

Open Badges in the Scottish HE Sector: The use of technology and online resources to support student transitions

PROJECT REPORT

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UNIVERSITIES OF DUNDEE, ABERDEEN AND ABERTAY

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Contents

Acknowledgements	1
1 Introduction	3
1.1 Definition of Open Badges	3
1.2 Background to the project	4
1.3 Potential drivers in the use of an Open Badge approach.....	5
2 Project design and methodology	7
2.1 Aims of the project	7
2.2 Project implementation	9
3 Data Collection.....	10
3.1 The questionnaire	10
3.2 Sharing practice event	10
3.3 Open Badges in the Scottish HE Sector: Illustrative case studies	10
4 Data Analysis	10
4.1 Questionnaire results	10
4.2 Case studies.....	16
5 Discussion.....	26
5.1 Understanding Open Badges in the context of student transitions	26
6 Project Output - 'Getting Started with Open Badges'	30
7 Evaluation	30
8 Conclusions and Next Steps	31
References	32
Appendix 1.....	33
Appendix 2.....	34
Appendix 3.....	36

List of Figures

Figure 1 - What's in an Open Badge?	4
Figure 2 - Model for collaborative working in higher education	8
Figure 3 - Ways in which Open Badges benefit learning	13
Figure 4 - Showcase to employers/recruiters	14
Figure 5 - Student responses to school representative question	17
Figure 6 - Developing the School reps system at Dundee - an Open Badges approach.....	18
Figure 7 - EUSA Open Badge Framework	19
Figure 8 - The law thematic workbooks.....	22
Figure 9 - Abertay University graduate attributes	22
Figure 10 - Student Transitions diagram (University of Aberdeen)	28

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1 Introduction

1.1 Definition of Open Badges

The concept of Open Badges is a relatively recent development, with early work in this area being led by the Mozilla Foundation since 2011.¹ Since that date, '... much of the promise of open badges' has rested in:

... their ability to readily convey a wide variety of learning and accomplishment ... expected to expand the educational landscape by encouraging innovative new offerings and transforming existing institutions ... to help individuals find new opportunities to learn and then follow 'digital pathways' in which multiple smaller badges motivate users to 'level up' to a more comprehensive badge ... [and to] provide a detailed record of what the learner did.²

The concept of *digital* badges developed in order to enable an online representation of informal learning and skills achieved by an individual. The idea of *Open Badges* takes that concept to the next level by allowing verification of those achievements and attaching information to - or 'baking' - the badge through an underlying technology known as the Open Badges Infrastructure (OBI), which comprises a specification and an authorised means to collect and display badges, commonly expressed as a 'backpack':

[a] badge can be digital by virtue of being online, but it is not [O]pen ... unless it contains standard bits of information that align to the technical specifications of the OBI (Grant, 2014, in Buchem, van den Broek & Lloyd, 2016: 18).

Open Badges are therefore vaunted as offering 'much more than the usual paper-based or even electronic versions of a credential' as a result of this 'metadata-based set of standards' (Buchem, et al., 2016: 17).

The required badge assertion metadata fields which are necessary to make a digital badge compliant with the Open Badge Infrastructure ... are: (1) Recipient, (2) Issue Date, (3) Badge Title or Name, (4) Image URL, (5) Description, (6) Criteria, and (7) Issuer. The optional metadata fields include (8) Expiration Date and (9) Evidence URL (Grant, 2014, *ibid.*)

Figure 1 below illustrates a potential representation of this for the University of Aberdeen's Leadership Academy.³

¹ <https://blog.mozilla.org/blog/2011/09/15/openbadges/>

² <https://library.educause.edu/~media/files/library/2015/6/elib1503-pdf.pdf>

³ www.abdn.ac.uk/careers/la

What's in an Open Badge?



- Name
- Description
- Criteria
- Accreditor
- Evidence
- Date Issued



Example: Leadership Knowledge & Skills

Description: The Leadership Programme is designed to develop students' Aberdeen Graduate Attributes. Participating students are required to engage in at least eight hours of leadership workshops, led by external organisations/leaders, and submit a reflective account of their learning and professional development.

Criteria:

- Participate in a minimum of 4 leadership workshops led by external organisations
- Submit reflective account of co-curricular learning and development to a required level

Accreditor: University of Aberdeen
Evidence: Successful participation and submission
Date issued: June 2017

Figure 1 - What's in an Open Badge? (University of Aberdeen; 2017)

1.2 Background to the project

The Open Badges project was a collaboration funded under the auspices of the Student Transitions Enhancement Theme, part of the work of the Quality Assurance Agency for Higher Education, Scotland (QAAS) Enhancement Themes. The Themes are 'selected by the Scottish higher education sector and they provide a means for institutions, academic staff, support staff and students to work together in enhancing the learning experience; ... [facilitate] both sharing and learning from current and innovative national and international practice; ... [and] promote the collective development of new ideas and models for innovation in learning and teaching.'⁴

The Student Transitions Theme ran for three years from summer 2014 to summer 2017, looking at transitions into, through and out of university. The work of the Theme was managed by QAAS in conjunction with the Theme Leaders' Group (TLG), representing all 19⁵ HEIs in Scotland. A collaboration⁶ of the universities of Dundee,⁷ Aberdeen⁸ and Abertay⁹ were successful in bidding for funding to carry out a short-life project through an inter-institutional collaboration in one of four key areas identified by the TLG: the use of technology and online resources to support student transitions. The project aims were to undertake and report on the current experience of Open Badges in Scottish higher education (HE) and to develop guidance for the sector, contextualised within student transitions.

⁴ www.enhancementthemes.ac.uk/

⁵ www.universities-scotland.ac.uk/member-universities/

⁶ The University of St Andrews was involved in initial discussions and it was agreed would contribute to the project via an institutional case study.

⁷ www.dundee.ac.uk

⁸ www.abdn.ac.uk

⁹ www.abertay.ac.uk

1.3 Potential drivers in the use of an Open Badge approach

The use of badges has been described as a 'pedagogical and technological strategy' with a range of affordances that include:

- personalised and agile learning design
- an evidence-based and learner-centred approach
- potential to go beyond evidence through contextualised peer endorsements
- being adaptive and portable.

In addition, '[i]n theory, the metadata associated with a badge could allow for progressive accumulation of evidence to accommodate newly acquired skills and demonstrate a learner's pathway toward mastery'.¹⁰ Early work in this area in the Scottish sector was undertaken by Borders College, who issued their first student Open Badge in 2013¹¹ and moved from paper certification to badges the following year for staff continuing professional development (CPD).¹² Forth Valley College¹³ and the City of Glasgow College¹⁴ provide two further examples of work in relation to Open Badges within Scotland's Colleges.

Despite the early work in this area, however, the idea of Open Badges has had relatively limited traction across the Scottish higher education sector.¹⁵ Some of the reasons which *could* account for this include a 'badges' approach being seen to be:

- more of a novelty than providing educational value
- without sufficient credibility as a pedagogical concept
- lacking in terms of its validity and robustness as an approach to micro-credentialing
- deficient in terms of sustainable, sector-wide platforms for discussion and sharing of good practice.

Nonetheless, there are many aspects of practice in both higher education and the wider sector that can be identified as potential drivers for the adoption of a badges approach. The NMC Horizon Report: 2017 Higher Education Edition (2017: 4) identifies the following six trends as 'very likely to drive technology planning and decision-making over the next five years':

- improving the teaching profession
- spreading digital fluency
- expanding access and convenience
- spurring innovation
- fostering authentic learning
- and tracking and evaluating evidence.

¹⁰ <http://er.educause.edu/articles/2016/3/changing-records-of-learning-through-innovations-in-pedagogy-and-technology>

¹¹ www.borderscollege.ac.uk/news-and-events/first-open-badge-awarded-to-student/

¹² <http://snookprojects.com/badgemaker-paper-certification/>

¹³ www.forthvalley.ac.uk/news-events/edytas-flair-for-hair-earns-her-a-badge/

¹⁴ www.cityofglasgowcollege.ac.uk/news-events/news/city-glasgow-college-celebrates-equality-diversity-inclusiveness

¹⁵ There has been more activity in the English sector, e.g. the University of Sheffield www.sheffield.ac.uk/cics/telfest/openbadges and the University of Sussex, which both issue badges to support staff CPD <http://blogs.sussex.ac.uk/tel/2015/06/16/could-you-be-a-tel-champion-recognizing-learning-with-open-badges/>.

Arguably, all of these drivers could be used to support the further development and implementation of Open Badges.

The increase in informal and open learning and the growth of MOOCs,¹⁶ SPOCs¹⁷ and BOCs¹⁸ has also provided an accompanying need to validate and evidence this informal learning. Added to this is the increase in online CVs and the opportunity to display endorsements through personal blogs, websites and commercial networking sites.

Government as well as employers are also demonstrating increasing interest in the concept. One of the points made by the recently published Taylor Review (2017) on modern employment practices considers the ways in which digital platforms are driving current employment approaches, including the so-called 'gig economy',¹⁹ and recommends that 'Government should strongly encourage gig platforms to enable individuals to be able to carry their verified approval ratings with them when they move from the platform and to share them with third parties' (2017: 87), noting that 'digital badges, a form of flexible online accreditation' are another way of 'enabling individuals to easily demonstrate their skills and experience' (ibid: 88).

Meanwhile, concerted attempts are being made to try to establish sector or region-wide approaches to providing robust frameworks to support and evidence individuals' achievements through the Open Badge approach. These include the Bologna Open Recognition Declaration (bord), issued in 2016 by a 'coalition of learning stakeholders' as 'a call for a universal open architecture for the recognition of lifelong and lifewide learning achievements';²⁰ and the Open Badge Network (OBN), an Erasmus+ project:

... which brings together organisations from across Europe to support the development of an Open Badge ecosystem, promoting the use of Open Badges to recognise non-formal and informal learning ... Schools, Universities, [e]mployers and informal learning providers globally are using open badges [sic] to capture life long learning which is currently unrecognised. This project aims to provide a trusted source of independent information, tools and informed practice to support people who are interested in creating, issuing and earning badges across Europe.²¹

Contextualised within a continuing emphasis on developing digital literacies skills for both students and staff - and for the wider community in the form of increasingly necessary life-skills - the current educational and socio-economic climate can be seen to provide a number of key drivers behind continuing interest in Open Badges: the proliferation of information that our digital world can create is in itself used by some organisations to market a badges approach.

Today, learning happens everywhere. Yet, we still struggle to capture valuable learning that takes place outside of formal settings. We need a new way to help people capture and communicate all of their talents and use them to transition into new opportunities. Open Badge Academy is a complete solution that makes recognising lifelong learning simple.²²

¹⁶ Massive Open Online Course

¹⁷ Small Private Online Course

¹⁸ Badged Open Course

¹⁹ 'A way of working that is based on people having temporary jobs or doing separate pieces of work, each paid separately, rather than working for an employer'.

<http://dictionary.cambridge.org/dictionary/english/gig-economy>

²⁰ www.openrecognition.org/bord/#osignatories

²¹ www.openbadgenetwork.com/

²² www.openbadgeacademy.com

This report aims to further re-invigorate interest in this area within the Scottish HE sector by considering the potential benefits an Open Badges approach might bring in support of the student learning experience when viewed through a transitions lens, contextualised by the knowledge and experience gained by colleagues who were early adopters of digital badges in higher education.

2 Project design and methodology

2.1 Aims of the project

The specific project aims were to:

1. summarise and evaluate current experience from across the Scottish HE sector
2. develop and report on a pilot project to 'test-drive' the Open Badge approach with a number of potential users e.g. students, academics and employers
3. provide clear and comprehensible information on the 'what, why and how?' of Open Badges in higher education through the development of a decision-making guide for the sector
4. report on the use of an Open Badges approach to enhance effective transition tailored to specific audiences e.g. students, academics and employers.

As part of the requirements of the QAAS funding, this work was to be undertaken as a collaborative partnership.

2.1.2 The collaborative partnership

A central requirement of the brief for this QAA Scotland-funded project was that it be undertaken in a collaborative partnership. The TLG already provided a good example of a cross-institutional collaboration to support the work of the Student Transitions Theme, and reflected the essentially collaborative nature of the Scottish HE sector, whose size and diverse institutional composition means that a collaborative approach is made easier. Nonetheless, '[t]he fact that several institutions ... agree to "collaborate" is not sufficient to bring forward a useful and creative collaborative venture' as:

Effective collaborations require energy, commitment, resource (human and capital), enthusiasm, determination and possibly a good dollop of sheer doggedness to see them through to a successful conclusion. So why do it? (Walsh & Kahn, 2010: 3).

The sector had already demonstrated through the work of Student Transitions to date, in addition to previous Themes, that significant benefits could be accrued for the sector as a whole through shared learning and working practices. The Universities of Dundee, Aberdeen and St Andrews, who all had an interest in Open Badges, initially discussed the possibility of undertaking a collaborative project in this area. Following careful consideration by the individual institutions of available time and resource it was agreed that Dundee and Aberdeen would develop a project together and that the University of St Andrews would contribute a case study to inform the learning from the sector. An approach to join the collaborative partnership was subsequently made to Abertay University, which also had experience of work in the area of Open Badges, and it became the third partner in the collaboration.

Figure 2 outlines elements required to undertake a successful collaboration within a higher education context, as identified by Walsh & Kahn (2010).

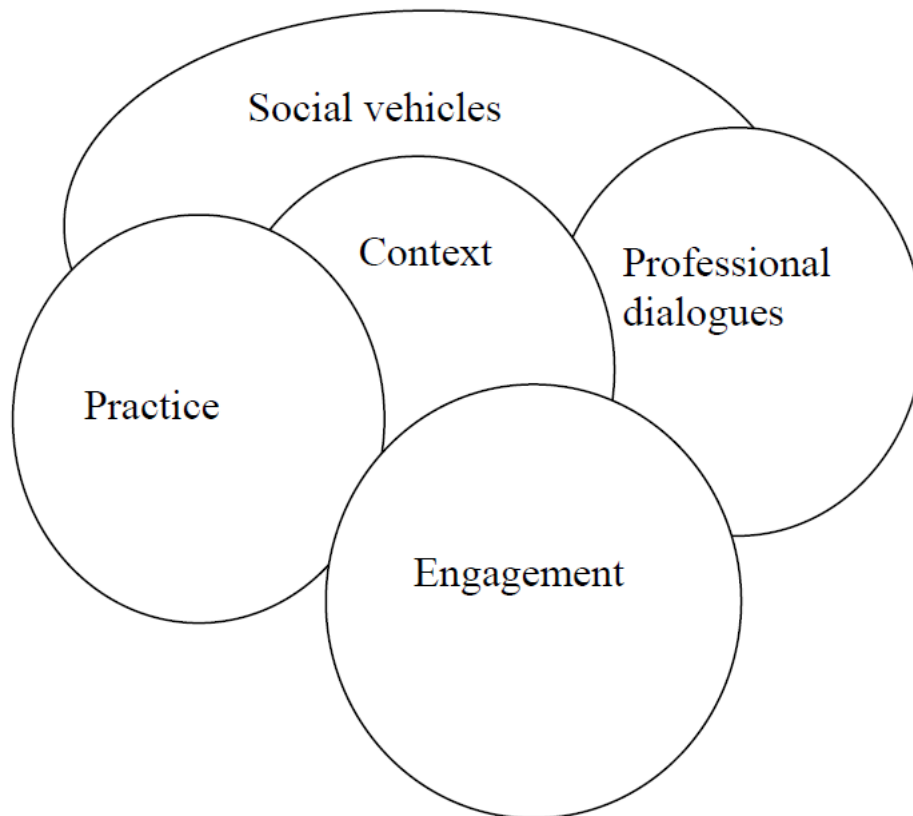


Figure 2 - Model for collaborative working in higher education (Walsh & Kahn, 2010: 16)

Using this model to analyse the Open Badges collaboration we can see that the:

- context was that of professional learning within HE
- social vehicle was provided by the TLG itself
- engagement was provided by the levels of personal and institutional interest and commitment to the project
- practice was a reflection of the engagement of the partners
- professional dialogues reflected the discourse and professional learning generated by and throughout the project which 'comprise[s] both the process and the product of collaborative working' (ibid: 16-17).

Effective collaboration on the project was realised through a number of factors, including the existing and developed relationships; the shared interest in, and commitment to learning more about, the area of Open Badges in HE and in particular in relation to Student Transitions; a willingness to support and engage with colleagues, ideas and undertakings across the life of the project; and shared expertise. Areas where partners contributed specific aspects to the project are highlighted throughout the report.

2.2 Project implementation

2.2.1 Ethical approval

Ethical approval for the project was sought and attained on behalf of the collaboration through Dundee University Research Ethics Committee.²³ All aspects of the project were covered bar the scoping exercise, which was held in advance of ethical approval being granted, and therefore no data was collected.

2.2.2 Scoping exercise

An online discussion using Blackboard Collaborate was organised by the University of Dundee and hosted by the University of Aberdeen on 1 May 2017. The aim of this scoping exercise was to allow a number of individuals who had expressed an interest in the concept of Open Badges in support of effective transition to meet online and share experiences around their current use of, and aspirations for, Open Badges.

2.2.3 Questionnaire

A questionnaire was designed by the Universities of Aberdeen and Dundee to report on the current experience of Open Badges in Scottish HE by exploring institutional experience and considering the potential use of a badges approach in support of effective student transitions. The questions focused on three areas: practice; perceived benefits; and employability. The intention was to capture institutional knowledge of both current practice and aspirations for use of Open Badges from a staff and student perspective. The questionnaire was distributed via Bristol Online Survey to every Scottish HEI through their TLG member, who was asked to identify the most appropriate person to respond. The questions are provided in full in [Appendix 1](#).

2.2.4 Sharing practice event

The University of Dundee hosted the project sharing practice event on 19 June 2017, involving the project partners and 49 colleagues from a range of HE institutions and the college sector.

All three project partners provided a session at the event, to complement the external inputs. The aims were to:

- raise awareness of the QAAS Open Badges collaborative project
- create a forum for sharing practice and discussion, facilitated by our two keynote speakers:
 - Grainne Hamilton from DigitalMe²⁴
 - Doug Belshaw, Educational Consultant²⁵
- provide an opportunity for participants to engage with the concept of the guide and to inform its development.

The programme of events, and the networking lunch which followed, prompted several interesting discussions about the use of Open Badges in HE. The presentations from the event can be accessed through the CASTLE blog.²⁶

²³ www.dundee.ac.uk/research/ethics/

²⁴ www.digitalme.co.uk/

²⁵ <http://dougbelshaw.com/blog/>

²⁶ <https://castleblog.dundee.ac.uk/event-resources/open-badges-in-he-what-why-and-how/>

2.2.5 Open Badges in the Scottish HE Sector: Illustrative case studies

In order to further inform the reporting on the current experience of Open Badges in Scottish HE, five case studies were identified as illustrative examples of practice.

3 Data Collection

3.1 The questionnaire

Responses were received from the majority of Scottish HEIs plus one response from colleagues at the University of Sussex who had been involved in early discussions around the idea for the project. Responses were also received from Dundee University Students' Association, Edinburgh University Students' Association and Scotland's Rural College Students' Association,²⁷ making 22 responses in total.

3.2 Sharing practice event

Participants were asked to undertake a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis on the use of Open Badges. This took the form of a mixed group activity. The combined results of the groups SWOT analyses are presented in [Appendix 2](#).

3.3 Open Badges in the Scottish HE Sector: Illustrative case studies

One case study was developed by each of the project partners, one by the University of St Andrews, and one was developed from the Edinburgh University Students' Association's case study, originally showcased on the QAAS Enhancement Themes website as part of the University of Edinburgh's institutional work for 2015-16.

4 Data Analysis

4.1 Questionnaire results

In response to the opening question asking, 'Do you think digital badges differ from Open Badges?', some participants thought there was a difference (n=9) but the majority thought that there is no difference or were unsure: no (n=7) and unsure (n=6).

Digital describes the format, [O]pen goes further.

The main difference [is] that Open Badges are sharable outwith the organisation they were issued.

Five respondents thought their institution did currently use Open Badges within the academic curriculum but the majority thought not (n=11) and some were unsure (n=6). Not all respondents explained their response. One participant noted that their institution awards badges for extracurricular activities 'aimed at enhancing employability skills'; another noted their use to recognise lab skills. Experimentation and a former trial of a badges approach were mentioned and one respondent noted that their institution had 'once piloted [the approach] as a retention initiative'.

²⁷ The response from EUSA and SRUCSA provided the institutional response.

Not formally yet, there has been a bit of experimentation by some staff but no formal implementation yet.

We have used them briefly while exploring the achievements tool in Blackboard. But this has fallen away.

The lack of awareness of any institution-wide badge activity, unless respondents are involved personally in an initiative, is perhaps reflective of a lack of institutional drive towards the use of Open Badges. There is awareness of initial experimentation or pilots but no mention of this work having been evaluated.

In comparison, slightly more respondents thought their institution did currently use Open Badges within the co-curriculum or in extracurricular activities (n=6), but overall, more thought not (n=7), or were unsure (n=9). Communication; leadership and influencing skills; social responsibility; resilience skills; class reps training; and completion of professional and employability skills for students were all mentioned as examples of using badges in this way. Additionally, two respondents noted that plans were in place to use a badges approach to support co-curriculum or extracurricular activities, further illustrating the potential use of badges to support students' wider learning as they transition through university.

Responses were polarised in response to the question asking about any concerns or issues in using or implementing Open Badges: concerns (n=8), unsure (n=2) and no concerns (n=12). Concerns related both to technical and non-technical issues. The exportability of badges, and the difficulties for students in adding them to LinkedIn, was mentioned by several respondents. Quality issues, however, was a recurring theme with concerns over the 'perception that anyone can create a "spoof" badge from an institution' with the accompanying 'lack of "provider verification" '; and where that verification did exist, that the poor design of badge criteria could potentially impact institutional reputation.

Difficult to establish what is an acceptable challenge to receive the badge.

Other quality concerns related to the dangers of trivialising the approach through over-badging and creating a system that might potentially duplicate credit. One respondent, despite being a supporter of badges, was also concerned that the approach might add 'additional pressures' for students by creating a 'second tier' of assessment. This effect could 'outweigh the value [individuals] actually gain from achieving the badge', which in turn may not be recognised by employers due to the 'lack of maturity of the system'.

Several respondents did, however, qualify their concerns by noting that badges either are, or might be (depending on their current level of experience with the concept), either 'useful' or 'a good idea'. Opportunities were envisaged for increased student engagement and proactivity as a result of the 'variation to the traditional passive approach to learning and teaching' introduced by a badges approach.

When asked about student-led demand for Open Badges across the sector, over 50 per cent of respondents (n=12) were unsure, while a significant number (n=7) thought that there is no student-led demand. Only three respondents thought that there is an interest from students and this was in relation to Students' Associations and the use of badges for class and School representative training. One respondent felt that while there is a 'strong demand [by students] for recognition of their extracurricular work' there did not appear to be a corresponding demand for Open Badges, quite possibly because 'most students still don't know about the concept'. When asked about a staff-led demand to issue Open Badges at their institution, half of the respondents expressed the view that there is no demand (n=11) or that they were unsure of demand (n=5), with only six respondents believing that there is a demand. Nonetheless, current and developing staff 'interest', the supportive approach of

academic developers, and the perceived usefulness of badges by staff were mentioned several times by respondents.

When asked about the capacity of institutional technical support to implement a badges system, experience was mixed. Respondents talked about the possibility of ramping up existing working knowledge of badges if required and the use of peer learning, and specific teams were identified as having expertise in this area. Several responses included reference to institutional virtual learning environment (VLE) capability to award badges. Others felt that there was not sufficient technical support or information to support staff in their use of Open Badges at this time, noting the potential requirement for further investment in order to take this forward, the inability of in-house e-learning teams to prioritise Open Badges due to competing demands, and concerns about teaching staff's reactions to badges as a new 'technical innovation'.

Despite this somewhat mixed reaction or uncertainty around demand and potential support for a badges approach, when asked about the potential value of Open Badges as a 'useful addition to traditional credentials', respondents were overwhelmingly positive: 18 respondents believed this to be the case.

They are more of a demonstration of knowledge development rather than just an indication of passing an exam.

I think it is great for students to have extra digital credentials that they can share online and build up their positive digital footprint in a more dynamic way rather than just the traditional HEAR [Higher Education Achievement Record].

They may be more accessible than traditional learning ... and more flexible ... Open [B]adges are a way of demonstrating learning and an ability to study, without necessarily completing a full 120 or 180 credits.

There [are] few options to accredit the different routes and experiences students take. Badges provide the additional tools that students need to accredit what they do.

The benefits for staff as well as for students were also recognised, in that Open Badges can be for all learners, at all levels.

I think particularly for students (but also for staff) [Open Badges] can demonstrate extra and co-curricular activities, with credentials that are portable.

For some respondents, Open Badges is an approach whose time is now.

In a digital age, it is increasingly useful to be able to show credentials in a digital way. The ability to embed meta-data into a badge gives employers etc. an easy way to access information about the achievement.

Yet there is also awareness that more is required than just an appropriate environment, in order to support a badges approach in moving forward.

Once a tipping point is reached in terms of their use and acceptance then yes, as [badges] are portable, transferable and can contain a lot of information. Their digital format also means that they can be used and displayed in a variety of attractive ways.

Respondents were then asked in what ways they thought Open Badges benefit learning, based on a choice of five options, the results of which are demonstrated in Figure 3 below. Recognising and rewarding skills development and wider learning accounted for the majority

of responses, closely followed by encouraging student engagement and motivating students. Encouraging student retention and progression was considered to benefit least directly from an Open Badges approach, although it could be argued that the resulting impact from enhanced student motivation, engagement, and recognition and reward for their wider learning and skills development would impact positively on the retention and progression of students overall.

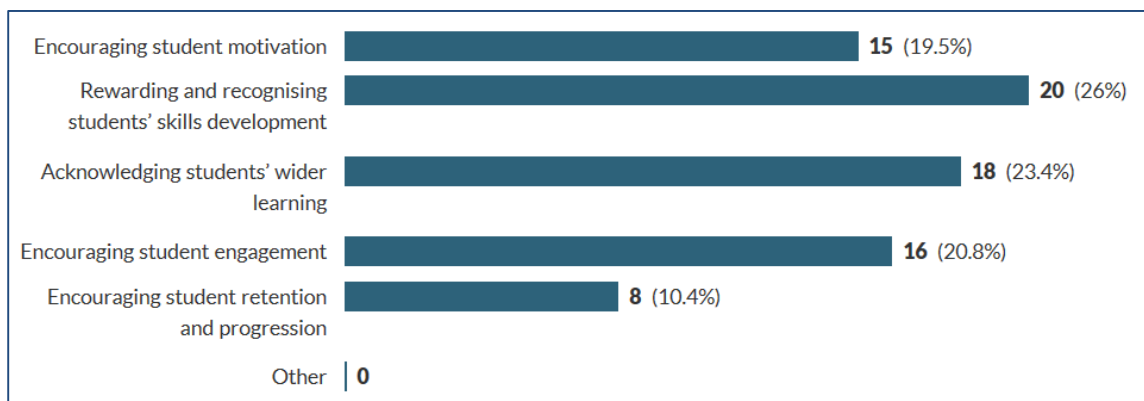


Figure 3 - Ways in which Open Badges benefit learning (Respondents ticked all that applied.)

Respondents were then asked to unpack their responses to this question by considering what they felt to be the main learning benefit of Open Badges. Many of the comments reflected a belief that a badges approach could support students in taking greater ownership of their learning and to be able to surface and evidence their achievements, making reference to 'encouraging students to better their own performance ...' and 'informal but genuine recognition' for achievements.

Allowing students to see the relevance of their different experiences to the learning. I don't think it is always clear to students what they have acquired by carrying out different tasks.

Respondents were then asked whether they thought awarding Open Badges could assist students with their transition into university and throughout their studies. Nine respondents thought yes but the remainder of the respondents (n=13) were unsure. The phrases most commonly used were: '[There] is potential for this'; '[N]ot yet, unless ...'; 'I don't have enough evidence to say ...'; 'In part ...'; with some more positive responses including the phrases, 'It could, it depends ...', 'I think it can do ...'. The three most fulsome responses to this question were contextualised to personal or sector experience of Open Badges and student transitions.

Yes, for us it helps them learn about the opportunities available and encourages them to do wider activities to earn more badges, and then the reflection is key in blogging to help them transition through and out of their studies.

I think it can do, if done properly. It would potentially be useful to link up with the school and college sector to develop some cross-institutional badges. I think badges can be useful to help students see what skills they are developing and track these.

I believe it does, and this will only become more prominent as the approach is increasingly adopted within secondary schools. In terms of the transitions out, we see a number of employers utilising [O]pen [B]adges as part of their staff development training programmes and so a comprehension and competency in using these would be of benefit to students.

A number of free text responses generally indicated a positive response to the next question, on whether interest in Open Badges is growing in the UK.

There is a lot going on in the sector and I've become aware of a number of projects and initiatives.

Demonstrable evidence to support this.

There is much more evidence of universities using these extensively now.

Some of the comments, however, perhaps reflected a feeling that interest *should* be growing, as opposed to having evidence that it is.

There does seem to be a need for a way to reward and recognise extracurricular activities and badges do seem an obvious solution.

People are increasingly talking about Open Badges...

Yes, but I'm not sure since I've tried to promote them a lot but there are tech challenges and students generally don't know about them.

The respondent who provided this reply had also hoped to see more development of the concept across the sector but is now 'not sure if the badges are stagnating'. Another took a different view, reflecting the current work in the sector in relation to open educational practices.

It's trendy, it has the word 'open' in it.

The final section of the questionnaire dealt with employability and badges. Five institutions confirmed that their university encouraged students to showcase Open Badges to employers and recruiters. The vehicles to achieve this are presented below in Figure 4. The relatively large number who replied either no or not sure (n=10) to this question (n=7) reflects the number of institutions where respondents think that Open Badges are not yet issued, or are unsure whether this is the case.

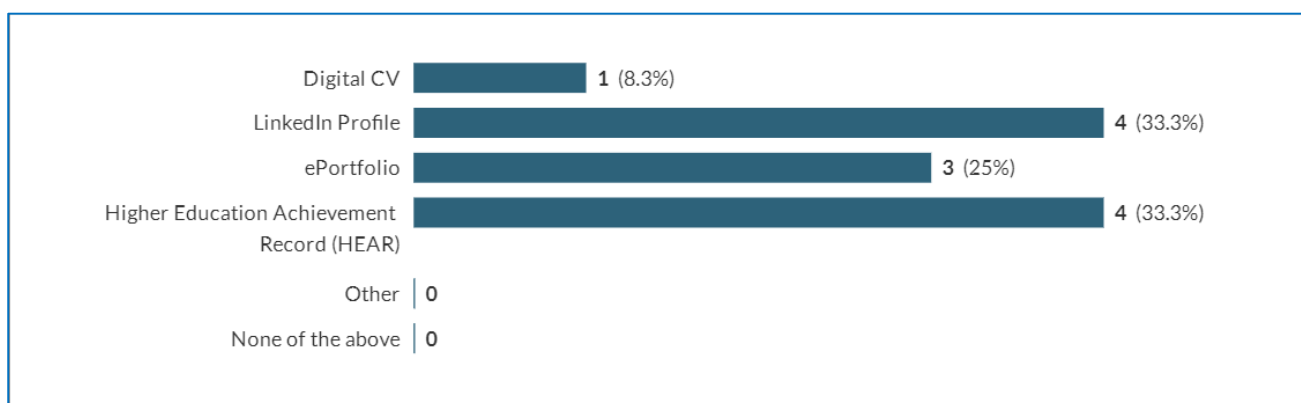


Figure 4 - Showcase to employers/recruiters

Some institutions not only encourage, but also provide training, for their students to display their badges on LinkedIn. E-portfolios are also used, as is linking to the Higher Education Achievement Record (HEAR), which is either happening currently but separately from the LinkedIn activity, or is planned for future implementation.

When asked whether employers or recruiters attach value to Open Badges, the majority response was uncertain (n=15), with yes (n=5) and no (n=2). The uncertainty was reflected in a feeling that:

Recruitment is still pretty traditional and CV based.

Some [employers or recruiters] may not understand what they are and can be used for.

It depends on recruitment practices.

In line with the responses to the point made in response to a previous question, there is an underlying suggestion that the 'tipping point' may not yet have been reached.

I have not heard any feedback about this and I don't know if they are widespread enough...

This is a growing area and in time ... more will take it as re[a]d that students will have them.

When asked whether awarding Open Badges might assist students with their transition out of university and into employment, views were divided 50:50 between those who agreed that they might, and those who were either unsure or thought not: yes (n=11), no (n=3) and unsure (n=8). However, a number of respondents commented on the *potential* for this to happen.

Again, there is potential for this, but I am not aware of it happening yet.

Potentially yes, but again I don't have evidence to show support either way.

I think it has the potential ... Even if the company don't require specific badges the former student knows what skills and experience they have and can explain that to an employer.

If the potential could be realised, several respondents expanded on the benefits this could bring for students' transition into employment.

... it shows they are tech savvy and it displays the extra skills they have gained while at university. It helps to provide a richer picture of the graduate.

... they can be a useful marker to students about some of the things they have achieved outside of their formal assessments and they can use this when applying for jobs.

A possible next step to raise employer awareness of Open Badges and their potential benefits might be collaboration with institutions, but existing initiatives in this area appear to be at an early stage and currently very limited. Only three respondents indicated employers did collaborate with their institution in this way while the remainder thought not (n=10) or did not know (n=9). Despite this, it was also noted that one institution has 'collaborated with the Law Society of Scotland who help to assess group badges an[d] have discussed them with local employers', and another that discussions had been held with employers who 'in principle' were 'keen to contribute'. This indicates there is scope to involve employers in Open Badge design and development to help support students as they transition beyond university.

4.2 Case studies

The rich variety of approaches used by Scottish HEIs in support of their transitioning students is evidenced in the work of the Student Transitions Theme and, among other things, has included 'Welcome' weeks (University of Dundee); academic families (Heriot-Watt University); Associate Student schemes (Abertay University and Edinburgh Napier University); employer mentoring programmes (Queen Margaret University); and peer support (University of Edinburgh and University of Stirling). Some of these approaches are also combined into transition toolkits (University of Aberdeen). A small number of institutions are also already using, or are planning to use, a badges approach to support student transition, and their experience to date is provided here in five illustrative case studies from the three project partners, the Universities of Dundee, Aberdeen and Abertay, plus the Universities of Edinburgh and St Andrews. The case studies are presented here under the topics of student perspective, academic perspective and employer perspective.

4.2.1 Case Studies: Student Perspective

Case Study 1: University of Dundee

Developing Student Representation through an Open Badges Approach

What's the idea?

The University has a joint agreement on student representation which states that: 'The University, in partnership with the Dundee University Students' Association (DUSA), encourages students to become actively involved in providing constructive feedback about all aspects of University life'. A robust and effective student representation system is central to the enhancement of the student learning experience and both DUSA and the University are committed to an effective representation system that is taken forward through a partnership approach. Influenced by the approach at the University of Stirling²⁸ and drawing on the approach by Edinburgh University's Student Association (EUSA),²⁹ DUSA is exploring the use of Open Badges to support student representatives (reps) in their roles with the aim of:

- recognising and rewarding the work and contribution that student reps make to the learning experience
- helping to define the role and responsibility of the positions
- enhancing employability.

What's the aim?

The University's School representation system is based on a three-tier model of class representation at the module level, which can involve over 500 reps every year across the Schools. Individual engagement, tracking impact and evaluating change as a result of the representation system can therefore pose challenges. There has been no in-depth research as to how students viewed the representation system or how they understood or engaged with it. DUSA works with 4th year marketing students each year, and in 2016-17 one student team, as part of their degree curriculum, was tasked with reviewing the School Representation System, including the perceived lack of awareness and enthusiasm about the system. They carried out a survey with 616 participants from across the nine schools, which included undergraduates, postgraduates and some distance learners.

²⁸ www.stirlingstudentsunion.com/representation/

²⁹ See Case Study 2: Edinburgh University Students' Association.

The team asked students: 'Which of the following would most likely give you an incentive to run for a School Representative position (School President, Associate President, Class Representative)?' (See Figure 5 below.)

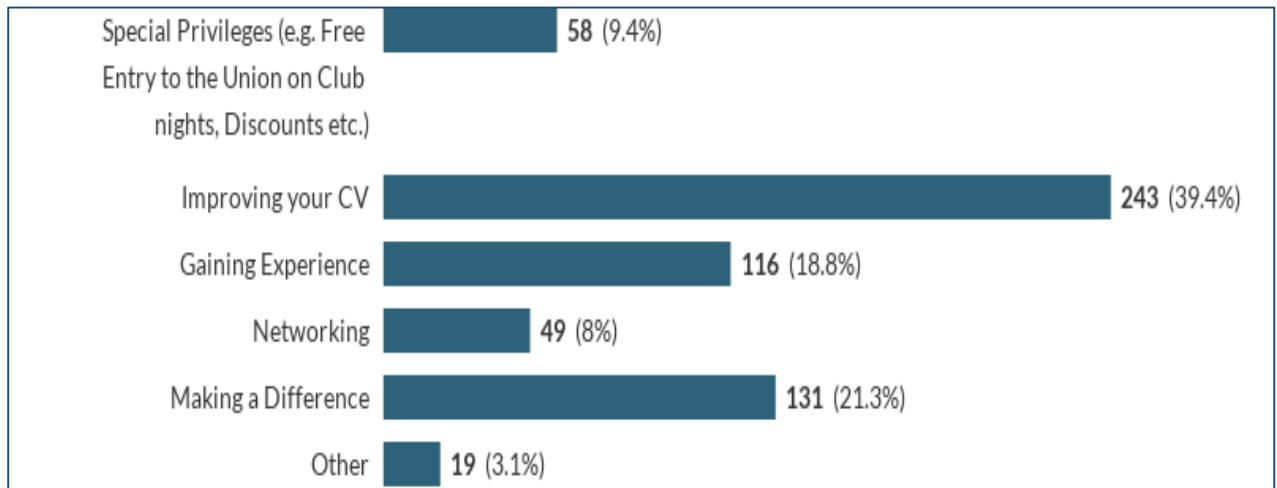


Figure 5 - Student responses to school representative question

As demonstrated in Figure 5, there was a strong preference from respondents towards enhancing their employability (almost 40 per cent of respondents highlighted 'Improving your CV' and almost 20 per cent of respondents highlighted 'Gaining Experience'), but there was also significant interest in making an impact for the benefit of their peers (over 20 per cent of respondents highlighted 'Making a Difference'). These results demonstrated a clear potential for rewarding student engagement with the representation system through the issue of Open Badges.

The aim of the approach is that by adding incentive to the Class Representation system, through recognition and rewards for their efforts and hard work, it will encourage and incentivise more students to step forward to be considered as reps and will also capture the impact the reps make. Figure 6 below demonstrates the iterative cycle that is under development.

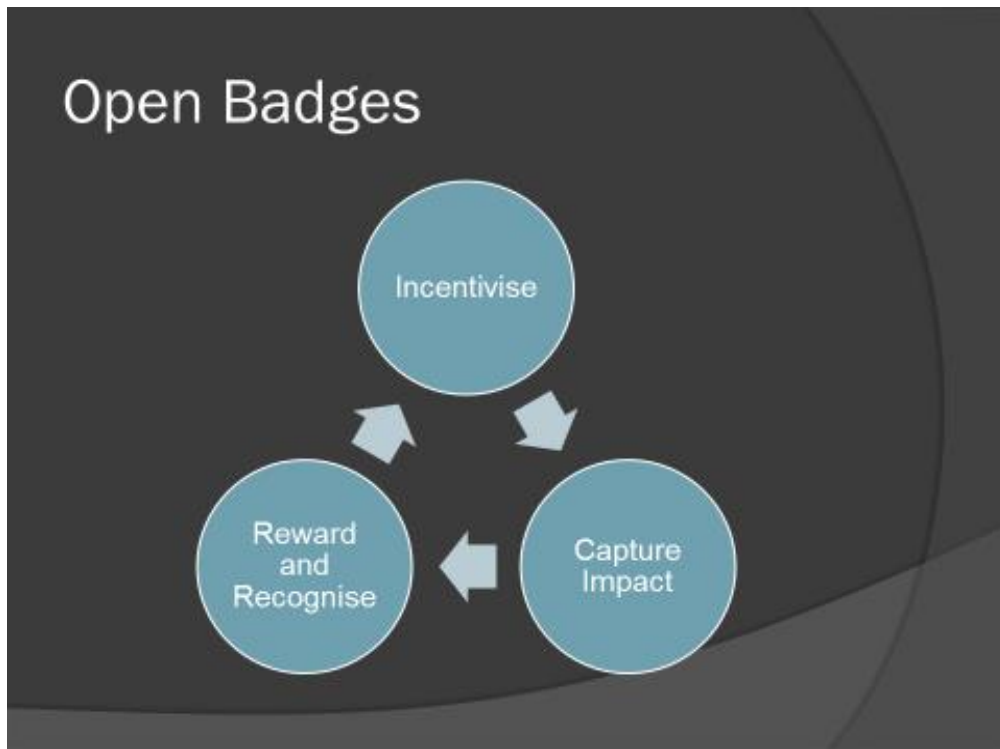


Figure 6 - Developing the School reps system at Dundee - an Open Badges approach

How will it work?

Badges currently under consideration are for:

- undertaking and completing training
- successful completion of key reports
- participating in key meetings
- undertaking and completing key projects/campaigns
- providing effective feedback.

These may change or evolve as the concept is developed and implemented.

Where are we now?

DUSA is currently at the development stage of ensuring that the metadata that is required for the suite of badges is robust and in context, and is involved with creating the images for each badge. The next step will be to seek further appropriate technical support and ascertain whether the suite will be stand-alone, or recognised at institutional level.

It is envisaged, when fully up and running, that using the Open Badges approach will make the transition process easier for incoming reps to pick up their new role and for outgoing reps to demonstrate what they have achieved during their time in the position.

What can the sector learn from this approach?

In order to maximise the benefits for employability and impact of active student engagement with representation, shown in Figure 6 above, DUSA and the University of Dundee aim to use an Open Badges approach to:

- incentivise student engagement in representation
- capture and record the impact of reps' achievements
- facilitate the recognition and reward of students' achievements.

In order to provide a robust and meaningful system of recognition and reward through Open Badges, the development of the badges framework will need to take into account:

- the creation of clear and unambiguous criteria for achievement and attainment
- avoidance of 'fuzzy' language in badge descriptors.

As with everything, careful planning, appropriate resources and time are all things to be taken into account before attempting this approach. DUSA sees value in starting small, piloting the approach and reflecting on how the first awards are received by all parties, before implementing the planned full set of badges. As development has progressed it has become clear that this needs to be a collaborative effort across the institution, as a range of skill sets are required to produce a high quality product that will have real and meaningful value to the recipient and potential employers.

Case Study 2: University of Edinburgh Supporting Role Transition through an Open Badges Approach

What's the idea?

Edinburgh University's Students' Association (EUSA) is currently employing a badges approach to support students' transition 'into', 'through' and 'out' of their role as class or School representatives (reps). EUSA originally developed a framework of Open Badges in three thematic categories, the approach being to recognise and reward students' work as class reps (see Figure 7 below). The Class Rep Open Badge Framework³⁰ includes a number of badges within each category focusing on personal development within the role of a rep; research and communication; and student representation.

In response to demand, School Rep Open Badges have also been developed, focusing on student representation and leadership.



Figure 7 - EUSA Open Badge Framework

³⁰ www.eusa.ed.ac.uk/representation/yourrepresentatives/classreps/reconition_for_reps/

Students earning at least three badges within a category will be awarded a thematic badge for that category. Earning all three thematic badges results in a Gold Class Representative badge in recognition of outstanding work and dedication.

What's the aim?

The intended aim for students is to support them in 'reflecting on their work, sharing their successes, and gaining additional accreditation'.

Class Reps and School Reps already receive recognition through their Higher Education Achievement Report (HEAR), and a small percentage of Reps earn the Edinburgh Award for Representing Students when they contribute over fifty hours of work as a Rep during the academic year and reflect on their personal and professional development. The Open Badge scheme is aimed to be more accessible to all Reps, and it can be used as a stepping stone for those participating in the Edinburgh Award so that they have a better idea of the different activities which are part of their role as a Rep. By writing blog posts, Reps are sharing their work with the community and others can learn from their work.

How does it work?

The badges are an integral part of the EUSA Student Rep Forum on 'Learn', the University's VLE. Class reps and School reps who reflect on and share their work through blog posts have their posts reviewed by a member of EUSA staff and then receive Open Badges to recognise and accredit their work digitally.

What has been the response?

EUSA notes that student response to the initiative 'has been positive, revealing both interest in, and motivation for, earning the various badges, with some class representatives commenting that the badges framework clarified the different aspects of their role and the skills they could develop in it'. The Open Badges approach has also:

... proved beneficial for helping Reps transition into their role by learning about the different aspects of their work, transition through their role by reflecting on and documenting their work, and transition out of the role by highlighting Open Badges to potential employers. In turn, the blog posts help the Students' Association to learn more about the local work of student representatives across the University's Schools, and anonymised blog posts shared on the EUSA website help all students and staff to learn about Reps' successes.³¹

What has been the impact?

The approach was initially piloted at the end of academic year 2014-15.

- Almost 700 reps earned the Training Badge (awarded manually after attendance was documented).
- 14 reps wrote almost 50 blog posts and earned a total of 43 Open Badges.
- Most blog posts were written in relation to: Student-Staff Liaison Committee meetings, Implementing Change, Events, and Career Development.

³¹ University of Edinburgh, 2016 'The Role of Open Badges in Supporting Student Representatives' Transitions' www.enhancementthemes.ac.uk/pages/docdetail/docs/case-studies/the-role-of-open-badges-in-supporting-student-representatives-transitions

During academic year 2015-16, the approach was fully embedded by EUSA into its Class Rep and School Rep systems, with information on the Open Badges Framework provided in training sessions.

Figures have increased significantly since the start of the project:

- 76 reps have written a total of 154 blog posts, earning a total of 147 Open Badges for blogging about their work.
- 2,050 reps have earned Open Badges for completing basic rep training.
- Almost 300 Reps have earned Open Badges for completing intermediate rep training.

What can the sector learn from this approach?

Benefits also accrue for EUSA. With more than 1,200 reps representing students in over 1,700 courses, programmes, and year groups across the University (figures for academic year 2014-15), the Open Badges Framework approach that helped EUSA learn more about the work that reps are doing 'on the ground' and the impact of student representation at a local level across the institution.

Badges are an integral part of the EUSA Student Rep Forum on the University's VLE. Accessibility, transferability and portability are all issues to be taken into consideration when deciding on the platform to use to display badges and to evidence learning and achievement.

4.2.2 Case Studies: Academic Perspectives

Case Study 3: Abertay University

Open Badge Achievement Awards in Law

What's the idea?

Abertay Division of Law Open Badge achievement awards are gained by law students who successfully complete reflective tasks from a suite of five thematic workbooks or by participation in the LLB Peer to Peer Mentoring programme (see Figure 8 below).

How does it work?

The thematic workbooks have been designed to enable students to reflect on programme-related and co-curricular and extracurricular activities, with the aim of enabling them to develop professional competences through evaluation of life experiences. Each workbook offers four badges that reflect skills sought by prospective employers, who typically use competency-based interview techniques when selecting legal trainees.



Figure 8 - The law thematic workbooks

The workbooks have also been designed to incorporate Abertay graduate attributes (see Figure 9 below).³²



Figure 9 - Abertay University graduate attributes

In order to meet the criteria for the award of each badge, a student must evidence 10 notional hours of work, over and above the time invested in the experience they are reflecting on, when submitting a first draft of their written submission to the project coordinator for initial formative feedback. Students are encouraged to use Pebble+, where the workbooks are located, for this purpose. Feedback/feedforward is also provided on subsequent drafts, as appropriate. A badge is awarded when a submission has, in the opinion of the project coordinator and internal moderator, met the objectives of the stipulated reflective task. If a student gains all four badges in a workbook their portfolio of work is submitted to the Law Society of Scotland education and training officer for external verification.

³² www.abertay.ac.uk/media/abertay_graduate_attributes_summary.pdf

The LLB Peer to Peer Mentoring programme award is gained by (1) undertaking the role of mentor and/or mentee for one academic session to guide and support, or be guided and supported by, a fellow law student; (2) the completion of an end-of-session questionnaire to evaluate the student experience; and (3) the submission of a reflective and reflexive report detailing the problems encountered and skills gained in the role(s) and how these issues/attributes will be taken forward in terms of future academic and professional practice. Students who participate for one session gain a bronze award. Students who participate for two or three sessions gain, respectively, silver and gold awards. Participation in four sessions leads to an Excellence award.

What can the sector learn from this approach?

A successful submission for a theme leads to the award of an Excellence badge for that theme, which may also be submitted to the University's HEAR panel for consideration by that body for inclusion on the student's transcript.

Students share their Open Badge achievement awards with an external audience by uploading them to their Credly account,³³ where the criteria for the award is displayed alongside a bespoke graphic for the badge concerned.

Students can also elect to share their Open Badge achievement awards with prospective employers via Credly and/or Pebble+ as part of a digital CV and/or display them on other sharing platforms, for example LinkedIn.

³³ <https://credly.com/>

Case Study 4: University of St Andrews Badges and the Professional Skills Curriculum

What is it?



An exploration into awarding a digital credential to evidence completion of the Professional Skills Curriculum (PSC) - a programme that develops employability skills for students at the University of St Andrews.³⁴

What's the aim?

The aims were to assess:

- how easy it would be technically for staff to design and award a badge
- what the student reaction to the award would be.

How does it work?

The PSC programme comprises various elements, both face-to-face and online. Completion of the various elements is evidenced by means of a 'passport stamp', and the programme as a whole is completed on the submission of a final reflective essay. Traditionally, on completion of the programme, participants have been awarded a paper certificate. The award is also endorsed by the Institute of Leadership and Management, and appears on the student's degree transcript.

The PSC programme leader designed a badge using Credly, and has now awarded it to two cohorts of PSC completers.

What was the response?

Uptake of the badge after it was awarded to both cohorts was as follows:

2016: Issued to: 116 - Badge 'accepted' by: 43 = 37 per cent

2017: Issued to: 78 - Badge 'accepted' by: 28 = 36 per cent

There have been some technical issues with recipients having difficulties adding the badge to their LinkedIn profile, but anecdotal feedback has been positive. As LinkedIn becomes an increasingly important tool for students to use for networking and seeking graduate roles, they appreciate having the electronic badge on their profile in addition to a paper certificate.

Thank you, [the badge is] a nice surprise. Didn't know that there are such options out there. Really love the idea and it makes a digital integration so much easier. Thank you very much!!!

Great! Happy to share. Though I have no LinkedIn account yet. But I will add it on as soon as I have one. Support!

Thank you for the continuous innovation. It is really cool we can add a badge to LinkedIn now.

³⁴ www.st-andrews.ac.uk/students/careermatters/professionalskills/

What can the sector learn from this approach?

There were three main lessons from this pilot:

- Badges have great potential to evidence non-academic skills. Using them to support programmes like the PSC is potentially easier than integrating the use of badges into the curriculum. The link to employability makes the benefits explicit to students. In the coming academic year we plan to work more closely with the Students' Association to integrate the use of badges into Class Rep training.
- Badges are still at a relatively early point in their maturity. To get them to a point where they become more widely recognised as a credential, the technology needs to allow badges to become more easily shareable, particularly with LinkedIn profiles.
- In order to drive development and uptake of badges, they need to possess two key qualities:
 - **Value** (badges need to be carefully designed from the outset so that they provide meaningful evidence of an achievement, not, for example, just for workshop attendance)
 - **Validity** (employers need to be able to rely on the validity and credibility of a badge issuer).

4.2.3 Employer Perspective - Case Study

Case Study 5: University of Aberdeen Badge Development in Employer Partnership

What was the idea?

To engage employers in a discussion at the University of Aberdeen on the topic of digital credentials. The University's Employer Board explored the concept and implementation of Open Badges as recognition of student skills development.

What was the response?

Key findings from this strategic-level meeting of small, medium and large enterprises in the public, private and third sectors included the potential to:

- add value - through embedded accreditation metadata - to the student's academic and professional qualification
- motivate students to showcase their skills set
- facilitate sharing across academic and professional domains
- assist employers in the various stages of their recruitment and selection processes
- enhance the profile of students who do not achieve the highest of academic standards but who perform well in co-curricular undertakings.

The value of Open Badges for employers to verify and understand students' skills development is captured in the following employer comment:



'Enterprise Rent-A-Car is a firm believer that skills and attributes are key for future employees' career development. Open Badges are not only a useful evidence-based tool, but also a transparent measure that can provide valuable insight into a candidate's employability skills.'

(Graeme Butler, Group Talent Acquisition Specialist,
Enterprise Rent-A-Car, Scotland and Northern Ireland)

What can the sector learn from this approach?

There was acknowledgement at the Employer Group of the changing environment in higher education, in which universities recognise and validate learning in tandem with an increased focus on those competencies sought by employers. It was also noted that a range of challenges needs to be explored and met by universities who plan to award forms of digital credentials, including:

- ensuring the adoption of a robust awarding platform to avoid fraudulent and frivolous use of badges
- avoiding confusion between the use of digital and open in the promotion of badge awards
- forestalling dilution of the significance of badges by over-awarding them, risking diminishment of their value to employers
- establishing a clear and accessible Open Badge framework to underpin the awarding rationale.

Further deliberations on the use of Open Badges, to recognise skills development in higher education, have raised the possibility that this form of digital credential might facilitate graduate membership of degree-accrediting professional bodies, for example the British Psychological Society (BPS), the Institute of Physics (IoP), and the Law Society. This approach may help academic staff to envision and realise the use of badges in their academic disciplines or subject areas (Glover & Latif, 2013).

5 Discussion

5.1 Understanding Open Badges in the context of student transitions

This was a small-scale project with the intention of taking a snapshot of the Scottish sector's position in relation to the use of Open Badges. A mixture of colleagues attended the sharing practice event and took part in the SWOT analysis. Either TLG institutional members, or another colleague if it was felt to be more appropriate, completed the questionnaire, and therefore while representing their institution the respondents are not representative of a particular job role or section of their university. Accordingly, this will have impacted the responses as work around Open Badges appears to be quite localised within institutions with limited general exposure; for example, links with employers may be seen as being 'dealt with by Careers' rather than being owned by the institution. The respondents were also primarily members of staff, and although some responses did come from Students' Associations, individual students were not asked directly about Open Badges. Similarly, institutional senior management, while represented through their TLG member, were not asked directly about Open Badges on an individual basis. The limitations of the survey are therefore acknowledged.

Nonetheless, while the construction of a complete picture of institutional usage or views may not have been possible through this methodology, the localised and somewhat isolated picture of current practice is in itself instructive. Voogt, et al. (2016: 800) note the need 'for extensive collaboration' in the development of a badges approach 'due to the tendency for educational institutions to have a variety of academic, legal and practical design considerations to take into account', and yet it would appear that many of the current examples of badge activity are local rather than institution-wide initiatives. Indeed, some institutions can be seen to be actively resistant to adopting a badges approach. Two respondents noted that Open Badges are not available for use and, in one case, that they are not 'permitted' to use them within their institutions.

There may be academics issuing [badges] on an individual basis but I am unaware of any and it is not institutionally sanctioned.

The use of badges in formal education has been described as both a 'conceptual struggle' (Glover & Latif, n.d. in Voogt, Dow & Dobson, 2016) and 'disruptive' (Randall, Harrison & West, n.d., *ibid.*); therefore, it is perhaps unsurprising that Open Badges currently have limited traction in the higher education sector, after what is only a relatively short period of exposure. The language used by questionnaire respondents gives an indication that the sector is not quite there yet with its acceptance of a badges approach; it is still seen as non-standard, and those who are using it are seen as more advanced in their practice.

Some, progressive, lecturers have began [sic] making use of [badges] as a way of mapping out key milestones when studying a module.

The SWOT analysis identified the danger of badges being seen as 'gimmicky' and perhaps as 'tech for tech's sake' as weaknesses of the approach. Lack of a wider institutional knowledge on badges was also reflected in respondents' comments; for example, in answer to the questions of awareness of the use of a badges approach:

I am unaware of any use of badges within my University. However, there may be some usage that I am blind to.

Not that I know of, but I may be wrong.

... it is possible that they may be used elsewhere, but not to our knowledge.

Our survey demonstrates that, overall, there remains a level of uncertainty and lack of awareness about Open Badges across Scottish HEIs, with most concerns about credibility, design and technology: management of quality, technical issues and the potential dangers of over-badging were all identified in the SWOT analysis as threats to the success of a badges approach. Yet, despite this uncertainty, the language used in describing badges tended to be positive and while current practice in this area may be small-scale, possibilities were seen for their wider use. This potential, and its role in supporting effective student transitions, is already being realised in a number of institutions as demonstrated by our case studies.

5.1.1 The Student Perspective

The work that is currently underway to support student transitions through the use of Open Badges is being driven primarily by Students' Associations at the Universities of Edinburgh, Stirling and Dundee. The enthusiasm from Student Associations can be capitalised on and further developed. Indeed, a student-led approach, and ownership of the concept of Open Badges, would meet a number of the imperatives of developing digital literacies and enhancing employability across the student body, at all levels.

The future of learning is digital, whether that be for campus-based or distance learners; informal or formal education; bite-sized, modular, life-long or life-wide; and:

[d]espite the presence of several limitations, such as the inability to credential soft skills and the possibility of 'motivation displacement', it can be argued that Open Badges have improved on multiple issues hampering online education in general. (Voogt, et al., 2016: 798)

An Open Badges approach that has the potential to link across the educational sectors from school, through college to university, and then into employability in order to support effective

transitions, has the potential to provide sector-wide enhancement to Scottish education as a whole (see Figure 10).

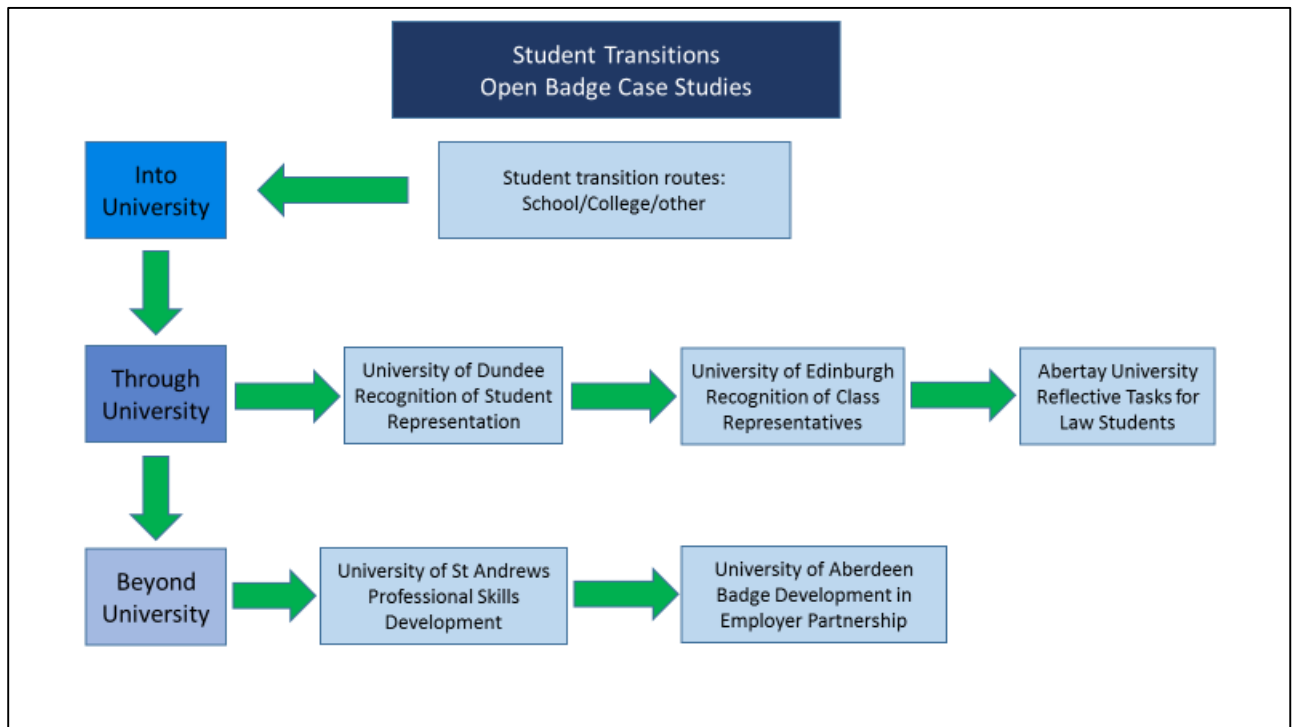


Figure 10 - Student Transitions diagram (University of Aberdeen)

5.1.2 The Academic Perspective

Over-badging, through the issue of digital badges simply for turning up at events or enrolling for a course, can detract from the merits of Open Badges as a tool to evidence learning. While the validation and evidencing of informal learning has, to date, presented itself as the most obvious use for a badges approach, taking the Open Badges discussion into the arena of formal learning may result in increased opportunities for development that could also support effective student transition.

One potential route to follow is through the requirements of professional, statutory and regulatory bodies (PSRBs) and subject-based sector-wide standards. A badges approach lends itself to managing large volumes of bite-sized information, such as the intended learning outcomes (ILOs) that are required to be met in the healthcare professions, including nursing, medicine and dentistry. The hierarchical structure of the standards and outcomes also fits well with the concept of badges; for example, the General Dental Council (GDC) learning outcomes for registration (GDC, 2011, revised 2015) has a hierarchy of domains which is subdivided into overarching outcomes and further subdivided into 151 individual ILOs. An extensive mapping exercise is therefore required between the university curriculum and the GDC outcomes in order to make this connection both clear and comprehensible to students (and staff); which can result in a complex and daunting document. A badges approach could provide a potentially more engaging and motivational way for students to approach the mapping, ensure that they had met and could evidence all of the individual ILOs, and could transition effectively through their studies.³⁵

³⁵ Personal communication with Andrew Mason and Kevin Davey, Dental School, University of Dundee from the project sharing practice event, 19 June 2017.

5.1.3 The Employers' Perspective

Discussions with employers show the potential that a badges approach offers to employability through new ways to recognise learning and motivate learners (Nowakowski & Wozniak, 2016), providing contemporary evidence of skills and achievements in a variety of formal and informal settings. Digital credentials, including certificates and badges, also have considerable potential in enabling students to showcase their skills achievements to employers and recruiters through a range of online platforms, including LinkedIn, online CVs, the HEAR, email signatures and e-portfolios.

Nonetheless, the absence of a single framework or approach to displaying and verifying badges may be delaying their more widespread acceptance by employers. The NMC Horizon Report: 2017 Higher Education Edition notes that currently 'there is a lack of scalable methods of formally documenting and assessing skills mastered outside of the classroom' (NMC Horizon Report, 2017: 26). Nonetheless, the report highlights the integration of formal and informal learning as a 'solvable challenge'.

A key to integrating informal and formal learning is finding a unified manner to support assessment and certification of knowledge and skills gained through a variety of ventures. With the right infrastructure, students might easily display proof of aptitudes and accomplishments in a more transparent and comprehensive manner than traditional degrees allow (ibid.)

However, an Open Badges approach is not yet presented consistently as an option to solve this challenge. The 'European Guidelines for Validating Non-formal and Informal Learning' (2015: 39), for example, refer briefly to badges as a form of 'internal credits'. However, this is not followed up in their summation, which returns to a discussion of more conventional approaches of evidencing achievement such as CVs, statements of competence, third party reports and portfolios (ibid: 49-51).

Another potential vehicle for the development of Open Badges to support student transition into employment is provided by graduate attributes. While not a new concept, interest in graduate attributes is re-emerging in response to a twenty-first century environment where:

... there is less certainty about the landscape that the student will graduate into, consequently, educators in higher education are acutely aware that they are educating a generation for a world that is unknown and, indeed, will be shaped by those very learners. This has led to a way of conceptualising teaching and learning that is cognisant of both subject discipline imperatives and wider educational gains and experiences (Normand & Anderson, 2017: 1).

Many graduate attributes, such as working effectively with others and professionalism, are developed through the authenticity that comes with workplace learning; placements and internships, which form part of the formal curriculum, is another area where Open Badges could be used to evidence students' learning from their work-based learning experience. In addition to providing evidence of learning for the student's academic career, the badges could immediately be included in an online CV or personal profile, enhancing employability and future transition into employment.

Embedding micro-credentialing within the formal academic curriculum through the use of badges in ways such as this could also provide a driver for greater acceptance of the concept in relation to credibility and validity.

These days, employers are interested in more than the mere acquisition of knowledge and skills. They're interested in what you can do with them. Whereas CVs

and resumes are mostly claims about what you know and can do, Open Badges offer actual evidence (Belshaw, 2017).

Evidence on the efficacy of Open Badges is something that is also required to support the claims for engaging and motivating learners and for the creation of a credible and portable system of micro-credentialing. Further research is warranted across the HE sector, therefore, to establish appropriate digital credential standards, to facilitate recognition of students' skills and graduate attribute development, and to enable the effective use of Open Badges as a vehicle to support effective transition into, through and out of university study.

6 Project Output - 'Getting Started with Open Badges'

While there is a good deal of information available in relation to Open Badges, much of it tends to focus on the 'nuts and bolts' of the concept, which often means the technical side.³⁶ Where the information is less technically oriented, it relates to a general rather than specific context and tends to assume that the decision to implement a badges approach has already been made, e.g. providing a framework to 'accurately conceptualise a potential design'.

A Getting Started with Open Badges guide has been developed as part of this project, pulling that decision-making process right back to evaluating whether a badges approach is necessarily the best and most appropriate approach for your students in the specific context of supporting effective transitions, and the steps you might then take to realise a badges approach.

7 Evaluation

The approach taken in the Getting Started with Open Badges guide has been piloted at the University of Dundee with DUSA, as part of its development of Open Badges to support representation, and the Head of English for International Students (EIS). EIS is currently test driving the approach, both to evaluate and test the robustness of the guidelines but also to take the first steps in engaging with the Open Badges approach itself as a means of awarding recognition for its tutors. English tutors at British Council-accredited language centres must have had a minimum of five hours observed teaching practice from a qualified observer. The British Council allows this to take place in post but for many tutors, whose work is seasonal, there is no convenient mechanism for them to carry evidence of having engaged in this process when moving on to a new language centre. The Head of EIS is piloting an Open Badge approach as a useful way to collate evidence of observations done at the University of Dundee, which could contribute to evidence of an individual's CPD and, ultimately, the British Council's qualifications criteria.

The template for the observation sessions informs and is aligned to the criteria for the proposed badge, and the feedback from the session will be attached to the badge as evidence. For example, the (draft) badge description draws upon the criteria descriptor for the observed session/s: 'The owner of this badge was assessed through observation carried out during 5 hours of English language teaching in HE. During this process they demonstrated they were effective in meeting their learners' needs, implementing the syllabus, integrating academic discourse and linking learning to academic contexts and practices. They have also reflected on their teaching practice following a post-lesson discussion with their observer and on their personal future development.'

This is currently work under development and the EIS team is looking towards the next step, which would require collaboration with the University's e-learning colleagues to assist with

³⁶ For example, <https://github.com/mozilla/openbadges-backpack/wiki/Get-Started-with-Open-Badges>

the development and launch of the badge. There is also a need for discussion about whether there should be institutional-level recognition for the badge. See [Appendix 3](#) for the full observation criteria.

8 Conclusions and Next Steps

Are Open Badges still a technology looking for a reason to exist? The understanding, acceptance and use of Open Badges arguably remains at a transition point itself. Current practice in the Scottish sector indicates that it may be a student-led approach, via the sector's Student Associations, that drives this agenda forward. A partnership approach to engaged and effective student representation is a distinctive aspect of higher education in Scotland, and something of which the sector is rightly proud. Normalisation of the concept of Open Badges among student reps may therefore provide an effective route to a demand for this approach from the wider student body. In order both to satisfy the wider academic community and to secure institutional buy-in, however, further evaluation of the Open Badges pilots that are currently underway is essential, and new projects need to be developed.

Despite a significant increase in the amount of relevant literature, research into the effectiveness of Open Badges and more specifically, how to effectively implement such a system in educational institutions, is in its infancy. This is in part due to the notion that the Open Badge ecosystem is strongly defined by its open-source roots. Voogt et al (2016: 802).

There is also real scope to include staff as well as students as learners and recipients of Open Badges, building on the work being undertaken in this area at a number of English institutions, including the University of Sussex, and across the college sector. Engaging staff with Open Badges would not only provide a digital and portable form of micro-credentialing for their CPD but introduce them to the concept of a badges approach, how that might then work for their students at the different stages of their academic study, and to investigating their own practice in this area.

Research is sorely needed to extend the value of digital badges, digital badging systems ... [and] the transferability of digital badges between online presentation environments (Ostashewski & Reid, 2015: 198).

Scottish HEIs invest a significant amount of energy and resource into welcoming and inducting students, usually providing them with a good deal of information, as is evidenced through the range of approaches demonstrated through the Student Transitions: Showcase of institutional multimedia resources.³⁷ At the end of the three years of the Student Transitions Theme, work now turns not only to the new Theme, but also to consideration of the ways in which the concept and understanding of 'student transitions' can be fully embedded within institutions. Using student transitions as a vehicle for the further development and evaluation of the efficacy of Open Badges could:

- enable a sector-wide approach that would provide focus, momentum and a receptive environment for professional learning and sharing good practice
- create a platform for the development of a credible Scottish sector-wide platform for the validation of Open Badges
- initiate collaborative or cross-institutional approaches to badge development

³⁷ www.enhancementthemes.ac.uk/institutional-work/multimedia

- further inform the understanding of the crucial transition points between school and college through a shared language and understanding of micro-credentialing through a badges approach
- provide a unified approach from the Scottish sector to engaging employers in awareness raising and recognition of Open Badges as a credible and acceptable approach to credentialing of learning.

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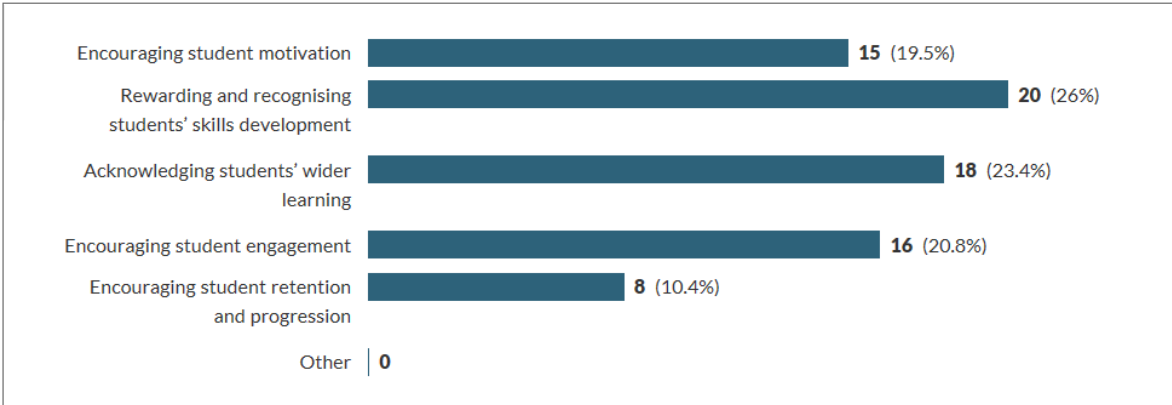
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Appendix 1

Questionnaire

Q1: Which organisation do you belong to?																					
Q2: Do you think Digital Badges differ from Open Badges?																					
Q3: Does your university use digital badges, in any form, in the academic curriculum?																					
Q4: Does your university use digital badges, in any form, in extracurricular or co-curricular activities?																					
Q5: Do you have concerns or issues with using/implementing Open Badges in HE?																					
Q6: Is there a student-led demand for award of Open Badges at your university?																					
Q7: Is there a staff-led demand to award Open Badges at your university?																					
Q8: Is there sufficient technical support or information in your university to allow staff to make use of the concept of Open Badges if they wished to do so?																					
Q9: Do you think that Open Badges are a useful addition to traditional credentials?																					
Q 10: Do you think Open Badges benefit learning by:																					
 <table border="1"> <thead> <tr> <th>Benefit</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Encouraging student motivation</td> <td>15</td> <td>19.5%</td> </tr> <tr> <td>Rewarding and recognising students' skills development</td> <td>20</td> <td>26%</td> </tr> <tr> <td>Acknowledging students' wider learning</td> <td>18</td> <td>23.4%</td> </tr> <tr> <td>Encouraging student engagement</td> <td>16</td> <td>20.8%</td> </tr> <tr> <td>Encouraging student retention and progression</td> <td>8</td> <td>10.4%</td> </tr> <tr> <td>Other</td> <td>0</td> <td></td> </tr> </tbody> </table>	Benefit	Count	Percentage	Encouraging student motivation	15	19.5%	Rewarding and recognising students' skills development	20	26%	Acknowledging students' wider learning	18	23.4%	Encouraging student engagement	16	20.8%	Encouraging student retention and progression	8	10.4%	Other	0	
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Encouraging student engagement	16	20.8%																			
Encouraging student retention and progression	8	10.4%																			
Other	0																				
Q11: What do you consider is the main learning benefit of Open Badges?																					
Q12: Do you think awarding Open Badges assists students with their transition into university and throughout their studies?																					
Q13: Do you think interest in Open Badges is growing in UK universities?																					
Q14: Are students at your university encouraged to showcase Open Badges to employers and postgraduate recruiters?																					
Q15: Do you think employers or postgraduate recruiters attach value to the Open Badges students might showcase with them?																					
Q16: Do you think awarding Open Badges assist students with their transition out of university and into employment?																					
Q17: Do employers collaborate with your university to award Open Badges?																					

Appendix 2

Using Open Badges in HE - What, Why and How?:³⁸ summary of comments from collaborative SWOT analysis activity.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Enhancing student employability • Attractive to students in 21st century • Break down boundaries between institutions • Richer pictures of students' learning and skills development • Aligned with university's digital strategy • Positively motivate learners, Encourages engagement and participation • Granularity • Customisation • Ensuring consistencies - it does • Accredited source - metadata • Social media • Showcasing achievements • Accessible • Recognition of skills regardless of size • Can recognise non-academic, transferable skills and achievements • Stepping stone • Portable • Demonstrate professional skills • Reassure employers • Student awareness of skills • Showcase evidence of skills • Demonstrate skills to regulator (GMC, GDC, NMC etc), and to employer / PG (VT, FY1, RC) • Openness • Transparency of skills • Cheap? • Versatile • Digital literacy • Open source - minimal cost • Inclusive • Showcasing attributes, as well as hard skills 	<ul style="list-style-type: none"> • Wider stakeholder awareness • Lack of champions • Framework question • Ensuring consistencies • Requires planning • Lack of wider/global recognition right now • Tech does not work for everyone • Tech for tech's sake • Terminology • Credibility/authority • Continued competence vs one-off? • CAVE colleagues • Confusion from an employer point of view between badges and HEAR • Employer engagement • QA • Tech understanding • Compatibility • Seen as gimmicky • Life span of skills • Perception • Access • Currently low profile • Assessment alignment • time

³⁸ Hosted at the University of Dundee, Monday, 19 June 2017.

Opportunities	Threats
<ul style="list-style-type: none"> • Employability, recruitment • Wider engagement with learners and staff • Pathways and progression e.g. CPD, appraisals • Early adapter - Scotland • Working collaboratively • Self-acknowledgement • Tangible outcomes • Recognise more flexible learning journeys • Partnerships with employers • Personal development (non-professional) • User control • Continued competence - badge expiry? • Accredit trainers • Career advancement • Explicit demonstration of student skills set • Reward additional student achievement - intern, Wiki project • How to manage parity across universities • Employer engagement • Marketing • Discoverability / searchability • Recognise band/skill • Easy to develop further • New ways to engage • Ways to link through educational establishments • Collaborating with multiple agencies • Invisible skills seen • Universal recognition • Reinforce partnerships 	<ul style="list-style-type: none"> • Security 2x • Spam • Unreliable platforms • Technical issues • Over badging • Management buy-in • Is it a fad? • Threat to current HE • Legitimacy • Recognition of effort / fairness • Overcomplexity • Reliance on external badge system • Devalue • Cost • How to manage parity across universities • Validity of badges • Fraud / copy • Obsolete technology / LMS • Trust • Gatekeepers e.g. is there a licence fee? • Data protection / ethical? • Access to evidence – HE contract, cheating • Quality management • Inconsistency • Apathy - students, employers • Maintaining momentum • Open to misinterpretation

Appendix 3

DRAFT

English for International Students Feedback for Teacher Observations

University of Dundee

(TEAP competency framework informed)

[This is an example document used in the planning stage.]

Badge name: To be confirmed

Description: Owner of this badge was assessed through observation carried out during 5 hours of teaching in HE. During this process they demonstrated they were effective in meeting their learners' needs, implementing the syllabus, integrating academic discourse and linking learning to academic contexts and practices. They have also reflected on their teaching practice following a post-lesson discussion with their observer and on their personal future development.

Criteria:

Meeting Learner Needs	
Where relevant and appropriate, the teacher should ...	
1	... communicate effectively with students in an appropriate & culturally aware manner?
2	... recognise individual needs and roles within the class in response to learners' current and long-term academic goals?
3	... create opportunities & stimulus for critical thinking (academic and/or self-reflective) ?
4	... respond flexibly in class, exploiting unplanned (EAP) learning opportunities effectively and appropriately?
5	... foster learner autonomy by promoting (e.g.) student choice, active engagement, reflection and/or learner responsibility?
6	... use assessment and/or learning outcomes to inform teaching and learning?
Implementing the syllabus	
Where relevant and appropriate, the teacher should ...	
7	... make clear the rationale for the lesson and component tasks, such that students see the relationship to greater course aims, syllabus and assessment ?
8	... select/adapt/create & exploit lesson/learner-appropriate tasks & materials effectively, while preserving the intended skills & focuses of the course syllabus ?

9	... employ a classroom approach and teaching methods appropriate to lesson aims, learner needs, and the EAP context?
Integrating Academic Discourse	
Where relevant and appropriate, the teacher should ...	
10	... help develop learners' processing and production of (academic/discipline-appropriate) spoken and written texts?
11	... take a discourse approach to skills/language, showing how elements within a text relate to the whole and to context in terms of function and/or rhetorical purpose?
12	... integrate and recycle academic language input and/or analytical feedback that promotes accurate and genre-appropriate student production?
Linking Learning to Academic Contexts and Practices	
Where relevant and appropriate, the teacher should ...	
13	... relate lesson aims/objectives, language, skills, content and processes to the academic practices and conventions of the University context ?

.....

<https://www.badgecraft.eu/en/open-badges>

Badge issuer ID, badge earner ID and badge issuing time is added during the badge issuing moment.

- Badge earner is identified through an email address.
- Badge name recalls the content of a skill or achievement in few words.
- Description provides the details of achievement: describes the context, specifies the achievement, refers to completed tasks, explains the assessment procedures. [How to write a good badge description?](#)
- Criteria tells about the tasks set by badge issuer and completed by badge earner to qualify for specific badge.
- Issuer may be an organisation, company, institution or private person that issues a badge to recognise learning and achievements.
- Evidence is an optional but very much encouraged data to enrich and back up the claim for specific achievement. It can be of variety of formats: text input, file upload, image, video, badge code or even another badge.

Open digital badges can have other extensions, such as standard, endorsement, that will be added on the Badgecraft platform in the future.

LINK THE DOC BELOW THROUGH URL AS EVIDENCE FOR THIS BADGE

[EIS Teaching Observation Feedback Form]

Teacher: _____	Date: _____
Session Focus: _____	Class: _____
Observer: _____	

Meeting Learner Needs	
Where relevant and appropriate, does the teacher ...	Summary Comments
1	... communicate effectively with students in an appropriate & culturally aware manner?
2	... recognise individual needs and roles within the class in response to learners' current and long-term academic goals?
3	... create opportunities & stimulus for critical thinking (academic and/or self-reflective) ?
4	... respond flexibly in class, exploiting unplanned (EAP) learning opportunities effectively and appropriately?
5	... foster learner autonomy by promoting (e.g.) student choice, active engagement, reflection and/or learner responsibility?
6	... use assessment and/or learning outcomes to inform teaching and learning?
Implementing the syllabus	
Where relevant and appropriate, does the teacher ...	Summary Comments
7	... make clear the rationale for the lesson and component tasks, such that students see the relationship to greater course aims, syllabus and assessment ?
8	... select/adapt/create & exploit lesson/learner-appropriate tasks & materials effectively, while preserving

	the intended skills & focuses of the course syllabus ?	
9	... employ a classroom approach and teaching methods appropriate to lesson aims, learner needs, and the EAP context	
Integrating Academic Discourse		
Where relevant and appropriate, does the teacher ...		Summary Comments
10	... help develop learners' processing and production of (academic/discipline-appropriate) spoken and written texts?	
11	... take a discourse approach to skills/language, showing how elements within a text relate to the whole and to context in terms of function and/or rhetorical purpose?	
12	... integrate and recycle academic language input and/or analytical feedback that promotes accurate and genre-appropriate student production?	
Linking Learning to Academic Contexts and Practices		
Where relevant and appropriate, does the teacher ...		Summary Comments
13	... relate lesson aims/objectives, language, skills, content and processes to the academic practices and conventions of the University context ?	

Summary of Post-lesson Discussion

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Teacher reflections on the lesson/Feed-Forward to Future Personal Practice

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