The use, role and reception of open badges as a method for formative and summative reward in two Massive Open Online Courses

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Abstract
Open online learning courses such as cMOOCs and xMOOCs differ from conventional courses yet it remains uncertain how, and if, existing common yet costly practices associated with teacher-driven formative and summative assessment strategies can be made to work in this new context. For courses that carry no charge for registration or participation, authors of open online courses have to consider alternative approaches to engaging, motivating and sustaining study and for helping participants manage, plan and demonstrate their own learning. One such approach is that of open badges or similar such visual public symbols that communicate to others a particular quality, achievement or affiliation possessed by the owner. This paper reports the role, reception and use of open badges in two 'massive' open online courses delivered in 2013 with attention to varied functions of badges and the a distinction between formative and summative applications. The paper will then draw upon data from end of course surveys, which specifically asked about badges, pre-course surveys, and user comments made during the course on platforms such as Twitter to examine what value participants ascribed to the open badges. Although there was found to be a broadly positive response to badges in both MOOCs, the reasons for this were often very different, and approximately a quarter of respondents remained sceptical or concerned about their role. The paper concludes by reflecting on the open badge as a formative instrument for providing the learner with an indication of progress and achievement.

Introduction

The advent of open online courses has required educators engaged in this learning and teaching space to fundamentally reappraise the pedagogic structures and validity of their own assumptions in respect to student retention, engagement and motivation. One central question concerns how the design of formative and summative assessment may have to change to become more sustainable, and what impact this might have on how students look for and are rewarded for their participation. This paper considers the reception, use and attitudes of participants from two MOOCs to one potential answer; the digital open badge. This insight into how badges have been used in two open courses, and the student response to them is intended to contribute to understanding and the debate about how open badges may contribute to the pedagogy of open courses.

The practice of offering badges to those participating in open online courses has been attracting increasing interest and comment over recent years with badges identified as having a 'high' potential impact in the short to medium term (Foster 2013; Sharples et al. 2012). Described as a 'digital credential that represents skills, interests and achievements earned by an individual through specific projects, programmes, courses or other activities,' (Mozilla 2013), the badge itself is not

considered an assessment method in itself but instead presents an assessment outcome or information about the assessment. As such, the imagined role and function of the badge may factor in the design of the curriculum, its assessment and the learning activities. It may also influence what skills, competencies or knowledge designers and learners prioritise, and how they will be achieved.

The open badge is a small image that hyperlinks to online evidence that badge award criteria has been met. The earner can display their badges on their own websites, blogs, digital CVs, etc. and the link provides a degree of transparency so anyone with sufficient skill and knowledge can check the qualifying evidence. The badge may include other information such as the name of the issuer and when it was issued and, whilst it may form part of a badging strategy or nested hierarchy of badges developed by an education provider or organisation, individuals may also issue badges.

The open badge movement has received a significant boost from the Mozilla Open Badge project (Mozilla 2012, 2013) which is seeking to establish a standard for the interoperability and free mobility of badges and a ‘back-pack’ in which badges can be stored. This work includes the Badges for Lifelong Learning Competition which awarded thirty grants for the creation of badges and supported two research competitions that announced winners in early 2013. Regular blog posts and associated synthesis (e.g. Goligoski 2012; Hickey 2012, 2103) provide insight into this work whilst reports such as that by the Mozilla Foundation and Alliance for Excellent Education are seeking to look deeper into the role of digital open badging in expanding education and workforce development opportunities (Mozilla 2013). Studies of use by US high school students have indicated a range of challenges, that badge types can have different yet positive impact on critical learner motivations and conversely, that extrinsic motivators can have negative influence (Abramovich et al. 2013; Randall et al. 2013).

In the UK too, badges are being trialled in a number of formal and informal learning contexts. For example, Glover (2013) reports on research being undertaken with staff and students at City University London on whether to implement Open Badges. At the Open University (UK) digital badges have been used in the iSpot project (Rosewell 2012), OpenLearn platform, the Open Learning Design Studio MOOC, and the Learning Design MOOC. The latter two of these implementations form the focus of this paper.

Commentators have suggested that badges offer great potential: in helping assess, accredit and evidence learning; in strengthening student motivation and engagement; in promoting deeper and richer learning experiences; in reaching informal and non-traditional learners; and in helping students better value and understand their online and offline achievements. In respect to Higher Education they are beginning to be considered to offer potential for competency-based education, potentially increasing the number of education providers (Mozilla 2013). More specifically, for open online courses such as MOOCs (Cormier and Siemens 2010; Liyanagunawardena et al. 2013; Rodriguez 2012), badges may appeal as a compensator for the loss of those motivational benefits conventional courses enjoy from having final summative assessment and greater individual formative feedback.

Alongside the badge or similar visual symbol (e.g. rating, rank, clothing, etc.), there are other ways that recognition of achievement or reward can take a material digital form such as: currency or capital (e.g. economic, social, cultural capital); privileged information or access to information such as feedback and advice; provision of new material opportunities (e.g. unlocking new levels); or ownership of objects, 'collectables,' and trophies. These will be familiar to digital game players where badges and trophies as visible symbols that reward achievement are commonplace; where collectables provide virtual possessions ranging in utility from essential keys to the purely superficial and quirky; and where currency establishes systems of exchange be this monetary, experience, skill, fame, honour etc. Indeed, games provide one example of how badges and similar symbols of achievement, performance or identity serve a great variety of psychological, sociological and cultural functions.

Hickey (2012) offers a working categorisation for badges suggesting they serve four 'functions' in teaching and learning. The first is to recognise learning: here the badge behaves as a credential or proxy for evidence (Wiley 2012). The second is in the assessment of learning, or perhaps more specifically, in driving the development and implementation of an assessment strategy such that badges can be awarded. The third function is that of motivating learning and here Hickey refers to both extrinsic and intrinsic motivation, whilst acknowledging that the other functional categories (such as recognition and assessment) are also likely to impact motivation. The final proposed function of badges is the evaluation and tracking of progress for use by teachers and institutions.

A number of commentators have warned that poorly implemented or excessive use of extrinsic motivational mechanics such as badging could have a strong negative impact. Wu (2011) argues that the over use of extrinsic devices such as badges or points can lead to over justification (a decrease in intrinsic motivation), an attention shift towards game mechanics and dynamics rather than the activity, and an ever greater escalation in the expectations for extrinsic reward and an attention. This 'moral hazard of game play' is, according to Wu, unsustainable. Instead, he suggests the importance of using the window of opportunity provided by extrinsic motivational rewards to encourage the player (the learner) to internalise the values or rewards associated with the process as intrinsic motivations or to use data analytics based on player choice of activities to determine their motivations and adjust content accordingly. The badge may also have a role to play in maintaining interest in learning by ensuring effective and balanced 'flow' in learning activities; thereby preventing what Csikszentmihalyi would see as a gradual drift to overlearning and boredom (Chen 2007).

It is also necessary to consider the social and cultural operation of the digital open badge as a visual public symbol that communicates to others a particular quality, achievement or affiliation possessed by the owner. The specific context of motivation (Walker 2004) is therefore important. Antin and Churchill (2011), for example, propose the following primary social psychological or group functions of badges in respect to social media: motivation by setting collectively sanctioned or agreed challenges (goal setting), motivation by creating symbols of status and opportunities for reflexive practice (status/affirmation), indoctrination of all to acceptable social norms and valued behaviour (instruction), communication of an individuals' level of

trustworthiness and reliability to others (reputation), and furtherance of group identity and collaborative capacities (group identification).

This list can be extended further to, as Carr (2012) notes in a very different context, understanding badges as symbols of exclusive membership, as tools of resistance, as commodities, as objects of study in their own right, and as souvenirs or mementos. Intentional focus on the operation of such roles in relation to education has yet to progress although the potential remains. Taking the latter point for example, whether working as an individual or group, research on the psychology of collecting has shown how the act of collecting artefacts and building collections can be a strong motivator. Others suggest that the motivation to collect need not be limited to gathering together of material artefacts (be these physical or their virtual equivalents) but instead that some may like collecting concepts and ideas or collecting experiences (Keinan and Kivetz 2011).

Central to the discussion on extrinsic motivation, recognition and badge use is the importance given to the display, and more specifically selective or public display, of the badge. In so doing, the wearer is affirming that they believe the badge holds some symbolic value, for example highlighting the amount of capital, time or effort that the individual has invested, or demarking and claiming privileges and status association with the badge affords. By adopting a view informed by Bourdieu, badges as well as to skills and qualifications could be considered as cultural capital. Indeed, following Giddens (1984), the creation and use of badges may be figured as acts of cultural production and reproduction where the most powerful or influential are best able to utilise existing allocative and authoritative resources to favour certain badges over others. In displaying a badge, the badge wearer becomes complicit in this process of production and in a process of association. As such, the badge becomes a means of bounding together the issuer and wearer, and a means of bounding together wearers.

From the perspective of the issuer, the badge may not only serve to deepen their relationship with and performance of the learner, but may also be perceived as way to help deliver ‘low-cost’ or more cost-effective assessment; the issuer increase the perceived value of skills or knowledge important to them, and established educational providers to further entrench their place in the educational market place (Cross and Galley 2012).

The preceding discussion indicates that there can be a distinction between activity associated with badge-attainment (work done to achieve the badge) and badge-display (work done to show the badge to others, transport it, and where relevant maintain qualification for it), although the two are certainly not mutually exclusive. The badge, serves a range of motivational and communicative functions that help learners understand value and purpose and to help course authors signpost important aspects of their course. Certainly motivation to achieve the badge may include the desire to have a badge to display, and likewise, the discourses used by badge issuers and earner to ascribe value to the badge may make reference to the experience and challenge of achieving the badge. There may also be potential for use of formative and summative dichotomy to consider the interplay between ‘formative badges’ and ‘summative badges.’

Badges in the OLDS MOOC and open education MOOC

This analysis draws on data relating to the use, reception and feedback of badges on two open online courses launched in January 2013. The first was the JISC funded Open Learning Design Studio MOOC (OLDS MOOC) that took place between January and March 2013. The writing and facilitation of the MOOC was undertaken collaboratively by staff from seven universities and led by The Open University, UK. The sequence of the course sought to reflect the authentic process that practitioners follow in designing a course by asking each participant to undertake weekly learning activities in respect to a course they were, or wanted to, develop and maintain a portfolio or similar of this design work. This meant that whilst each week formed a discrete unit of learning with activities led by one of the contributing universities, overall the weeks daisy-chained together to form a nine-week design arc. In concert with the course design, a badging strategy was developed by the team (Galley 2012) and additional functionality was added to Cloudworks - one of the open technical platforms being used for the course – so that badges could be offered, applied for and approved.

The badging strategy reviewed the possible pedagogic impacts of badges (Cross and Galley 2012) and settled on specifying nine badges. These nine comprised three groups of three. The first group was intended to recognise effort and the length of engagement with the course, the second to reward valued communal practices such as how individuals supported each other, and the final group recognised achievement – the reaching of a given level of competency. The badges and award criteria for the OLDS MOOC badges are discussed in the next section. The criteria demonstrate how the badges attempted to closely align with the course principles of participation, collaboration and active design making. Furthermore, the terms for an award were not tied to any particular week or prescribed approach in an attempt to provide participants with some freedom in how they wanted to use the course to learn and what evidence they could provide to gain the badge. For example, to gain the 1 Week badge a participant would have had to complete any one week (be that the first week or the fifth), and the Learning Designer badge purposely did not specify which design methodologies should have been used.

The second course used in this analysis was a seven week Open Education MOOC that comprised the second of four blocks in a new Masters level module offered as part of the Open University's MA in Online and Distance Education. The focus of learning for this block, which took place in spring 2013, was open online learning so it seemed appropriate to run the block as a MOOC. This effectively gave paying students an authentic experience of participating in a MOOC, whilst also providing an opportunity for 'open' learners (non-paying participants) to access much of the materials and module teaching provided by the university. Teaching and support was provided by the academic tutors of the paying students and, just for this block of the module, by the lead author of the block and two additional academic staff. The Badging Strategy comprised of three achievement badges as detailed in Table 1. Any participant, whether paying or not, could apply for the badges, however, irrespective of whether paying students were awarded the badges, they still had to complete a written assessment at the end, together with assessments during the other three blocks in the module, to count towards their final module assessment.

Both the OLDS MOOC and the Open Education MOOC used the Cloudworks platform to manage and award their Open Badges (Figure 1). Consequently the process of badge award was broadly the same and comprised two parts: application and approval. Firstly the applicant selected the appropriate badge and submitted a URL link to the evidence showing they had met badge criteria. Second the approver would log in, satisfy themselves of the validity of the evidence and then approve the badge. Several mechanisms for approval were developed: basic approval was given by the course facilitator and more complex approvals required peer review (and approval) by one or several other participants. The creator of the badge determined which mechanism was to be used with the Cloudworks platform providing an interface to manage the submission and approval of badges. Approved badges were displayed publically on the learners' Cloudworks profile page and could be added to their Mozilla back-packs.

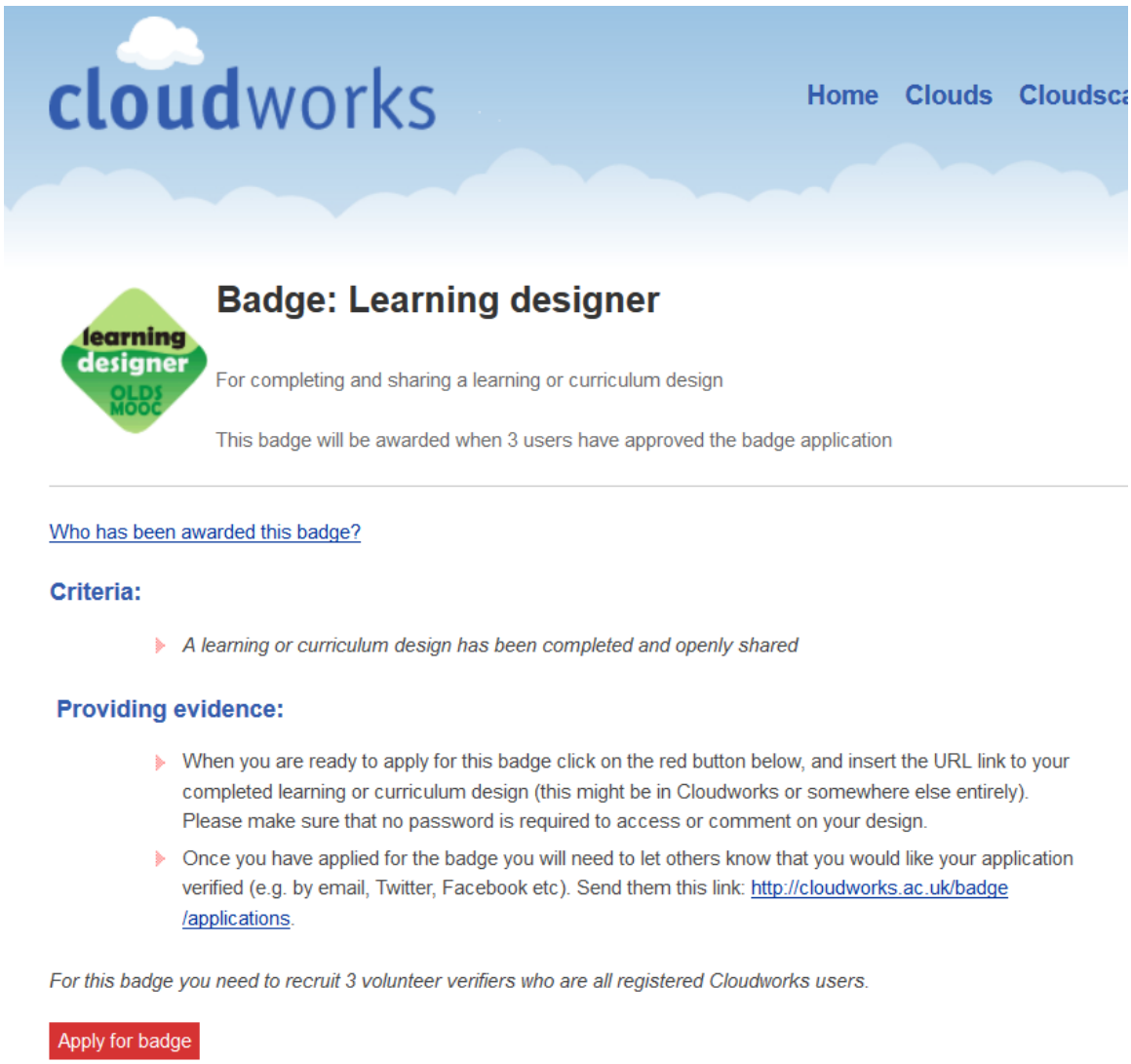

Figure 1: Badge application page in Cloudworks

The data about the learner reaction, use and attitudes towards the badges in the two MOOCs comes from three sources: badge approval statistics recorded in Cloudworks; blog, forum and Twitter posts made by participants during the MOOC; and participant questionnaire surveys conducted directly after the MOOC ended. The

latter asked a range of closed and open questions about the MOOC experience including three or four questions specifically about badges. The phrasing of the questions differed slightly between courses, however both sought to learn more about how badges motivated, and were valued by learners and reasons for applying or not applying for them. In total, 66 Learning Design MOOC participants and 22 OLDS MOOC participants responded to end of courses surveys. Responses to closed questions were handled in SPSS and answers to the open questions were coded and analysed in Nvivo following a broadly constructivist grounded theory approach (Charmaz 2006) to grouping and to determine emerging themes.

Open Learning Design Studio (OLDS) MOOC participant use and views on badges

In the first week of the OLDS MOOC, approximately 220 participants actively contributed and more participated by reading and watching contributions. After the second week, participation stabilised at approximately 20-30 active contributors each week with a further 100-250 following at least some of the content or participant contributions (Cross 2013). Table 1 shows the number of badges awarded during the OLDS MOOC and who was responsible for approving them. Badges relating to effort (the number of weeks of active participation) were approved by the course team and seem to track the pattern of active participants quite well. For example, there were 69 awards of the one week badge representing 32% of active Week 1 participants and in week 3, 21 awards we made representing around 66% of active participants. However, the earning of other badges, especially those that required peer review was lower with just 2 achieving all 8 badges (and thereby qualifying for the 'Hot shot' final badge). Furthermore, in respect to the three orange badges concerning group working skills, whilst 12 gained the 'gatherer' badge just 4 got the 'collaborator' and 2 the 'reviewer.' One interpretation of this could be, as in the review of Scout badges undertaken in respect to Blooms Taxonomy by Vick and Gravy (2011), that the order of thinking skills required to earn or approve badges affects the number applying for them – with those that require higher order thinking – either in the evidence to qualify (for example *evaluating* to earn the 'reviewer' badge rather than *applying* to earn the 'gatherer') or in the awarding of the badge (approval requires peer review and evaluation) – fairing less well. However, practical difficulties of self-organising in groups and a low number of completed designs will also have limited participants' ability to earn these later badges.

Table 1: Number of OLDS MOOC badges earned and award criteria

Badge image	Name	Criteria	Badges awarded	Approver
	1 week Badge	Completing any one week of the MOOC. A badge to show effort /engagement	69	Course Team
	3 Week Badge	Completing any three weeks of the MOOC. A badge to show effort /engagement	21	Course Team

	6 Week Badge	Completing any six weeks of the MOOC. A badge to show effort /engagement	9	Course Team
	Resource Gatherer Badge	Contributing three or more items to the Learning Design toolbox / MOOC webpages. A community/ practical badge	12	Course Team
	Course Collaborator Badge	Working effectively in a learning design team or study group. A community/ practical badge	4	Peers (3 other users)
	Reviewer Badge	Reviewed and critiqued two or more learning or curriculum designs	2	Peers (3 other users)
	Learning Designer Badge	Completing and sharing a learning or curriculum design. An achievement badge	8	Peers (3 other users)
	OER Developer Badge	Creating or remixing an OER and openly sharing it. An achievement badge	4	Peers (3 other users)
	Completed Course Badge	Achieving all 8 other OLDS MOOC Badges. An achievement badge	2	Course Team

Comments posted during the course and in the end of course survey represent a range of personal experiences with eight respondents generally positive about badges, four negative and the remainder neutral or both positive and negative.

Responses indicate that badges were considered useful and motivating by many participants. Two respondent to the survey said that badges introduced a sense of fun with one commenting ‘they make me smile! Which is a good thing – learning should be fun and I think this was a fun element of the course.’ The selected Twitter posts below are further examples of how such conscious, self-reflective sense of fun and amusement helped motivate participants:

- @[B] Earned my Week 1 Badge from #oldsmooc! Unexpectedly pleased to have a reward for efforts! What fun and motivates
- Wooh [I] too have got a badge from #oldsmooc… w[eek] 1 how #awesome
- Just applied for my #oldsmooc week 1 badge. Not that it matters but if I get it I will print out (in colour) and pin it on my lapel
- Thursday motivation – got my 3 weeks #oldsmooc badge
- @[T] Well done and snap, Delighted to get my 3 weeks badge too – likin’ those badges more than expected!

- '... and badges def. do work. I'm bagsing as many as I can to show that I'm learning loads…I love #openbadges. See my #oldsmooc badges at [URL]

Two respondents in the end of course survey said badges had been helpful in judging the progress they were making as a 'Learning Outcome type guideline' and a further two respondents stressed the value of the badge as evidence of learning: with one explaining how their institution had agreed to use them as evidence of engagement in professional development activity and the other liked the 'official "payoff" for the weeks that I'd invested [my time] in.' These latter comments contrast with a third respondent who reported weighing up the value of the badges in respect to their CV and concluded that if the MOOC was just 'going to be one line of my CV' then the badges were perhaps at too granular a level.

Respondent comments also indicated how some felt badges could be useful in encouraging participants to try harder and produce a higher quality of work. For example, two liked the idea of peer validation with one saying 'was great…-I got as much out of validating others badge applications as getting my own badges' although the practicalities of getting peer verification with only 20-30 active participants in the later weeks was raised as a problem. Tweets also indicate participants using badges to guide reflection, posting of reflective comments ('I'm not sure yet if I'll really use them [externally]'), to build relationships within the community, and to build social capital. Indeed, at least two participants turned to Twitter to ask peers to review their badge applications. One posted 'Have applied for OER developer badge, pls verify [url]' and another 'Hi Folks Just applied 4 my #oldsmooc collaborator badge [url] Could you do the honours?' The question of clarity in award criteria was also mentioned with several participants asking for 'more of a rubric for marking the work [of others]' and more 'clarity of minimum requirements.' Incidentally, one participant appeared to have begun their own rubric to share although this appropriation of the badge by 'the community' was not widespread.

A minority of survey respondents (4 respondents) were not keen on the use of badges in the course. Two alluded to the fact that not gaining badges, either by choice or otherwise, made them feel 'inadequate' or 'a childish smart,' another mentioned that they seemed to be 'just another distraction' and the final respondent that they 'had absolutely no influence on my level of participation on the course or my decision whether or not to do any activity.' The analogy of scouting or girl guide badges was evoked as both a positive and negative fashion: so, whilst one participant commented that 'not all of us have a boy-scout mentality' another posted on Twitter 'First #oldsmooc badge...what fun, feel like a Girl Guide again.' The issue of quality assurance was also raised as a concern with a survey respondent fearing that the badges may lead to conferring a status or 'misleading impression of knowledge.'

Open Education (OE) MOOC participant use and views on badges

Like the OLDS MOOC, the proportion of participants who could be considered 'active' was much smaller than the number who elected to watch the MOOC or who conducted an initial visit to the website. Using web logs it is possible to estimate that in the final two weeks there were, on average, 223 participants (as measured by the number of users visiting the site having visited before in previous weeks) of which

approximately a third were fee-paying students at the university. However, it was not possible to determine an estimate for the number of active participants that would constitute a subset of this.

The end of course survey revealed that 42 of the 70 survey respondents (60%) said they had applied for one or more badges, and most of this group gained two or the maximum three badges (Table 2). Of those who gave an opinion, 66% (25 of 38) felt that the badges had been a positive addition to the course. Just over half of remainder were not opposed to badges but simply felt badges weren't for them, openly acknowledged that they failed to see the value, or didn't want the extra work or technical difficulties of applying. The following analysis unpacks this broadly positive response in more detail so as to highlight the roles and impact that badges had on learners.

Table 2: Number of OLDS MOOC badges earned and award criteria

Badge image	Name	Criteria	Badges awarded	Approver
	OER Understanding Badge	Complete Activity 7: (Exploring OER issues) in the course and blog your solution including a link / evidence	57	Course Team
	MOOC Understanding Badge	Complete Activity 14: Comparing MOOCs in Week 4 and blog your solution including a link / evidence	47	Course Team
	Open Education 2013 Completed Badge	Acquire both other badges and display on your public profile. Then complete Activity 25: Reflecting on Openness in Week 7 and blog and link to the solution to the activity	25	Course Team

Sixteen respondents (42% of those who responded to this question) either talked about the badge providing 'evidence' or 'recognition' of effort or achievement or spoke of the importance of having something 'physical to show', 'display to' or 'reassure' others. One respondent explained how 'I can put them on my profile and show I have done this learning. It's good for my online PLN and good for my learners to see' and another that 'badges are a good motivating factor [and] gives you some recognition for your work and effort', Overall, these comments would appear to be broadly extrinsic motivators although the need for recognition can also relate to a learners desire for recognition specifically by the teacher rather than the community at large. Some respondents were, however, uncertain how the badges would be received and understood by others. One admitted to being 'a little curious to see if the there is any reaction to "badges" at my place of work when I list them as a part of my continuing education' whilst another similarly remained uncertain about how the badges would function:

> ‘I debated whether or not to do the activities to get them, and then whether or not to apply for them once I had. I decided that they might be useful as evidence of professional development (I'm a university faculty member). I don't know if anyone in my institution will care, but in case they do, I have the badges'.

Ten of the respondents (26%) spoke about the badges helping support the processes and intrinsic motivation of learning such as goal setting, providing reward, guiding or being ‘fun’ or ‘inspiring.’ As one learner explained ‘I did not have the time or motivation to do every activity, but wanted to set specific action goals for myself and I liked the idea of badges. They were new for me and a way to motivate myself through the completion of the course.’ Several other comments also made clear how badges provided guidance as to what was important thereby highlighting the importance of offering badges that are aligned with and track the learning outcomes and goals. The ability of the badge to deliver a sense of personal achievement, even when not shared with others, was also noted. As this participant explains:

> ‘It's a symbolic and personal reward of my efforts… even if I don't show the badges to anybody (I haven't so far), I feel satisfied to have gained them. It's my auto-congratulation: … If there wasn't the badges, I think I would never have created my own blog and never have had an active, productive impact in the course (I would only have read the texts, I think). I still don't understand well why, but badges were a good motivator for me. Giving energy in something without "gaining" anything concrete is not so motivating for me.’

Several respondents saw the approval of the badge as an indicator of positive feedback from the course tutor or from the community. As such it conferred approval of their work and represented a quality mark; as one participant explained ‘they represent the feedback of the creators of the course on my job. The other part of it comes from the community. And it is valuable to have both.’ The badge also helped strengthen the identity learners felt with the course. For example, one noted ‘it’s like being in a club’ and another ‘I am proud of them because I liked the course.’ However, others were concerned about how the process of approval could be abused with one noting they had ‘questioned the moderators as to why there were people who had been awarded the badge with no apparent submission of an assignment to view.’ There was clearly belief that having transparency in the process of approval would further the value ascribed to the badges. As one survey respondent mused:

> ‘If I had written nonsense in my blog, would I have the badges refused? I understand not getting personal feedback about my production (maybe not possible because of the number of learners but mostly, feedback are expected by the community and not by the teachers) but it would add value if I know for sure that my pieces of evidence meet the expected quality level.’

Furthermore, because the subject of the MOOC was online open learning; many participants had a professional interest in observing how well the badges operated within the course. Indeed, ten survey respondents spoke of the learning they had achieved through experimenting with using the badges and also witnessing others

experiences. However, whilst this professional interest was certainly a motivator for some participants – ‘I wanted to experience it for myself so that I'll have a better idea as to whether to integrate badges into any online courses I design’ - in most cases respondents did cite at least one other benefit of having the badges. For example, several participants speak of being initially drawn to the badge simply out of interest but then finding that gaining them provided a ‘sense of achievement’ in their learning that, as one respondent said, ‘were quite motivational.’

In contrast with these experiences of using badges, there remained approximately a quarter of survey respondents who did not find badges a positive addition to the course. There were some cases, albeit only a few, where participants objected on the grounds that offering badges was patronising (‘I’m past that stage of learning for other people’s approval) or that cultivated an overtly extrinsic focus to the course; and thereby potentially undermining those pedagogies so frequently associated with MOOCs. Given the profile of participants, most of who are educators, such well-articulated criticism of the design of the course may be more pronounced than found elsewhere.

Several respondents queried the effectiveness of the quality assurance process used in the MOOC. One participant had witnessed users being awarded a badge but with no apparent submission of an assign to view, and at least three had had what they considered a sufficient submission refused or not processed (in some cases due to technical problems). Furthermore, whilst simply gaining the badge was considered sufficient feedback for some, as the quote above indicates, others felt that the absence of any feedback accompanying award of the badge undermined its value. Such comments demonstrate the importance of an effective and transparent process where value is maximised during the awarding procedure.

One final issue for some participants was the technical challenge in applying for, receiving or managing their Open Education MOOC badges. Whilst some comments related to the prototype system developed for Cloudworks around the time of the MOOC, the majority were more concerned simply with the additional time learners had to spend in understanding how to use the badge system and the guidelines as to what was required.

In summary, a broad range of participant views have been observed across both MOOCs. These demonstrate how heterogeneous the group of learners can be and, indeed, at times how such views can directly contradict one another. For example, whilst one survey respondent found ‘the whole idea … totally at odds with ideas of what motivates setting a PLN ‘personal learning environment’ another contradicted this noting badges were good for their PLN. Similarly, a participant in the Open Education MOOC explained ‘the word badge puts me off (again). Feels like gamification. Wasn’t motivated when I was a Brownie either’ whilst someone working on the OLDS MOOC had apparently revelled in the implied nostalgia of guiding.

Conclusions

This paper has examined the experiences and attitudes of MOOC participants towards the use of open badges. Survey responses from almost one hundred participants in addition to forum posts, Tweets, and logs of the badges issued show a range of opinions but yet the majority see badges as a positive addition to their

course. The role of the badge as evidencing learning and providing something to show was important to many although respondents were less certain about whether others such as employers would yet value the badges they were gaining. However, alongside these commonly discussed extrinsic drivers, the research has shown the importance of badges to intrinsic motivation. Learners used badges to guide their study, as an indicator of what the educator thought was most important, to monitor their progress, and to build self-esteem and confidence. In such cases, the public display of badges may be less important, indeed some spoke of wanting more control in the way they were (or were not) displayed. There appears to be a role for the badge as a support for formative assessment, peer feedback and building a sense of community, although the results from the courses reviewed here are inconclusive and such use would appear to require very careful attention and planning.

The research also found evidence of how attitudes changed as learners engaged with the badges with examples where both an initial extrinsic need (either to study as part of the course or for evidencing participation etc.) and intrinsic need (curiously, seeking greater guidance, planning learning) gave way to a deeper appreciation of badges and use for their learning. Some liked the ‘fun’ of gaining badges further pointing to their potential for intrinsic motivation alongside the more controlled and formal role of representing a credential. Conversely, reasons for disliking badges have been outlined and it is clear that understanding and addressing such concerns in the design of badging strategies would be important. It should also be noted that the participants in both MOOCs were mainly educators themselves and so perhaps more articulate, or better able to articulate concerns around the detrimental function of badges.

In both courses, approximately half of the active participants applied for some badges. This would suggest that the frequency of badge awards to participants has the potential to provide a reliable indicator of participation, although the badge award criteria, method of approval and the technical ease of application may variously impact the proportion achieving a badge.

With several survey respondents appearing uncertain about how the badges they had earned and understood by others such as employers or colleagues, questions are raised about the degree of longevity and reach of the badge. Halavais (2013), for example, mentions the danger of learning badges having little meaning outside of their immediate context. This would suggest that whilst understanding the badge as a form of credit (Mozilla 2013), and even a substitute for traditional summative assessment is important, an appreciation of how badge value is formative and contextual to the shared experience of participating in the course is also required. If properly integrated in to the learning design, the badge would have to have strong formative capabilities to positively impact intrinsic motivation and learning.

References

Abramovich, S., Schumn, C., and Higashi, R.M. 2013. Are Badges useful in education? It depends upon the type of badge and expertise of learner, *Education Technology Research and Development*, 61, 2: 217-232.

Antin, J. and Churchill, E.F. 2011. Badges in Social Media: A Social Psychological Perspective, *CHI 2011*, 7-12 May 2011, in Vancouver Canada.

Bourdieu, P. 1993. The field of cultural production. (R. Johnson, Ed.). New York: Columbia University Press

Carr, G. 2012. Coins, Crests and Kings: Symbols of identity and resistance in the Occupied Channel Islands, *Journal of Material Culture,* 17, 4: 327-344.

Charmaz, K. 2006. *Constructing Grounded theory: A Practical Guide through Qualitative Analysis* (London, Sage).

Cormier, D. and Siemens, G. 2010. Through the open door: Open courses as research, learning, and engagement. *Educause, 45, 4*: 30-39.

Cross, S. and Galley, R. 2012. *MOOC Badging and the Learning Arc*, Blog post 16 November 2012, www.olds.ac.uk/blog/moocbadgingandthelearningarc, (accessed: 10 October 2013)

Cross, S. 2013. Evaluation of the OLDS MOOC curriculum design course: participant perspectives, expectations and experiences, Open University, Milton Keynes. http://oro.open.ac.uk/37836/ (accessed: 1 November 2013)

Foster, J.C. 2013. The Promise of Digital Badges, *Techniques: Connecting Education & Careers*, 88, 8: 30-34.

Galley, R. 2012. *OLDS-MOOC Badging Strategy*, Blog post 14 November 2012, http://www.olds.ac.uk/blog/olds-moocbadgingstrategy (accessed: 1 November 2013)

Giddens, A. 1984. *The Constitution of Society*, Polity Press, Cambridge.

Glover, I. and Latif, F. 2013. Investigating Perceptions and Potential of Open Badges in Formal Higher Education, [EdMedia], 1398-1402.

Goligoski, E. 2012. Motivating the Learner: Mozilla's Open Badges Program, *Access to Knowledge,* 4, 1: 1-8.

Halavais, A.M.C. 2013. A Genealogy of Badges: Inherited meaning and monstrous moral hybrids, *Information, Communication and Society,* 15, 3: 354-373.

Hickey, D. 2012. Intended Purposes versus Actual Function of Digital Badges, Blog posted: 11 September 2012, http://www.hastac.org/blogs/slgrant/2012/09/11/intended-purposes-versus-actual-function-digital-badges (accessed: 1 November 2013)

Hickey, D. 2013. *Research Design Principles for Studying Learning with Digital Badges*, Blog posted: 7 July 2013. http://www.hastac.org/blogs/dthickey/2013/07/07/research-design-principles-studying-learning-digital-badges (accessed: 1 November 2013)

Keinan, A., and Kivetz, R. 2011. Productivty Orientation and the Consumption of Collectable Experiences, *Journal of Consumer Research*, 37, 6: 935-950.

Liyanagunawardena, T.R. Adams, A.A., and Williams, S.A. 2013. MOOCs: A Systematic Study of the Published Literature 2008-2012, The International Review of Research in Open and Distance Learning, 14, 3: 202-227.

Mozilla Foundation and Peer 2 Peer University. 2012. Open Badges for Lifelong Learning: Working Document 1 December 2012. https://wiki.mozilla.org/images/b/b1/OpenBadges-Working-Paper_092011.pdf (accessed: 1 November 2013)

Mozilla Foundation. 2013. *Expanding Education and Workforce Opportunities Through Digital Badges*, Alliance for Excellent Education and Mozilla Foundation.

Sharples, M., McAndrew, P., Weller, M., Ferguson, R., FitzGerald, E., Hirst, T., Mor, Y., Gaved, M. and Whitelock, D. 2012. *Innovating Pedagogy 2012: Open University Innovation Report 1.* Milton Keynes: Paper, The Open University.

Randall, D., Harrison, J, and West, R. 2013. Giving Credit Where Credit is Due: Designing Open Badges for a Technology Integration Course, *TechTrends: Linking Research and Practice to Improve Learning*, 57, 6: 88-95.

Rodriguez, C. O. 2012. MOOCs and the AI-Stanford like courses: Two successful and distinct course formats for massive open online courses. *European Journal of Open, Distance and E-Learning,* Published 5 July 2012 at http://www.eurodl.org/?p=Special&sp=init2&article=516

Rosewell, J. 2012. A Speculation on the possible use of badges for learning at the UK Open University, In: *EADTU Annual Conference: The Role Of Open And Flexible Education In European Higher Education Systems For 2020: New Models, New Markets, New Media*, 27-28 September 2012, in Paphos, Cyprus.

Vick, M. and Garvey, MP. 2011 Levels of cognitive processes in a non-formal science education program: Scouting's science merit badges and the revised bloom's taxonomy, *International Journal of Environmental and Science Education*, 6, 2: 173-190.

Walker, R.A., Pressick-Kilborn, K., Arnold, L.S., and Sainsbury, E.J. 2004. Investigating motivation in Context: Developing Sociocultural Perspectives, *European Psychologist,* 9, 4: 245-256.

Wiley, D. 2012. *More on Badges and Assessment*, Blog post 12 June 2012. http://opencontent.org/blog/archives/2397 (accessed: 1 November 2013).

Wu, W-H., Hsiao, H-C., Wu, P-L., Lin, C-H, and Huang, S-H. 2012. Investigating the learning-theory foundations of game-based learning: a meta-analysis, Journal of Computer Assisted Learning, 28: 265-279.