Formative Assessment with
Open Badges

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Abstract

The paper describes the experience of one of the authors using open badges with various levels of undergraduates at Southampton Solent University, to encourage non-assessed participation.

The practical issues in starting this approach are discussed – including the advantages and disadvantages from the perspective of both the students and of the lecturer. The link with automatic testing and previous non-attendance could be measured. The views of the students and lecturers are discussed and the technical issues are also considered.

Keywords: Open Badge, Continuous Professional Development, CPD

1.0 Introduction

To address the need to encourage attendance and participation by students, Open Badges have been used in various countries throughout the world [1].

Open Badges specifications were originally developed by the Mozilla Foundation in 2011 [2] launching the Badge Alliance consortium into 2014 [3] to further develop the badge ecosystem and specification, in January 2017 the Open Badge Standard moved over to IMS Global [4].

The Open Badges are awarded by the appropriate institution, college organisation on attainment of certain competences or attendance. These are like the traditional Scouts, Girl Guide, and Cubs or Brownies badges that are sewn onto their uniform [5].
The Open Badges are e-badges which are collected in the recipient’s equivalent to a backpack such as Mozilla Foundation Backpack [6].

There is no cost to the recipient of the badge. The badges can include the logo or identification of the company, university or school, and can be had in a variety of shapes and colours. The basic information about the "achievement" of the recipient is shown on this Open Badge, such as the organisation, skills acquired or attendance at a particular event, possibly with a date. There could be a level of these skills or attendance, indicated by say a surround of bronze, silver or gold to the Open Badge.

Further information can be obtained about the purpose of a badge. This could be the date of the event, and expiry date of a skill, the title, description and possible a link to a website for further details.

The additional information provides the recipient with an e-record of their achievements, similar to more conventional paper-based or electronic Continuous Professional Development (CPD) information.

The aim is the motivation of recipient, such as the use of physical badges of Boy Scouts etc. to encourage them to collect further badges [7], so there is a similar incentive with Open Badges.

These Open Badges can be easily awarded. If the person awarding the Open Badges must have a list of those already registered on an awarding platform such as Moodle, it is just a matter of clicking on the appropriate identification to confirm they attended or participated. A recipient is the free to dispatch and make public the Open Badge to a Backpack or other platform such as Linkedin.com. The setting up of these Backpacks is a quick process, at no cost to the recipient.

There could be an initial cost for the organisation in setting up the Open Badge scheme. Professionals can be employed to design and provide the code for the original badges, or they could be set up by say the lecturers themselves through a Virtual Learning Environment (VLE) such as Moodle [8]. The organisation can also register with an Open badge provider, such as Credly [9], Badgr [10] and Open Badge Factory [11]. There are several platforms were badges can be created and issued such as OpenBadges.me [12].

2.0 Experience at Southampton Solent University

Open Badges have been used in a limited way for several years at Southampton Solent University, by one of the authors, Reid on various undergraduate courses.

Initial experimentation of Open Badges for recording and rewarding practical tasks on Content Creation Techniques MED400 took place over the academic year 2014-15, with Open Badges being awarded to students through the Moodle Virtual
Learning Environment (VLE) on completion of formative assessments tasks. Research undertaken by Glover and Latif [13] found that Open Badges were an extrinsic motivator that could offered value to less academic students in practical tasks not covered within summative assessment.

An important consideration to take before implementing an Open Badges awarding system is to first establish why a badge will be awarded [14]. As unlike digital badges, Open Badges contain Meta Data which is “baked” in and so cannot be changed or revoked. [15]

Within the badge structure a range of information can be saved from basic information to criteria and evidence that the badge has been legitimately awarded by “baking” in an Assertion which validates the badge (Figure 1) and its recipient this data supports the badges ability to be transported across various platforms [16].

The Content Creation Techniques unit’s summative assessment involved a group work project to produce a three-minute video and an associated podcast on a chosen topic within the theme of web or digital design. Classroom learning activities were focused on getting the students proficient in using both video and sound recording equipment, as well as developing a professional approach to working as a production team through undertaking several formative assessment tasks building both skills and confidence in three stages; beginner, intermediate and advanced.

A system was needed to both document and reward the completion of the formative tasks. It was decided to use the newly integrated Open Badges function within the VLE to implement recording all the formative tasks.

It is important to have an overall consistent design strategy for all the badges that are to be issued as once issued they cannot be changed. The badge designs were created in Adobe Photoshop and incorporate Creative Commons License Zero (CC0) [17] graphics before being saved as a Portable Network Graphics (PNG). As previously discussed, there are several online platforms that enable the design and production of digital and Open Badges.

![Figure 1: Open Badge Designs for video tasks](image-url)
Once the decisions were made on what criteria each the badges should be awarded for the set-up was straightforward. Firstly, badges need to be designed for each of the formative tasks which were broken down into three levels for each of the formative tasks (Figure 1). The designed Open Badges were then uploaded to the VLE using Moodle’s Badge set up activity. The uploaded badge is given a name, description, issuer contact details, expiry date, award criteria, links to evidence and set up of an awardee confirmation email template.

Badges were then issued either manually through the Award Badges Activity or automatically through Moodle’s Completion Tracking which allows badges to be awarded based upon the completion of defined activities such as quizzes and task engagement. [17]

![Figure 2: Students - Had you heard of Open Badges before?](image)

### 2.1 Student Views

A survey and a focus group discussion were undertaken with a sample of 39 students that received Open Badges. Only 20% had heard of Open Badges (Figure 2). 93% thought issuing badges was a good idea to demonstrate the skills and engagement (Figure 3). 88% felt Open Badges would be useful to employability (Figure 4), although in discussion, some students had concerns about how valid their awarded badges would be outside an institution or community of interest and finally, 95% believed that wider use of Open Badges was a good idea across other units and courses (Figure 5).
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![Figure 5: Students - Do you think it would be useful for these to be more widely used at Southampton Solent University on other units & courses?](image)

So, digital credentials awarded through Open Badges and shared, need to be meaningful, transparent and link to convincing evidence of achievement. There are several good examples of successful badge ecosystems such as badge awards on Stack Overflow for community involvement [20] and Khan Academy for skill acquisition [21] The Open University [22] and Deakin University on capstone units within their digital master’s programme [23].

### 2.2. Views of Lecturers

Interviews were conducted with various computer lecturers, on courses ranging from technical to business orientated, at Southampton Solent University, to intensify their experience or knowledge of Open Badges. The actual or perceived advantages of using these; the actual or perceived problems and the potential actions to minimise these problems were ascertained.

The actual or perceived advantages were:

- Free equivalent of CPD
- Might encourage students to do extra tasks
- Encourage students to excel
- Plentiful opportunities to earn these badges might encourage students
- It could work if there was a perceived value of the badge
- Ability to show success and recognition of skills obtained by the students

The actual or perceived problems were:
• Students say they have not time for un-assessed tasks due to work commitments
• Lack of engagement from students
• Robust or reliable systems is essential to support the badges
• Students might not respect the value of them
• Promotion of the benefits of Open Badges would be needed
• Need to be widely used to give credibility
• Value not understood
• Open Badges could be over used
• Need clear standards for attainment of the Open Badge

Although none of the lecturers interviewed had had a prior experience with Open Badges, they were interested to hear about the current and potential use of Open Badges

3.0 Use of Open Badges for Organisations such as the BCS.

Professional institutions, like the BCS, The Chartered Institute of IT, expect their members to engage in Continuous Professional Development (CPD). One means of recording participation in BCS activities could be by Open Badges, rather than the current means such as paper CPD forms or internet based.

The Open Badges could include the BCS logo, together with the appropriate Branch or Specialist Group identification.

Once established for a Membership Group, an Open Badge could be generated easily for each event, with the level of participation indicated using bronze, silver or gold surrounds to the badge. Attendees, whether in person or remotely, such as for webinars, could be informed about the use of these Open Badges in advance, and their e-mail details are sent to the organiser. The level of participation might be for webinars, attendance (bronze), as a panel speaker (silver) and as a webinar leader (gold). Similarly, for a Branch or Specialist Group meeting, this could involve a bronze badge for attending, a panel speaker receiving silver whereas the main speaker and Chair could receive a gold edged Open badge.

For events like a conference, again attending could result in bronze level badge, whether in person or remotely, presenting a paper with a silver badge, and a keynote or session chair perhaps a gold badge.

These badges could be easily, and more economically, produced and distributed compared to the current paper CPD forms. This is particularly relevant for events, where the attendees often fail to register in advance, so making plans for catering and producing the hard copy of CPD forms difficult. These badges could also encourage attendance at events.
4.0 Conclusions

The next stage at Southampton Solent University will be to develop more formal criteria for awarding Open Badges to all students across the Computer Programme. This will involve complete online quizzes that will automatically issue an Open Badge for study skills such as research, academic report writing and referencing, these badges will expire after a year and will need to be renewed.

5.0 References


17. CREATIVE COMMONS, 2017. CC0 “No Rights Reserved” [viewed March 12, 2017]. Available from: https://creativecommons.org/share-your-work/public-domain/cc0/


