

Open Digital Badges

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Rationale

Open Digital Badges, extensively used in Tallinn University, as emerging trend in educational technology, present a new means of assessment in the form of granular micro-credentials. Several educators believe that Open Digital Badges have enormous potential for fostering student learning and changing how learning achievements will be recognised, made more visible and reach beyond institutions. Open badges, digital badges and educational badges are used as synonyms. However, open badges are a wider concept than digital badges or educational badges. Digital badges and also educational badges can be issued also in closed learning environments, but open badges express the view that they are connected with open education philosophy and are visible and accessible to everybody. Some researchers prefer to use the concept of Open Digital Badges to refer to the aspect that they are digital as in history (scouts) there are also badges which are not digital. "Open Digital Badges" or, synonymously, a shorter version – Open Badges (OB) indicates that they are open and visible to everybody and not used only in closed environment and they are digital that means that they are shared in the digital environments.

Open Digital Badges are particularly useful as part of a formative assessment (FA) process, providing constant feedback and tracking of what has been learned. Badges can help drive innovation around new types of assessments and provide more personalized assessments for learners and move beyond out of date or irrelevant testing practices. For example, an open badge system can support assessment from multiple contexts, including course organizers, peers, or learners themselves. This flexible and networked nature can mean that there are multiple paths or assessment options for earning a badge, making the system more flexible, ensuring that the needs of each learner are met and limiting the learning path constraints. Badges could provide opportunities for peer assessment, a method of creating a personal narrative and a means to seek out people with specific knowledge within our growing online communities.

Thus, Open Digital Badges provide unique assessments which could be:

- transparent (because the specific criteria are published);
- evidence-based (for some badges, products which demonstrate learning will be “attached” to the users’ badges, similar to a digital portfolio);
- acknowledge and make visible skills and competencies needed for the workplace but which are neither “taught” nor assessed in formal environments;



- flexible (even transcultural, embodying criteria important to communities of practice transnationally);
- granular (very specific skills and knowledge sets can be targeted) and in some sense, may be “common assessments” in that authorizers may openly solicit feedback on badge criteria and design aspects from pertinent communities of practice. In this manner, badge criteria could be “crowd sourced” by relevant experts.

Badges are useful for certifying complex processes or skills that are not comprehended in our traditional grading systems, like interpersonal skills, collaborative skills, imagination, innovation, initiative, independence that employers value, but are not expressed through traditional grading systems. Well designed, robust badges can be associated with important principles of learning and motivation of particular interest to educators because of their potential for deep and lasting knowledge: contextual learning situations (situated learning and cognition); scaffolding through learning trajectories; socially constructed/mediated learning, particularly in “connected” environments which facilitate, mediate and promote content or skills related to the content; participatory learning; motivational and interest learning; ongoing, formative feedback as well as summative assessment; creation of “visible” learning paths which encourage reflection, self-regulation and autonomy and building of social capital, self-esteem and self-efficacy.

Open digital badges are a useful way of collecting evidence of the attainment of particular competences and, in the case of University College of Cork, allow participants to utilise their badge to show alignment with a national professional development framework in Teaching and Learning for staff in Higher Education. This has broader applicability for students undertaking degree programmes that are accredited by professional bodies as it will allow for a development beyond the disciplinary boundaries. A number of institutions have begun piloting open badge usage to guide, motivate, document and validate learning and badging of staff professional development activities has grown more common in the past few years. In the Irish system, there are now 15 different badges available to Higher Education staff relating to topics such as entrepreneurship education, reflective practice in teaching, academic writing in teaching and learning and programme focussed assessment (www.teachingandlearning.ie/digital-badges/).



Digital competency development is the focus on the nationally funded All Aboard project. This project aims to grow confidence among higher education (HE) staff and students in the use of technologies in higher education. The All Aboard framework supports the 'learner' to be autonomous and self-directed as they self-identify their various strengths and weakness and select a number of metro stops at which to engage in the learning with a digital badge as evidence of this activity. <http://www.allaboardhe.ie>

Much literature on open digital badges speaks of the notion of community, that badge holders have a connection with others through their shared pursuit of a badge. This resonates with Etienne Wenger's work on Communities of Practice. Perhaps open badges are a first step towards more sustained engagement in a CoP. Introducing the Open Badges system will be an attempt to create and use digital evaluation system in the Georgian and Israeli HEIs. The OB system is helpful to:

- 1) Observe students' achievements and their individual progress during a course;
- 2) Make learning more concrete and visibly measurable;
- 3) Make students more self-reflective upon their learning process, help them to identify their strengths and weaknesses, and thus promote active learning;
- 4) Motivate students that will definitely increase quality of teaching and learning;
- 5) Strengthen student's self-regulatory learning skills.

Moreover, digital tools like Open Badges can be equally integrated both in distance learning courses and in more traditional face-to-face learning formats.

The OB system helps to get individual profile of each student at the end of the course by collecting digital badges reflecting all specific skills and knowledge based on instructional content. Students will be rewarded with specific badges upon completion of particular learning topic or task. At the end of the course we think the digital badges can be collected and shared on a special online platform, e.g. social media or electronic portfolio. In addition, the accumulation of the badges will have an impact on the student's final grade.



Theoretical Background

Educators worldwide are witnessing a change in thinking concerning learning, teaching and assessment in the digital environment as well as the theories and practices connected to making claims about learning based on digital evidence. Three elements have combined to form new digital pathways for learning: (1) self-organizing learning groups, (2) **open badges**, and (3) changing conceptions of higher education (Gibson, Coleman & Irving, 2016).

The use of Open Badges and Digital Badges is relatively new and innovative in higher education and made possible by recent technological developments. The development of Open Badges is rooted within the ideals of openness in education that highlights the idea that knowledge should be shared freely, learners should have equitable access to educational resources and the desire to learn should be met without demographic, economic, and geographical constraints. Since 2000 the „open“ philosophy in education has been evolving rapidly. Massachusetts Institute of Technology (MIT) established OpenCourseWare in 2002, the Open University set up OpenLearn in 2006, followed by the early development of Open Massive Online Courses (MOOCs) in 2008 and various open learning platforms representing an ongoing development of the open education movement. Open Badges greatly contribute to the general trend of open education by enforcing an open approach to recognition of learning achievements, by providing open evidence of learning accomplishments, by open criteria for credentialing learning no matter where, when, and how it happens, by being based on an open technical standard and free software, as well as by enabling open displaying and sharing of one's achievements (<https://www.openeducationweek.org/events/open-badges-in-education>).

Watters (2011a) notes that the main premise behind the idea of Open Digital Badges is that the institutions and organizations traditionally responsible for accreditation no longer match the realities of what learning looks like today. Learning today happens everywhere, not just in the classroom and is occurring through a multitude of channels outside of formal education, through open education opportunities like P2PU, Wikipedia or social media. However, much of that learning does not 'count' in today's world. Watters (2011b) explains that a degree does not necessarily indicate your skill proficiency and earning open digital badges is a means of gaining skills and then showing those skills to potential employers - skills that are not necessarily represented by a degree. The Open Digital Badges can provide evidence of learning, regardless of where it occurs or what it involves, and give learners tangible recognition for their skills, achievements,



interests and affiliations that they can carry with them and share with key stakeholders, such as potential employers, formal institutions or peer communities. Instead of a badge system several authors refer to a **badge ecosystem**, meaning that all parts of the system are interconnected and where many badge issuers are offering different types of badges for different learning experiences, and each learner could earn badges across issuers and experiences. This requires that badge systems work together and are interoperable for the learner (Watters, 2011b).

The concept of Open Badges started to spread more widely at the end of 2010 at a conference held by the Mozilla Foundation in Barcelona (Ash, 2012). In recent years, Open Badges have gained popularity around the world and have become a standard feature of many learning management systems such as Moodle, Blackboard, Canvas, etc. Several organizations in educational communities have used Open Badges to recognize people's learning (Randall, Harrison, West, 2013) and their use is expanding rapidly in many settings.

Open Badges, also referred to as Digital Badges or Educational Badges, are visual symbols or digital representation of knowledge and skills, learning achievements or experience for certifying and recognizing learning acquired from different educational providers, and packed with data and evidence that can be shared across the web. Badges can represent competencies and involvements recognized in online or offline life.

The role of badges as competency credentials and as bridges from informal to formal learning processes elevates the potential of open badges for transforming teaching, learning and assessment in higher education (Gibson, Coleman & Irving, 2016). Gibson, Coleman & Irving (2016) outline three primary roles of Open Badges for supporting learning journeys in higher education:

- bringing visibility and transparency to learning, teaching and assessment;
- revealing meaningful, identifiable and detailed aspects of learning for all stakeholders;
- providing a new mechanism to recognize skills, experience and knowledge through an open, transferable, stackable technology framework.

Many of the characteristics of Open Digital Badges make them well suited to support personalized ways of learning and allow students to choose their own pathways through learning content. Open Badges are:

- **free and open:** Mozilla Open Badges is not proprietary. It's free software and an open technical standard any organization can use to create, issue and verify digital badges.



- **transferable:** Open Badges can be taken anywhere, learners can collect badges from multiple sources, online and off, and organize them into a single virtual backpack (e.g. Mozilla Backpack). The learner can display his skills and achievements on blogs, social networking profiles (Google+, Twitter, LinkedIn or Facebook), job sites, CVs, websites and more.
- **stackable:** as micro-credentials, badges may be issued by employers and professional organizations, and accessed and used flexibly by learners (Wilson, Gasell, Ozyer & Scrogan, 2016). Whether they're issued by one organization or many, badges can build upon each other and be stacked to tell the full story of learner's skills and achievements.
- **evidence-based:** Open Badges are information-rich. Each badge has important metadata which is hard-coded into the badge image file itself that links back to the issuer, criteria and verifying evidence: badge name, the name of the issuing institution, description, criteria for earning the badge, proof of release, the date issued, how long the badge is valid, standards, and references.

Hickey (2012) outlines four major **functions for Open Badges:**

- **Recognizing learning** - this is the most obvious and the primary function of badges.
- **Assessing learning** - nearly every application of Open Badges includes some form of assessment.
- **Motivating learning** - much of the concern and applause for badges centers around the idea of motivation (Grant, 2011).
- **Evaluating learning** - Open Badges have tremendous potential for helping teachers, schools, and programs evaluate and study learning.

The more extensive background about Open Digital Badges is provided by Virkus (2018). Overview about the Use of Open Badges in Education including Assessment.

<https://drive.google.com/drive/folders/1y8h99b3fzBUmf9wRzKkgfaHhpyvNVIIdq>



Tool description

Open Badges or Digital Badges are visual symbols that provide a validated indicator of achievements and communicate skills and knowledge packed with data and evidence that can be shared across the web. Open badges empower individuals to take their learning with them, wherever they go, building a rich picture of their lifelong learning journey (<https://openbadges.org/>) (Virkus & Lepik, 2018: presentation at ASSET Consortium Meeting CM#1).



Why Earn Open Badges?

- Open Badges are for everyone to recognize skills gained through a variety of experiences.
- The learner can build his/her unique collection OB and share them across the web.
- Each badge contains data about the student skills and the issuing organization within a portable image file.
- The student can share his/her badges in:
 - Blogs, websites, ePortfolios, and professional networks
 - Job applications
 - Social media sites - Twitter, Google+, Facebook, LinkedIn
 - Even in his/her email signature!



Getting started

- Organizations issuing Open Badges can provide an online space to display and share the learner's badge collections.
- There are also free services called Backpacks available to anyone earning Open Badges.
- A Backpack lets the learner to store and transfer his/her badges between different platforms, wherever they earn them.
- Mozilla (2010) created the first Open Badges Backpack, which is integrated with many issuing platforms.

Types of Open Badges

There are many types of Open Badges:

- **Outcome-Based Badges**
Basic Knowledge badges
Skills badges
advanced Knowledge badges
- **Multiple level of badges** (e.g. regular badges, golden badges; Gold, Silver, Bronze)
- **Multiple Learning Pathways** (Researcher, Practitioner, Wikipedist)
- **Broken badges:** are used to point out unwanted behaviour (e.g. being late with the assignments).
- **Deconstructed badges:** large learning activities should be deconstructed into separate independent badges (e.g. peer review badge for the literature review assignment).

Learner's Perspective on Open Badges

- support learners with different learning styles (e.g. Activist, Reflector, Theorist, Pragmatist by Honey & Mumford, 1992).
- help learners to plan their learning goals and strategies (learning contract);
- learners can choose their own learning paths:
 - some learners can create learning objects,
 - some write a literature review or an essay
 - some can develop podcasts or videos, etc.
 - could be used for self-assessment.

Open badges, multiple learning pathways and personal learning contracts form a triangle of educational tools that complement each other when used together.



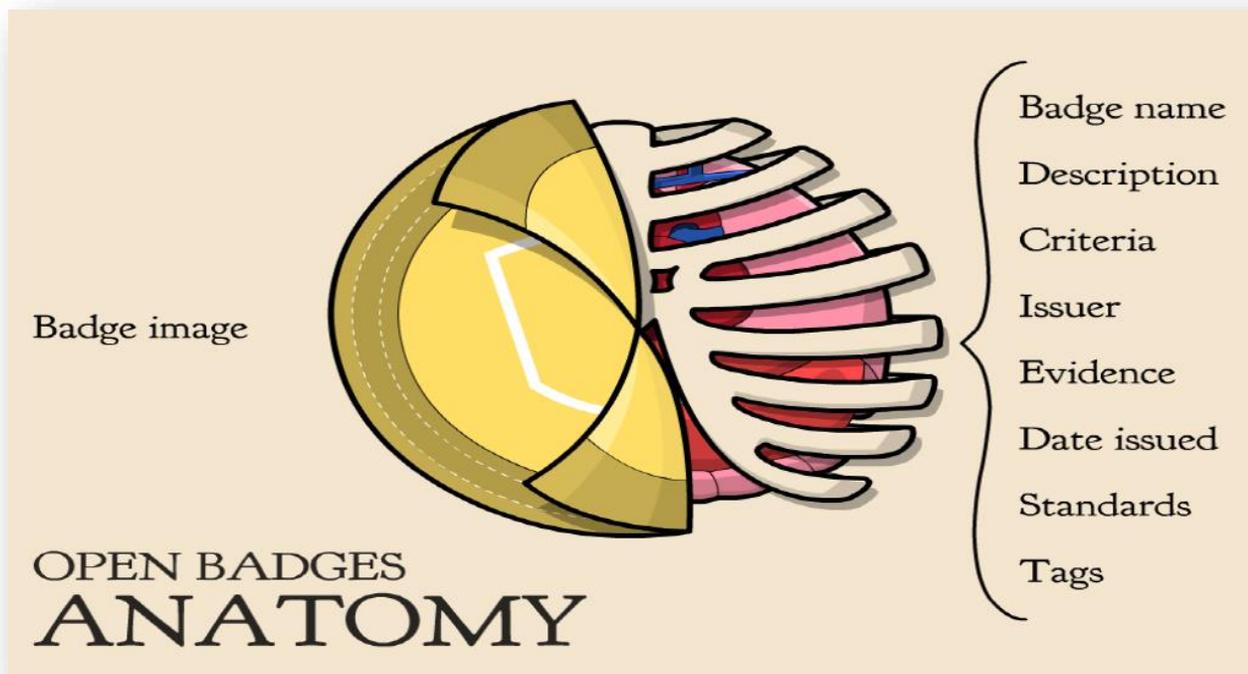
Benefits associated with Open Badges

- Open Badge carries with it information about assessment, evidence and other metadata required by the badge.

Open badges

- can signal achievement to potential employers;
- motivate engagement and collaboration;
- improve retention and leveling up in learning;
- support innovation and flexibility in the skills that matter;
- build and formalize identity and reputation within learning communities.
- badges offer a new pathway of lifelong learning separate from the traditional, formalized academic pathway.
- Badges highlight and recognize skills and knowledge that come from personal initiative and investigation.
- Badges quantify the soft skills of teamwork that are pivotal to success in many professions today.

Open Badges Anatomy



Example of use of OB

On Moodle

- Knowledge-based OB
- Skill-based OB
- Multiple level of badges (e.g. regular badges, golden badges; Gold, Silver, Bronze)
- Open Badge design tools: <https://www.openbadges.me/>
- Open Badges Backpack: Mozilla Backpack
<https://backpack.openbadges.org/backpack/welcome>



Learning Environments

OB used in courses: Examples

Tallinn University

The badge system was developed for the “Research Methods” course in the information science master’s program. It is a 6-credit course that runs for 15 weeks. Open Badges have been used in that course in spring term 2018 and there were 14 participants. The course consisted of eight classroom meetings and online activities in which learners used their personal blogs. Learners used blogs as a personal learning diary and a platform for submitting course assignments. In the beginning of the course, learners were guided to get acquainted with the learning outcomes of the course and to write a personal learning contract in which they formulated their personal learning goals, analyzed the resources and strategies needed to reach the goals, and established the criteria for evaluating their performance in the course. For each of the eleven topics, there was an assignment that the learners posted in their personal blog. The learners were encouraged to read and comment each other’s posts. Finally, the learners were expected to reflect on their learning and to analyze to which extent they had achieved the learning goals established in their learning contract.

The badge system was designed at different levels: there were knowledge-based badges, skills-based badges, grade-based badges, activity-based badges and composite badges. The learners were encouraged to take different learning pathways. We also decided to connect all badges to learning outcomes.

University of Bamberg

One possible course that could use open badges would be the course “media didactics”. The course focuses on fostering students’ competences in using digital media to plan and develop lessons for students of vocational schools. The size of the course ranges from 25-35 students. The course begins with face to face teaching and shifts to self-organized learning at the end. In the first part of the course, students learn different media didactic theories and how to use software to develop different media resources like movies, screencasts, podcasts, graphs, etc.

In the second part, students work together in groups of 3-4 students and must develop new digital materials (like videos, e-quizzes, online scenarios) for teaching in vocational schools. They are to plan six to eight school lessons with



blended learning concepts. They work together with experienced teachers who provide feedback on the materials and the didactic concepts. Both can combine their knowledge, since the students have greater knowledge and skills in developing new digital materials while the teachers have more experience with the respective classes to ensure that the didactic design matches the cognitive level of the students. The students in the course have to compile online portfolios, an academic paper and a multimedia presentation of their teaching concepts and materials.

University College of Cork

The badge was developed for staff who are supervising postgraduate research students. The Supervisor development workshops are organized as two half-day face-to-face workshops. They are largely discursive and provide many opportunities for peer learning.

The participants received formative feedback during the face-to-face sessions to encourage further discussion and critical reflection on supervisory practices and potential solutions to challenging incidences of student supervision. The participants had to write a reflective piece on their learning from the workshop series including their plans on how to integrate this learning in their supervisory practice. The participants also had to provide feedback on another participants reflective post thus enabling interdisciplinary learning, thereby peer learning and peer feedback. The reflective posts were housed in a common Google drive folder and the facilitators assigned the various reflections to workshop participants in support of growing interdisciplinary understanding.

Target audience: undergraduate/ graduate students.



Assessment methods: Peer-Assessment; Self-Assessments, Assessment tool: Open Badges

At the beginning of the course, introduce Open Badges assessment system to the students; visit the web site

<https://www.imsglobal.org/cc/statuschart/openbadges> and decided to adjust it to our teaching course.

- chose 2 colors and size of the Open Badge: yellow and green;
- At each practical activity, specify the activity rate according to the color and size;
- Successful performance of practical activity is marked with a green color;
- Performance of practical activity at the average level is marked with a yellow color;
- Low rate of practical activity is marked with a red color Badge.

At the end of the semester, count Open Badges and determine the assessment index by colors. This may be reflected in a special register created for Formative Assessment.

Challenges and advantages of using the tool

Foreseen in GE and IL

Advantages:

- motivating
- making the learning process interesting
- open and transparent assessment

Open Badge

- carries with it information about assessment, evidence and other metadata required by the badge.
- can signal achievement to potential employers;
- motivate engagement and collaboration;
- improve retention and levelling up in learning;
- support innovation and flexibility in the skills that matter;
- build and formalize identity and reputation within learning communities

Challenges:

- students need to have more knowledge about OB



- students need to have the guiding material/instructions on creating OB, as well as their functions and characteristics in order to use this tool in their own teaching practice as well;
- faculty needs more training on this particular digital tool – OB.
- presumably the challenge of using OB will be the inadequate planning of the process, or insufficient communication with the student, e.g. providing them with unclear instructions. Another possible challenge will be related to the fact that using digital assessment tool like OB in Georgian higher education institutions is a novelty.
- Opportunity and willingness to earn the badges will encourage students to work hard, but the registration takes additional time and energy from students' side, and what's more important is that students need additional trainings about using modern technologies and Moodle programme to implement OB tool easier and make the working process more pleasant.

Marked by EU HEIs

University of Bamberg

Open badges, as a validated indicator of achievements, would enable students and teachers to show what skills and competences they have acquired in the course. While digitalization is a big issue in the German education system, only few teachers are trained to autonomously develop digital materials or to use content management systems (like Moodle) successfully. With an outcome-based open badge, (prospective) teachers have a verified source by means of which they can demonstrate their skills and achievements in media didactics to schools as their future employers. The open badges might as well motivate students and participating teachers to collaborate and network. It would be possible to develop different badges for depending on the acquired knowledge or skills. Maybe it would be possible to work together with different training institutions to have a set of well-defined badges that can be awarded to teachers.

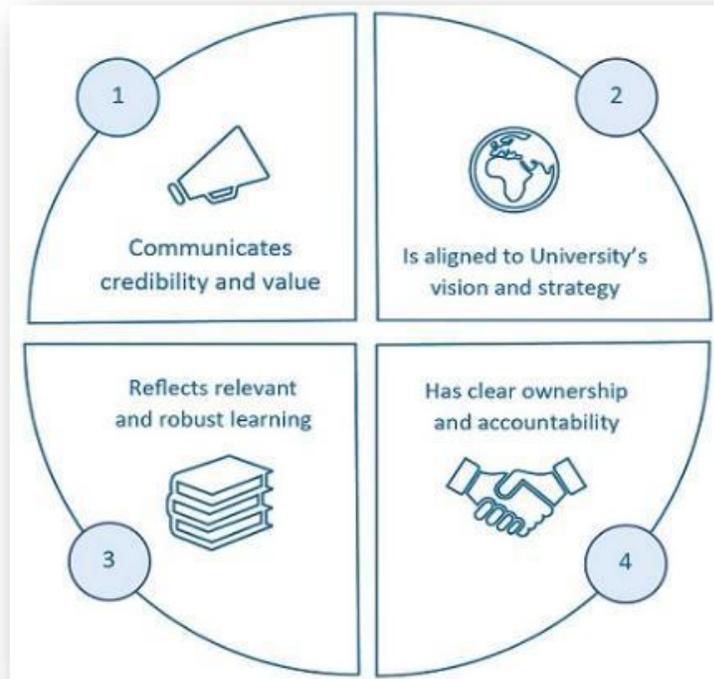
University College of Cork

There were some organisational challenges with collecting the reflective posts, assigning peer readers and gathering up feedback. A key concern of the organisers was also whether the peer feedback would be accurate, so a quality assurance step was included to provide some oversight of this process. The issue of quality assurance is a pertinent one in the use of digital badge as the same checks and balances aren't in place as might be standard assessment approaches. In UCC the



following four quality assurance measures for badges which must be met in terms of design and delivery.

(www.ucc.ie/en/media/support/ovptl/images/digitalbadges/QualityAssuranceStandards-Criteria.pdf)



Digital badges have been created to provide evidence of staff engagement in professional development in Teaching and Learning across a wide range of topics at a national level. The interest in digital badges is partially in response to a new national framework for professional development in teaching and learning as the badges serve as evidence of discrete development activities that are recognised at a national level. Within University College of Cork digital badges have proven very popular for use in elective courses for which students cannot receive course credit but may wish to have their participation documented in some form. Digital badges that reflect RPL are also in use and the vision for such badges is that students can personalise their learning journey through gaining badges that reflect broader graduate attributes. Their final transcript will include not only their disciplinary learning but also their various badges.



Summary

OB are a means for documenting student achievement and are particularly useful in relation to formative assessment to ensure students are motivated to participate in assessments that are not reflected in final marks. Formative assessment needs to be embedded within courses in a very considered way with space made within the curriculum to enable time for students for performances of understanding, and for them to receive peer and teacher feedback as well as engage in self-assessment activities. OBs can provide feedback and tracking of what has been learned and what the next step might be in support of 'Learning to Know' and formative assessment



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