the course our primary concern was supporting students to develop academic learning habits and skills appropriate to study in HE. Assessment needed to be appropriate to this purpose. Our challenges were multiple. Firstly, as an open online course enrolment is unrestricted and we have no prior knowledge of those enrolling, their previous experiences of assessment or the way in which they will approach the assessment tasks.

Secondly, defining the nature of our engagement with quality assurance and adherence to regulatory frameworks (Stowell, Falahee and Woolf, 2016), a key feature of assessment from HE institutions, is problematic. The decision facing HE providers is the extent to which assessment on OERs, MOOCs and BOCs should reflect the standards applied to summative assessment on accredited courses. Adherence to these procedures was evident when it came to designing assessment for our BOC. Significantly, BOC assessment had to be approved by the university's 'examinations office' in the same way as any other assessment. For the institutional branding of the badges meant that they could not just be 'given away' as this might incur reputational damage that could have implications for the more formal offerings of the university (Law and Law, 2014) – the badge is driving the assessment and not broader notions of learning. Thus, for example, the requirement that learners on a BOC took (and passed with a minimum 50% score) two Moodle quizzes was clearly shaped by an institutional view of the role of summative assessment for credit. Such concerns extended to determine user engagement with the weekly quizzes on the BOC. On the

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course platform it is technically possible to allow unlimited attempts at these quizzes. However, this opens up the possibility that 'learners' will just keep clicking until they get the answers right. To try to ensure that assessment on the BOC sat comfortably with prevailing understands of assessment used for the award of credit, this situation was deemed unacceptable and a limit of three attempts within a 24 hour period was set. Furthermore the use of such quizzes greatly influenced the ''skills, competencies or knowledge designers and learners prioritise, and how they will be achieved' (Cross et al, 2014).

It is now commonly accepted in the sector that a critical feature of contemporary assessment in formal Higher Education, including ODE, must be an increasing focus on assessment for learning (Nicol and Macfarlane-Dick, 2006) which reflects the notion that 'the majority of students regard assessment as the most important aspect of their course and, consequently, use it to guide and frame their learning' (Price, Carroll, O'Donovan and Rust, 2011, p. 480). However, it is more complex to apply the findings of such research to a context where there is no direct communication between student and educator, and where there are practical as well as financial limitations on the assessment task used. Nonetheless recent developments on computer –generated assessment and feedback do point to a role for the use of e-assessment in empowering students to self-regulate their learning (Jordan, 2014). This might suggest that assessment within the informal OER sector can readily draw on lessons from such research and practice in e-assessment within the context of formal ODE. However, although Higher Education has always had a role in the development of informal and lifelong learning, there is little sense of 'conceptualisation of the place of assessment in learning beyond the academy and the contribution higher education can make to it' (Boud and Falchikov, 2006, p. 399). As a result, although approaches to the assessment of informal learning, particularly within an online environment and even within the rapidly growing world of OER, have been drawn primarily from theories of assessment in the formal learning sector (Farrell and Rushby, 2016) there is little evidence that the assessment of OERs has drawn on the lessons from research and practice in e-assessment within the context of formal ODE. At the same time, very few theoretical frameworks or examples of assessment from informal learning, and certainly none from theories of lifelong learning or authentic assessment, have been applied to the assessment of OERs.

The consequence is that assessment of OERs is often determined by what is financially or technologically possible. Assessment of OERs could potentially range from no assessment to portfolios, with the latter generally regarded as having most validity when the identity of the learner can be verified. (Witthaus et al, 2015). However the provision of verified portfolio assessment is both technologically difficult and costly at scale. This is why pressure is brought to bear on academic course designers to limit assessment to multiple choice quizzes - 'formulaic problems and right and wrong answers' (Ebben and Murphy, 2014, p. 340). Much assessment in MOOCs for example, provides "very little timely and informative feedback on learner performance" (Spector, 2014, p. 389).

Our assertion is that development of assessment on *Taking your first steps into higher education* represents the collision of the two worlds of assessment in formal and informal learning. On the one hand, we have tried to introduce assessment questions which provide individualised, targeted feedback. On the other, we have found ourselves constrained by the imposed structure of the BOC, including the number of questions allowed, and the technological limitations of the OpenLearn platform which restricts the question formats available.

Discussion

Our experience suggested that relatively high level abstracted taxonomies of in/formal learning are of limited value when it comes to understanding a particular learning opportunity, in this case, the OU BOC, *Taking your first steps into higher education*. It is not possible to say that *Taking your first steps* is either an example of formal learning or of informal learning - rather this depends on the relationship between the course and the learner (Colley et al, 2003) and BOCs are perhaps better described as a 'hybrid' or 'blended' learning opportunity.

Such classification is perhaps not important to the learner but critical to the way universities have approached the design and approval of assessment on BOCs and MOOCs. Although historically derived from the informal sector, concerns about reputation and reliability have become foregrounded with the award of certificates and badges. This impacts on the form of assessment on these courses; assessment *of* learning tends to prevail and strict rules on learner engagement with assessment in order to 'pass' are imposed in line with those in accredited courses. This focus on 'assessment for validation of learning' is reinforced by the platforms used for these open courses; intended to run at scale and with low overheads (they are after all not directly income generating for universities) computer marked assignments with automatic feedback offer a low cost solution to meet the quality assurance criteria.

In this context the notion of assessment *for* learning, seen as a desired feature of formal learning, is allowed little space and there are few conceptions of assessment for learning in MOOCs and BOCs. Much recent discussions of the role of the assessment in these courses continues to focus exclusively on the process of assessment rather than how assessment might support learning. (Law, 2015; Witthaus et al, 2015)

Our position as academic practitioners on the open online course (*Taking your first steps into higher education*) enabled us to reflect on our experiences. We found ourselves between the two worlds of informal and formal learning, and between our own notions of what constituted the role of assessment and in particular its role in supporting the development of learner confidence and capability, and the technical systems with which we had to operate. Our reflections revealed tensions between the pedagogic approach we wanted to employ to best support learning and both the technical affordances of the platform and institutional anxiety over standards and reputation. Both propelled us down a design path in which assessment was primarily positioned as summative - of learning - rather than supporting deeper learner participation in learning. However whilst we remain committed to ensuring assessment relates to learner needs, we acknowledge this is highly challenging in a world of BOCs and MOOCs where teaching staff have no prior indication of who will enrol, where learner needs across the cohort can be highly diverse and where the characteristics of successive cohorts can be very different. This remains a challenge.

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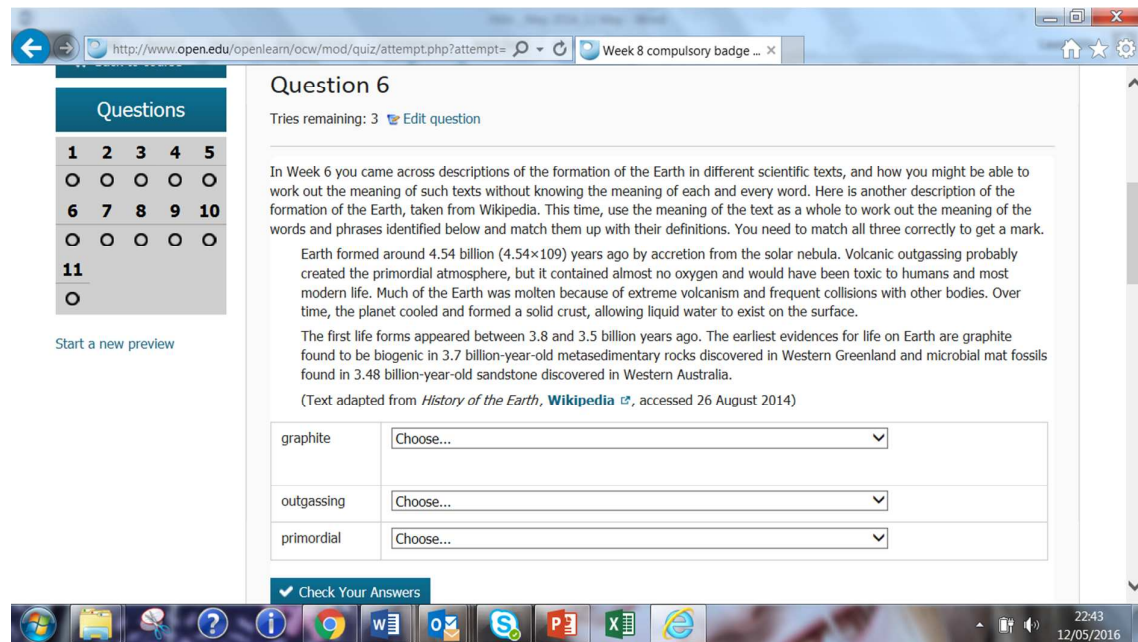
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Appendix

Example of question and feedback

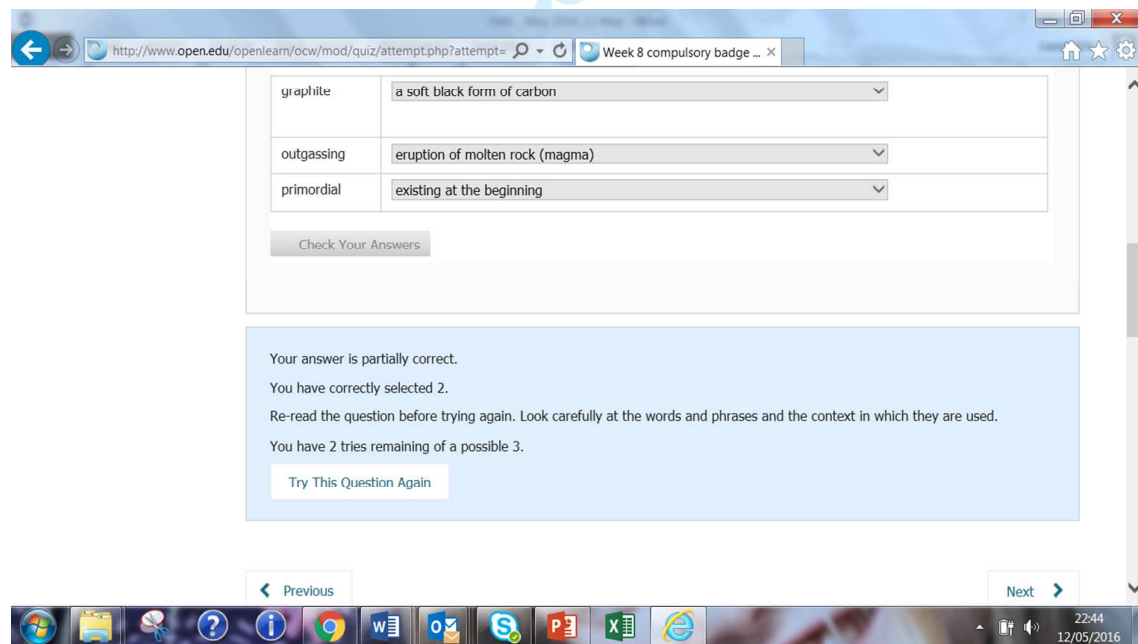Figure 1. Multiple choice assessment type
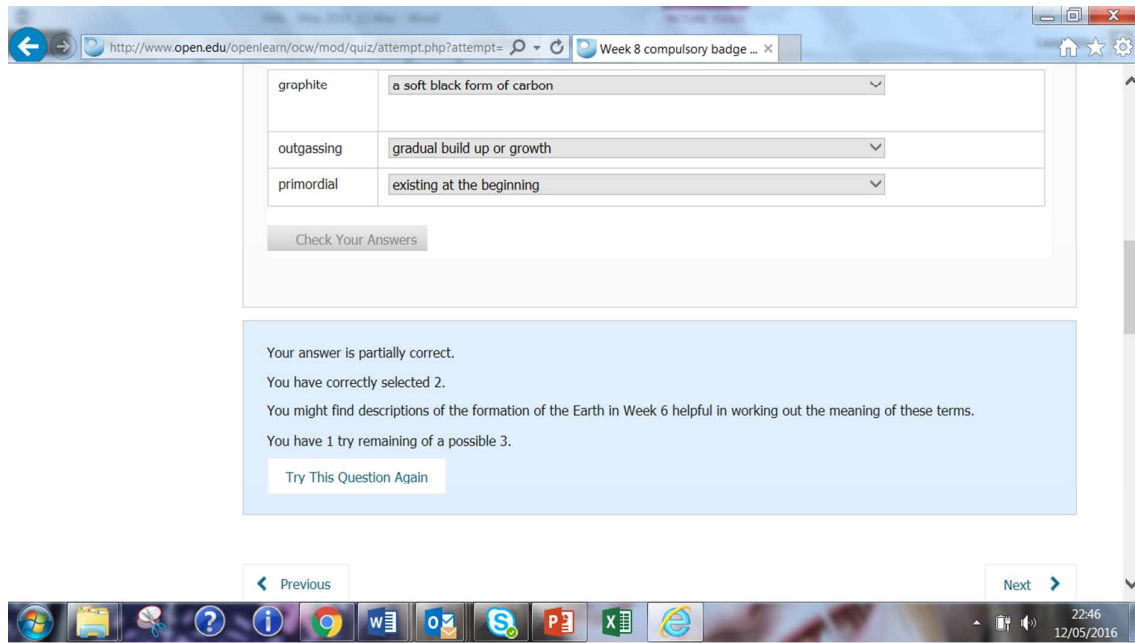

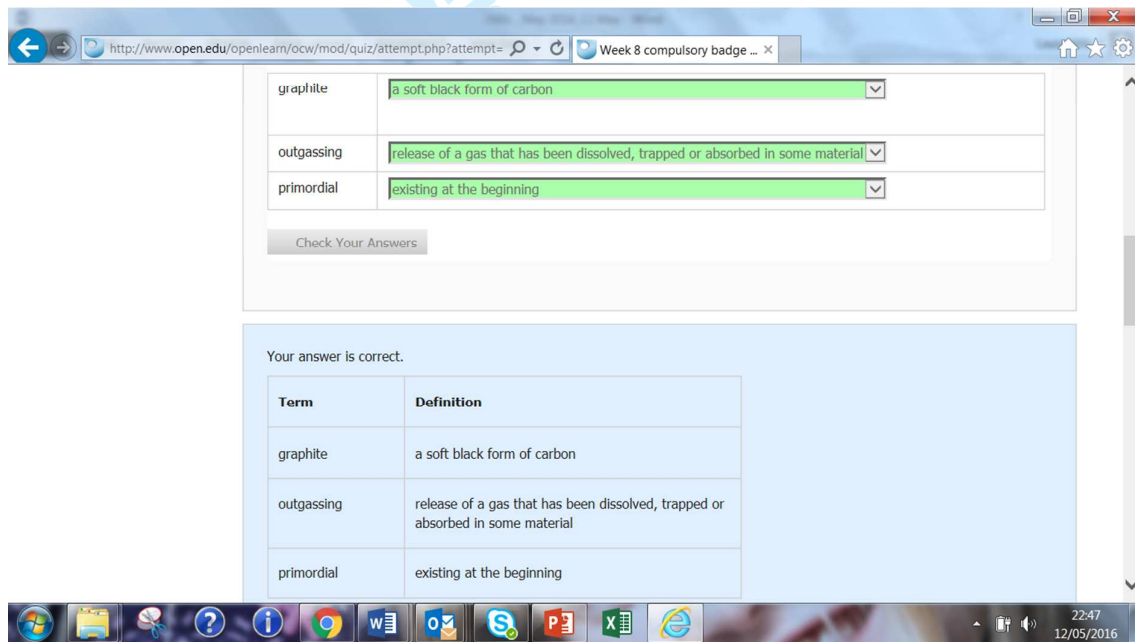Figure 2. Initial feedback on incorrect answer

Figure 3. Second feedback on incorrect answer

Figure 4. Final feedback/ confirmation of correct answer