

# Open Badges for Higher Education

Higher Education institutions are being challenged as never before. Parents, students and legislators are questioning the return on investment for a college education because many degrees are only loosely linked to employability after graduation. Increasingly, the degree itself is not as critical as the skill set behind it. Employers are searching for specific skills to fit their business needs and often find the pool of recent college graduates lacking. At the same time, online education providers are flooding the market with convenient, accessible, less expensive or even free course offerings. While these classes may or may not be on a degree path, they offer students the opportunity to spend their time and money building the specific skills they need to compete in the marketplace. Some online education providers are traditional colleges trying to woo students more interested in a more convenient learning experience while upgrading their skills. Learning, skills and knowledge extend well beyond what is represented on the college transcript for many non-traditional students (who now comprise a majority of total college enrollments).

Open Badges are being touted as the latest threat to higher education. However a closer look at this emerging trend reveals benefits for traditional institutions and alternative learning programs alike. Some vocal proponents have begun to suggest that badges representing learning and skills acquired outside the classroom, or even in Massive Open Online Courses (MOOCs), will soon supplant diplomas and course credits. Employers, so their argument goes, will soon downplay the college diploma and flock instead to new badge-based “certification platforms”.<sup>1</sup>

The threat of disruption is real; the pace of change in higher education is clearly accelerating, forcing institutions to adapt and evolve more rapidly. Requirements that connect outcomes, employment and government financial aid are already in place in private sector education and may soon be implemented in public higher education as well.<sup>2</sup> The success and long-term viability of each college and university is becoming more dependent on its graduates’ successful transition into the workplace.

For higher education institutions interested in keeping pace, establishing a digital ecosystem around badges to recognize college learning, skill development and achievement is less a threat and more an opportunity. Used properly, badge-based systems help motivate, connect, articulate and make transparent the learning that happens inside and outside classrooms during a student’s college years.

By earning skill-based badges, the record of achievement that students begin in high school becomes the foundation upon which they build their capabilities throughout their professional lives.

For colleges, badges are web-enabled credentials that help communicate the impact they have on students’ lives, enabling institutions to respond to their critics with data. Potential employers will benefit by having access to a significantly more granular, comprehensive and clear picture of each individual’s potential. Learners benefit the most, as badges allow students to:

1. Choose the best programs to complement their goals and interests
2. Gain credit for the skills they acquire across college and their lifelong learning experiences
3. Control and manage their own credentials
4. Share, combine and present their accomplishments to unlock new employment and education opportunities

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<sup>1</sup> Reid Hoffman, Disrupting the Diploma, LinkedIn Blog, September 16, 2013 and others.

<sup>2</sup> FACT SHEET on the President’s Plan to Make College More Affordable: A Better Bargain for the Middle Class

# What are Open Badges?

The concept of formally recognizing achievements related to knowledge or skill mastery is not new.

For many people the word ‘badges’ is connected to scouting organizations and the achievement-based patches they issue. A related idea comes from video games. The original implementation of a game-based achievement system is credited to Microsoft, which introduced the Xbox 360 Gamerscore system in 2005. More recently mobile apps like Foursquare and online games like Farmville have firmly implanted the idea of ‘badge earning’ in the popular lexicon.

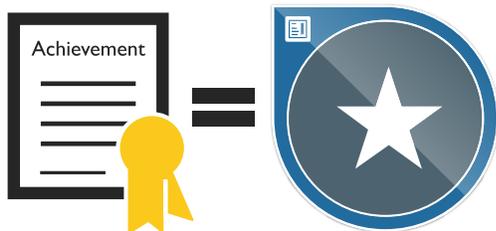


Figure 1. Badges are a web-enabled version of the traditional credential.

Awards or ‘badges’ for achievements have long existed in both education and employment. Colleges have conferred diplomas that represent the successful completion of a series of course-level requirements. Governments, industry and trade groups have issued certifications and licenses to signify competencies and professional skills. However, credentials representing achievement in this context are not standardized, rarely digital, and difficult to share. Secure, verified, web-enabled credentials in the form of badges that contain metadata documenting the badge issuer, requirements, and evidence, complement traditional certifications by making them more transparent and easier to transport, share and verify.

To realize the full potential of a badge-based ecosystem, it is important that the interactions around badges are open—not proprietary. In late 2011, Mozilla, HASTAC and the MacArthur Foundation came together at the center of a broad community of collaborators to produce an open technical standard for any organization to create, issue, manage and verify digital badges. In March 2013, they released the first version of their Open Badge specification and the Open Badges Infrastructure (OBI) software that implements the standard.

The Open Badge standard allows any person or organization to define a badge (or a system of badges) to recognize achievements. Each badge begins with an image—a visual representation of the knowledge or skill represented by that particular badge. Open Badges use metadata attached to badge images to provide additional information; every badge tells its own story about what it signifies, how it was earned and which organization conferred it.

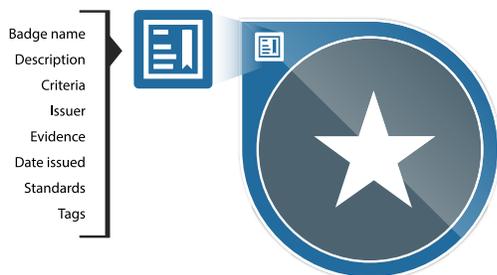


Figure 2. Badge content

Open Badge metadata includes:

- The defined outcomes required to earn the badge and the evidence earners provided to demonstrate their competence
- The qualifications of the learning provider, credential sponsor, or issuing organization and their trustworthiness
- The relationship between the badge and larger programs, professional learning pathways, and/or larger skill sets
- Verification of the badge earner’s identity and relevant, secure, trusted communications about their qualifications, competencies and skills

Applications that support Open Badges are able to share, stack, combine, and include Open Badges issued by other applications. The Open Badges framework includes specifications for aggregating badges into a profile account or “backpack” for each badge earner. Badge earners can use backpacks to organize their own achievements across issuers and learning experiences and broadcast their qualifications with employers, professional networks and others.

# The Conduit Problem in Higher Education

The college-to-career landscape is prone to several market inefficiencies that can be frustrating and expensive:

- Students may select degree programs without considering employment demand for related skills
- New graduates may struggle to describe their capabilities and tell their story in ways that employers find relevant
- Adult and non-traditional learners (the majority of college students in North America) may pursue job-specific skills and knowledge without committing to a complete degree program; later they may want degree credit for continuing education or certificate-based programs
- Colleges may struggle to demonstrate to employers and the public the value of the knowledge and skills they cultivate in their graduates
- Employers may struggle to identify qualified candidates, and to trust their qualifications

Web-enabled badges that identify knowledge and articulate competencies from higher education experiences can serve as conduits between college and jobs, reducing these inefficiencies and lowering expense, while unlocking new opportunities for learners and employers.

## GIVING CREDIT FOR COMPETENCIES: PROBLEMS WITH DIPLOMAS AND ACCREDITATION

Of course, colleges already have an established method to provide evidence about the college experience of their graduates: the Diploma. Degrees and diplomas conferred by accredited colleges still command enormous respect with employers and the general public, but they carry with them some significant limitations:

1. **Diplomas lack transparency and granularity.** The same degree can be conferred for dramatically different courses of study at different schools—and sometimes even for different graduates of the same school. In a diploma (or even a college transcript) information about program and course outcomes is not granular or transparent enough to help employers understand how courses map to specific knowledge or skills required in jobs.
2. **College grades are subjective – and can be a low quality indicator of real competence.** Grades are subjective—at best they can provide a general idea of how well a learner has performed. But there is growing evidence that grade inflation is driving up average grades, making grade point average an unreliable metric for employers.<sup>3</sup> Competency-based criteria that map learning to job requirements effectively complement the grades on a college transcript and provide better information for employers evaluating candidates.
3. **For diplomas, institutional reputation drives value, not job relevance.** In the current system, the value of a degree is directly related to the reputation of the institution, so graduates of elite colleges and universities benefit the most from their institution's brand. However every graduate benefits from directly connecting classroom learning outcomes to standardized work activities and job-related skills.
4. **Diplomas present an incomplete picture.** They don't include skills or knowledge acquired from learning experiences outside the classroom. Many students gain valuable job experience and acquire new competencies through part-time jobs, internships, service learning, co-ops and externships. They also learn valuable skills while engaged in campus-related, extra-curricular activities, from fraternities and sororities to sports, competitive teams, clubs and publications. Learners and employers both benefit from establishing a trusted, authoritative process to collect related evidence of new skills or communicate these achievements.

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<sup>3</sup>Rojstaczer, Stuart; Healy, Christopher (2010-03-04), "Grading in American Colleges and Universities," Teachers College Record, March 04, 2010. <http://www.tcrecord.org> ID Number: 15928; Jaschek, S (2013) "Questionable Admissions," Inside Higher Education, July 30, 2013. <http://www.insidehighered.com/news/2013/07/30/study-suggests-admissions-decisions-reward-grade-inflation>; Harris S (2012) "'Dumbed down' degrees: University standards under fire as 50% more students awarded a first", Daily Mail, 13 January, <http://www.dailymail.co.uk/news/article-2085786/So-dumbing-Number-students-graduating-class-degrees-soars-45-just-FIVE-YEARS.html>

5. **New learning providers challenge the status quo.** Today's students have more learning options than ever before. In addition to courses they can take in the classroom on campuses, online courses are available from both accredited colleges and non-accredited informal learning providers, from Massive Open Online Courses (MOOCs) to self-paced, credit-conferring services like StraighterLine and Propero. Adult and non-traditional learners, who comprise a larger percentage of total students than ever before, are leading the way in identifying flexible alternatives to on-campus course delivery. Yet there is no standardized way to aggregate course credits, apply them toward degree requirements, or gain workplace credit for many of these emerging educational opportunities. Because they don't appear on transcripts, students struggle to articulate their newly acquired skills in verified and trusted ways to employers.
6. **The traditional accreditation processes must evolve.** Traditional accrediting agencies do not evaluate individual courses, and the current accreditation system is based on classroom hours, not competencies or outcomes. While Open Badges are part of the solution in the future, the open standard permits anyone to issue badges, regardless of their accreditation, authority or experience. As a result, the quality of learning design and assessments required by new learning experiences varies widely. The transparency of criteria and evidence found in a badge-based system will enable employers to more easily distinguish the quality of similar-sounding achievements.
7. **Learners are not in control of their own qualifications.** As learners take advantage of the many options available to them, they are more frequently acquiring skills and knowledge from multiple providers. Managing multiple transcripts is time-consuming and can be expensive. Learners need an authoritative, verified and validated central repository to collect their competencies and achievements. They need to be able to manage, group and stack them, and choose which qualifications to share for specific opportunities.
8. **Learners need to make informed college investment choices.** As education debt exceeds credit card debt and families seek to control costs, they want to make better choices about colleges and majors. Increasingly, parents and students apply a "return on investment" mentality to selecting the right program. Some post-secondary students may not need a traditional four-year college degree if verifiable, work-ready credentials are available to them. Badges can help students and parents make better-informed decisions by providing information that illustrates connections between colleges, majors and careers.
9. **Connecting learning and career pathways.** Connecting classroom learning outcomes to standardized work activities and job-related skills has a related benefit: it enables achievements to be contextualized. Industry and employer groups can define pathways to develop skill sets over the long term. This influences learners who will set and achieve goals based on the market demand for skills more effectively. Employers complete the circuit by communicating skill gaps to institutions, who will, in turn, adapt their curricula.

# Problems with Identity, Verification, Ongoing Validation and Management

Badge-based conduits must solve issues of identity, verification, validation and ongoing management to enable a secure and trusted ecosystem to emerge around credentials.

1. **Identity management.** As institutions and other achievement issuers begin to issue digital credentials representing achievements in their programs, they need to confirm earner identity and protect the integrity of the credentials they issue.
2. **Lifelong commitment to managing learner accounts.** Many institutions may not want to commit the resources required to maintain a “backpack” or profile account for every student across a lifetime of work and learning.
3. **Credential requirements change over time.** Many learning-based credentials degrade or expire over time. Others may require maintenance and development in the form of ongoing continuing education. Still others, like college degrees, may be evergreen and represent signal milestones, but would benefit from evidence of lifelong learning outcomes.
4. **Employers need to trust the validity of credentials claimed by candidates.** In a world of proliferating digital credentials the potential for exaggeration, misrepresentation, credential inflation and fraud is high. Traditional hiring models use official college transcripts, background and reference checks to solve this problem, but these processes can take weeks to complete and often require work and expense by candidates (and are subject to the limitations discussed above).
5. **Identity security.** As with the other profiles that define their personal and professional identity, students need to protect their digital identity and the credentials they earn. They must control who can view them and determine to which employers and networks they will provide access.

## COLLEGE-ISSUED BADGES RESPOND TO THE CHALLENGES

The stakes are high. The intellectual energy and financial capital backing digital badges as web-enabled counterparts to university credentials is gaining momentum. An ecosystem built around secure, documented achievements, conferred by verified issuing organizations, managed and controlled by learners may offer an important part of the solution to these problems.

- **Accredited higher education institutions already possess significant advantages.** Colleges and universities are in an ideal position to define for the rest of the labor market the difference between serious college achievements and unsubstantiated claims, peer endorsements or gamer achievements acquired elsewhere. Most institutions will use what they already know about accreditation requirements and the development and delivery of effective learning design and assessments to establish credibility behind their achievements and build their value to learners and employers. Continuing education and workforce development programs are proving to be early adopters, often with the goal of connecting non-credit learning to degree programs.
- **Learning by design is the first step.** Institutions can begin by applying best practices in learning and assessment design principles to their college courses, or by leveraging the design already present in their curricula, although some colleges and universities will likely need to broaden their definition of outcomes to include not only academic knowledge but also the skills and experiences demanded by the workplace. By defining outcomes for every course and then measuring progress against outcomes, learners know what to expect from coursework and can monitor their own achievement toward college and career goals. Students, parents and employers can easily connect defined outcomes to job requirements, and institutions can more readily demonstrate the ROI and economic impact of their programs.

- **Success in college-to-careers.** Implementing achievement-related badge systems can also present new opportunities for colleges and employers to build new partnerships and streamline communications around higher education outcomes. For college courses where job-relevant skills are already developed, attaching badges helps learners to articulate their development unit-by-unit rather than as a lump sum at the end of the course or degree program. Students can improve their employment prospects while still in school, and employers benefit from greater transparency around skills and knowledge acquired from higher education.
- **Articulating benefits from general education and extracurricular activities.** For general education courses, colleges can use learning design principles to define “soft skill” outcomes and then measure competency against these objectives. Similarly, skills that are often developed as a result of experiential learning activities that are currently not well represented in transcripts can be credibly documented. Students who demonstrate they have acquired these critical job-ready soft skills will earn job-relevant badges in areas like critical thinking, research, oral and written communication, collaboration, leadership and teamwork.
- **Alignment with education reform movements around credit recognition.** Educational programs that use learning design to attach badges to educational experiences according to defined outcomes can streamline credit recognition. Badges are a natural and unbiased complement to education reform initiatives like the Tuning process<sup>4</sup> for aligning course outcomes and credits across institutions. At the minimum, badged curricula is transparent in terms of defined learning objectives and outcomes, facilitating easier comparisons between programs.
- **Putting learners in charge.** The badge ecosystem isn’t just a web-enabled transcript, CV, and work portfolio rolled together. It’s also a way to structure the process of education itself. Students will be able to customize learning goals within the larger curricular framework, integrate continuing peer and faculty feedback about their progress toward achieving those goals, and tailor the way badges and the metadata within them are displayed to the outside world. Students won’t just earn badges—they’ll build them, in an act of continuous learning.<sup>5</sup>

## EXAMPLE PROGRAMS

Several colleges and universities are already beginning to experiment with badges.

- A team at Purdue University has created a pair of apps to make creating, awarding and displaying badges easy. Purdue’s Passport app allows instructors to create badges for their students. The Passport Profile app enables students who earn badges to share them—and even to present them to prospective employers.<sup>6</sup>
- The Agricultural Sustainability Institute (ASI) at University of California Davis is developing the badge system for an undergraduate major in Sustainable Agriculture and Food Systems. The major was designed to help students achieve learning outcomes like “Systems Thinking,” “Experimentation and Inquiry,” “Understanding Values,” and “Interpersonal Communication.” These outcomes will be acknowledged with badges. With the support of ASI, students in the major do a lot of hands-on learning on farms and throughout the food system, and while their knowledge of ecology and economics are certainly put to the test, they deserve acknowledgement for what they learn that can’t be assessed on an exam.<sup>7</sup>

<sup>4</sup>Tuning USA is an initiative started by the Lumina Foundation, funded by both the Lumina and William and Flora Hewlett foundations, and led by the and implemented by the Institute for Evidence-Based Change.

<sup>5</sup>A Future Full of Badges; The Chronicle of Higher Education. . April 8, 2012  
[http://chronicle.com/article/A-Future-Full-of-Badges/131455/?sid=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/A-Future-Full-of-Badges/131455/?sid=at&utm_source=at&utm_medium=en)

<sup>6</sup>Source: <http://www.purdue.edu/newsroom/releases/2012/Q3/digital-badges-show-students-skills-along-with-degree.html>

<sup>7</sup>Using Badges to Quantify Learning Outcomes at UC Davis, Courtney Buell, Aug 30, 2013 in edCetera blog

# Example Programs

- Carnegie Mellon University's Computer Science Student Network (CS2N) is an online learning environment where students, teachers, and hobbyists can earn badges and certifications as they play with, compete in, and learn about computer science and STEM-related topics (CS-STEM).<sup>8</sup>
- A team at Penn State University led by Ken Layng of ITS Training Services began investigating badges earlier this year.<sup>9</sup>
- Winning recognition for underappreciated educational activities drives many of the college officials who are experimenting with badges. The University of Southern California's service-learning division, for example, is among the first-round winners of the MacArthur grant to try the new badge platform. Called the Joint Educational Project, the USC program works with professors to run community-service projects that grant students extra credit for volunteer work.
- At Indiana University, Daniel Hickey and his team are conducting research and are piloting the use of badges and related assessments to supplement traditional grading schemes in courses.<sup>10</sup>
- The College of Computing and Digital Media at DePaul University is working on a project funded by MacArthur Foundation's Digital Media and Learning initiative to develop new activities for language arts in secondary education, linked to common core standards. Through the project they will develop a set of tools, templates, and assessments (in the form of digital badges) that can be used in both traditional classrooms and out-of-school settings.<sup>11</sup>
- DeVry University launched two badge programs as part of the Chicago Summer of Learning 2013. Passport2College gives high school students in their junior or senior year the opportunity to earn college credit by offering free college-level classes designed to help prepare students for the transition to higher education. Bridge2Bachelor allows community college students with an interest in business or technology to take a DeVry course in these fields and earn credit towards a bachelor's degree.
- The Continuing Education Division at Madison Area Technical College in Madison, WI is introducing badges that recognize work-related competencies learned in non-credit workforce development courses. In some cases these courses can be applied toward degree programs at the college.
- Alex Halavais, during his time at Quinnipiac University in Connecticut, used badges to replace grading in his courses. Part of what drew Halavais' interest to digital badges was the amount of data each badge contains. "It's an index of your learning biography," he says. "It allows you to stitch together your [educational career] in interesting ways."<sup>12</sup> Halavais recently moved to Arizona State University, where he leads a research project on the use of learning badges and other alternative credentials.
- In addition to the examples above, Mozilla's Open Badges registry indicates that the following colleges and universities are designing or issuing badges:
  - Borders College
  - Seton Hall University
  - SUNY Empire State College
  - University of Illinois at Urbana-Champaign
  - University of Illinois at Chicago
  - University of Southern California
  - Wheeling Jesuit University
- Sheryl Grant provides a number of other examples at the HASTAC blog site.

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<sup>8</sup> Source: <http://www.hastac.org/digital-badges#projects>

<sup>9</sup> Source: [http://www.personal.psu.edu/bxb111/blogs/brett\\_bixler\\_e-portfolio/2012/07/badges-at-penn-state.html](http://www.personal.psu.edu/bxb111/blogs/brett_bixler_e-portfolio/2012/07/badges-at-penn-state.html)

<sup>10</sup> Source: <http://remediatingassessment.blogspot.com/2012/10/daniel-hickey-this-post-suggests-some.html>

<sup>11</sup> Source: <http://www.macfound.org/grantees/252/>

<sup>12</sup> Source: <http://www.edweek.org/dd/articles/2012/06/13/03badges-s1.h05.html>

Forward-thinking educational institutions can use Open Badges as a strategy to meet the challenges that confront them. If they are implemented according to best practices, badges effectively address questions around ROI for college tuition, improve the transition from college to careers for students, and reduce inefficiencies while increasing transparency and improving communications between higher education and employers.

In the larger context of higher education, it will take a concerted effort to create and implement well-designed college learning experiences that are linked to workplace competencies and skills. Many colleges and universities are already taking steps to increase accountability and demonstrate the value of their learning experiences to students, parents, alumni, employers and others. There is much related research and implementation work to do around learning efficacy, learning and assessment design; competency-based and outcomes-oriented education; and credit for prior learning. If higher education institutions are to thrive in the 21st century this work must be done regardless of whether badges are part of the solution, however badges attached to learning achievements inside and outside the classroom provide tangible evidence of progress that can help to connect the parts, streamline communications, and drive progress.

## INTRODUCING ACCLAIM

The Acclaim vision is to enable individuals to broadcast their potential and discover new opportunities through an ecosystem built around clear communication of valuable skills and knowledge. The Acclaim platform is a highly scalable, enterprise-class badging platform, built on Mozilla's open standards and designed for awarding and tracking verifiable credentials in a trusted and secure environment. The Acclaim platform is available to host and deliver badging systems now. We also provide a comprehensive range of services to enable organizations to design and deliver effective badge systems, connect them to learning experiences, and articulate them to career pathways and professional credentials.

Contact us for more information about any of the following:

- Badge system design and implementation
- Learning design and delivery
- Efficacy and formal efficacy reviews of learning programs, products and services
- Learning and achievement analytics
- High-stakes to low-stakes assessment design and implementation
- Links to work activities / workforce skill taxonomies
- Job task analysis and certification design and implementation

Acclaim is an independent business funded by Pearson, the world's leading learning company. Working with our strategic partners in industry, education and government, Acclaim is helping educators, learners and employers unlock the potential of badges to connect people to new opportunities.

To learn more, contact [info@youracclaim.com](mailto:info@youracclaim.com)