The Potential and Value of Using Digital Badges for Adult Learners

Final Report

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About This Report

At their most basic level, digital badges are a new way to capture and communicate what an individual knows and can demonstrate. This report examines the nature, value, and potential impact of digital badges, an emerging electronic form of recognition of an individual's knowledge and skills. Badges can represent different levels of work and engagement, including more granular skills or achievements, marking in some cases small and/or very specific abilities. For this reason badges hold particular promise for certifying the skills of adult learners in basic education programs, many of whom have few, if any, formal credentials (such as diplomas), but who are obtaining functional skills that would be valued in a workplace setting if a mechanism for certifying those skills and knowledge was available. This report, funded by the U.S. Department of Education's Office of Vocational and Adult Education (OVAE), explores the potential and opportunities for developing and implementing a system of digital badges for adult learners.

This report begins with an Executive Summary that covers the definition and purpose of digital badges, their value and potential impact on the field of adult education, and the implications and recommendations for the field to consider. Following the Executive Summary, the report is organized into four chapters that explore how badges can advance the aims of the adult literacy system. Chapter 1 introduces the structure, current use, and examples of existing digital badge models. Chapter 2 explores the value, impact, and potential of badges for supporting the advancement of learner outcomes, including existing technologies for badges. Chapter 3 discusses opportunities and potential for using digital badges with adult learners, including steps to implement them within the adult education system. Chapter 4 examines the considerations and recommended actions to make digital badges a reality in adult education and addresses issues related to policy, practice, and resources.

Executive Summary

What Is a Digital Badge?

At their most basic level, digital badges are a new way to capture and communicate what an individual knows and can demonstrate. Badges can represent different levels of work and engagement, including more granular, specific skills or achievements. They hold particular promise for certifying the skills of adult learners in basic education programs, many of whom have few, if any, formal credentials (such as diplomas), but who are obtaining functional skills that would be valued in a workplace setting if a mechanism for certifying those skills and that knowledge was available.

This report, funded by the U.S. Department of Education's Office of Vocational and Adult Education (OVAE), explores the feasibility of developing and implementing a system of digital badges for adult learners and the implications for policy, practice, and the adult education delivery system. It includes input from researchers and policy experts, who examined the state of digital badges and discussed the feasibility of implementing a digital badge system for adult learners in the adult education context. The report concludes with a discussion of the policy and practice implications needed to implement a digital badge system that serves adult learners.

What Makes Digital Badges Different?

Some of the characteristics that are unique to digital badges include their ongoing connection to sources that can validate their issue; some form of evidence of the achievements they denote; and an emerging, consistent standard regarding what constitutes a badge, making it possible for these digital representations of accomplishment to be portable and displayed side by side with badges received from a range of sources. The digital nature of these badges also makes them discoverable through a search method, potentially free or inexpensive to issue, and displayable in far more settings than original paper certificates or embroidered badges.

Core components of a badge include the information needed to determine its validity, authenticity, source, and value. This includes the recipient (who earned the achievement), the issuer (the individual or organization taking responsibility for issuing the badge), the badge's criteria and description (what the recipient needed to do or demonstrate to earn the badge), evidence (an authentic representation or connection to the underlying work performed or contribution made to earn the badge), a date (precisely when the badge was awarded), its expiration (when, if ever, the credential bestowed is no longer valid), and a certificate or assertion (a connection to an official form of verification vouching for the validity of the award). Badges serve, in different ways, to recognize a learner's work, encourage learning, and characterize efforts. Both organizational and learner goals are key components of determining the "recipe" for any badge system.

Value, Impact, and Potential of Digital Badges

Digital badges can be offered more often and for more granular purposes or topics than material badges or certificates. Moreover, the technology for issuing badges is available to anyone with access to the Web, increasing the likelihood that traditionally non-degree-granting groups will give credit to those who meet their standards. Badges are also a way to look at achievement from a multidimensional, metadata-driven perspective; they easily mark progress that otherwise goes unacknowledged when there are more ways than ever for people to learn and share. They connect to or reinforce learner engagement, motivation, and progress, and they display evidence of learning objectives.

Recognizing learning and successes from any part of an individual's life—including achievements in both formal and informal settings not traditionally assessed or recognized— opens up possibilities for people of all ages to share a more complete narrative of their personal identity. Individuals or organizations with expertise and a willingness to put their reputation or brand on the line, for example, can give badges to those who obtain skills, knowledge, or achievements that they value. Additionally, a wider variety of activities and demonstrations of ability become the subjects of recognition. The visual nature of badges also enhances the ability to see progress; they are motivational and engaging. Consequently, badges can improve learner retention and reduce attrition by encouraging learners along the way and rewarding previous learning.

Many of the concrete characteristics that define digital badges and badge systems make them well suited to foster the pursuit of individualized pathways for learning. Badges serve all three parties to a badge transaction—the earner, issuer, and observer—by encouraging a sense of trust in the process. Digital badges are a portable way to recognize achievement; any organization, application, or platform can easily issue and display them. And organizations that issue digital badges increase their potential impact by reaching new audiences and providing learning opportunities that can be recognized.

Digital Badges and Adult Learners

Several features of digital badges align well with trends in adult education. Given the presence virtually everywhere of cell phones and Internet connectivity, there are more opportunities to observe, record, and note achievements and milestones. The "big data" that are captured as we leave traces of ourselves on different sites and platforms create the potential to convey a bigger picture about identity, knowledge, capacity, and achievement, making digital badges a potentially powerful and efficient tool to bring meaning to datasets that reflect individuals and their achievements. Learning service providers are increasingly investing in ways to depict progress and data in more visually efficient and appealing ways, and badges play right into this trend.

Communicating the Value of Digital Badges

Digital badges awarded by local learning service providers should be relevant to the needs of local employers. Local learning service providers can collaborate with neighboring industry representatives to understand workforce needs, define badges that help meet those needs, and then jointly communicate them to the public, thereby recognizing new subjects for certification. A single well-known or well-understood badge can represent many bullet points of requirements on a job description.

Enlisting Partners and Stakeholders

An exciting result of the recent activity surrounding digital badges is that nontraditional partners and stakeholders in the education ecosystem have found a reason to sit down together to identify new ways to collaborate in a very tangible and practical way. For example, financial management, health, nutrition, and parenting programs that make literacy part of their curriculum can benefit from training, funding, or marketing assistance in exchange for conferring digital badges to recognize achievement. Potential badge recipients should be asked to share what kinds of badges would be most meaningful to them, and what rewards and outcomes they'd like to see those badges make available to them.

Any group that has the mission, capacity, and programming to reach adults and help them develop new skills—including skills in other literacy domains such as health, finance, civic engagement, and digital communication—is a potential partner that can contribute to an adult literacy badge model. Many organizations and individuals are natural partners to create a badge-based model for adult literacy, including: adult literacy learning program providers; education researchers; human resources professionals and industry representatives; vocational schools, community colleges, and universities; cultural institutions and civic organizations; governmental and nongovernmental organizations; and technology providers. Each of these disparate organizations has reasons to adopt a digital badge model.

Building an Adult Education Badge System

An inherent value of badges is the flexibility they give learners to develop and demonstrate competencies and for educators to help them do so. An adult education badge system should identify the types of skills, knowledge, and behaviors that can and should be measured. It should also determine how to assess those skills and provide options to recognize skills as stepping stones toward larger goals. Finally, it should create comparability across programs nationally so that a badge for teaching peers, writing a story, or solving a problem means the same thing in Denver as it does in New Orleans.

The ability of the badge system to seamlessly link badges from different systems makes it different from a certificate of completion posted online, and it requires a shared, open infrastructure. Collaboration among individuals and organizations at the federal, state, and local

levels is imperative for creating a badge system that is equally understood and valued across the field of education (including postsecondary education and training), in the workforce (including industries and small businesses), and in communities (including civic organizations, families, and cultural institutions). The value of a badge system lies in its ability to assemble evidence of different granularity and from different sources—diverse ways to gather proof of competence at both the individual and institutional levels.

Developing, Issuing, Managing, and Sharing Digital Badges

For an adult education badge system to work there must be a process for developing, issuing, managing, and storing the badges. By sticking to open interoperability standards, the badge system will remain flexible and be easily integrated into an individual's portfolio of achievements. The technological burden rests with badge software developers to make highly usable software for learners and educators. There is also room in a badge system for individual creativity at the classroom level so that teachers can create badges to motivate and reward students, and students can create badges to recognize peers and reward teachers and program staff.

It is important to determine which individuals or organizations will have the authority to issue badges: teachers, programs, states, a national issuer, or a combination of these. This will depend on the nature of the badge and how it will work. Conferring badges on the professionals who teach adult education courses—and on the institutions awarding those badges—would both model and advance the value of digital badges.

Managing the digital badges earned entails storing them in "e-portfolios," online tools that enable users to store the badges that they earn in a single digital, portable repository that accompanies them wherever they go. Such a system should allow for managing and sharing a holistic view of students, not only their learning-related accomplishments. Adult learners and other badge recipients will be able to control which badges to display to particular observers, presenting themselves much as they customize a résumé for different employment opportunities. More than a résumé, however, the digital badge portfolio will present an array of skills that offers a fuller picture of an individual's identity.

The Federal Role

The U.S. Department of Education OVAE has a distinct role to play in developing an adult education digital badge system and the pathways that it can produce. This report is the beginning of a larger conversation in the field about the value of and challenges to making this system a reality.

Chapter 1: Digital Badges: Introduction and Opportunity

Introduction to Digital Badges

Appreciating the many potential opportunities that digital badges may unlock for adult learners starts with appreciating the current value of traditional badges, certifications, degrees, and awards, as well as the picture frames, résumés, and portfolios—online and offline—that house and display them. Current forms of recognition serve the recipient, the issuer, and the observer in varying degrees according to the context and parties involved.

- **Recipient:** For the recipient, a badge is evidence of his or her own progress. It marks a milestone that gives a sense of pride for having achieved something of value and an awareness that new opportunities might be unlocked as a result of the achievement. The recognition is also a visible marker of a relationship or bond with the issuer, conveying the message that common or reciprocal values are at play: the recipient represents a manifestation of the issuer's values at work in the world.

- **Issuer:** The issuer of a traditional form of achievement benefits from the act of bestowing an honor on those who meet the criteria or thresholds the issuer has set. Recipients of degrees or certificates are reflections of the institutions that nurtured and endorsed their abilities. When given in recognition of skills, behaviors, or contributions that an organization values, credentials are also a way of scaling the issuer's impact on the world. As such, any credential has a marketing component, as well as the potential to take the issuer's mission to scale through individuals it has essentially deputized.

- **Observer:** An observer who is reviewing the representation of an achievement and deciding whether and how to value it is also learning about both the issuer and the recipient. The observer is the beneficiary of a transaction whereby one party was in a position to observe or assess another party's abilities. That transaction may have taken 4 years to complete or 4 minutes.

When it comes to displaying, sharing, and showcasing traditional forms of credentials, an element of curating is usually involved in deciding when and where to make our earned achievements visible. Résumés are edited and tailored for specific audiences and positions. A diploma is hung on a wall in a home or an office, or put in a drawer if there's no need for a visible reminder of the achievement it recognizes. One acknowledgment can displace another's importance or meaning over time. Some certificates are unappreciated from the start if we ourselves don't believe we earned them. We curate evidence of our accomplishments, just as we cull ticket stubs, photos, and postcards to tell our own story to ourselves and others.

The digital badge counterparts to existing forms of achievement recognition share all the same benefits and attributes, but they also make it possible to extend them in new directions and scale

their impact and value for all parties involved. Some of the characteristics that are unique to digital badges include their ongoing connection to a source that can validate their issue; some form of evidence of the achievement they denote; and an emerging consistent standard on what constitutes a badge, making it possible for these digital representations of accomplishment to be portable and displayed side by side with badges received from a range of sources. The digital nature of these badges also makes them discoverable through an online search method, potentially free or inexpensive to issue, and displayable in far more settings than an original paper certificate or embroidered badge.

Although it is easy to reduce a digital credential or badge to its most visible element—its graphical representation, shape, or image—and therefore minimize its value to that of an unsophisticated sticker or icon, the potential for badges stems from what is *not* most immediately apparent and what is "under the hood." We could actually strip the image from the notion of a digital badge entirely and still maintain the greatest part of its value. The image component of a digital badge is a proxy for an array of underlying information that imparts the story of the achievement it recognizes. Core components of a badge include much of the same elements we would expect to find on an official coin or other currency—the information we need to determine its validity, authenticity, source, and value, such as the following:

- **Recipient:** exactly who earned the achievement

- **Issuer:** the individual or organization taking responsibility for issuing the badge, usually an entity that has firsthand knowledge or evidence of the earner's achievement

- **Criteria and description:** what the recipient needed to do or demonstrate to earn the badge

- **Evidence:** an authentic representation or connection to the underlying work performed or contribution made to earn the badge

- **Date:** precisely when the badge was awarded

- **Expiration:** when, if ever, the credential bestowed is no longer valid

- **Certificate or assertion:** a connection to an official form of verification vouching for the validity of the award

Badges in Action: Three Introductory Examples

To envision how badges might be used with adult learners, we turn to two introductory examples of badges that are currently in the early phases of implementation. One similarity among these different examples is that they adhere to the current Open Badges standard,[1] which contains all the above-mentioned elements, along with the following: badge name, standards alignment (URLs of standards to which the badges are aligned), and tags (a list of key words that describe the badge).

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[1] https://github.com/mozilla/openbadges/wiki/Assertions

Badges for Vets

Many veterans rejoin the civilian community with new skills developed during training and work experience in their military service. However, veterans report challenges in translating military job skills to their civilian counterparts and in obtaining civilian credit for military training. It is relatively easy to draw direct linkages between skills acquired in the military and the duties performed in civilian jobs, but it is challenging to obtain civilian recognition of military training when formal education is a prerequisite for employment or licensure. With the Badges for Vets Challenge, the U.S. Departments of Veterans Affairs (VA), Education, Labor, and Energy intend to build a system of badges that will quickly translate military training and practical experience into credentials that employers can recognize and value.

The program has three main goals:

1. **Capturing the learning path:** Formally recognizing skills and competencies developed along the way

2. **Signaling achievement:** Translating experience to employers and other stakeholders

3. **Building identity and reputation:** Helping individuals better understand their own skill set and potential career paths

The VA and its partners have translated Military Occupational Specialty codes to job-relevant skill and competency badges. Veterans will leverage the Badges for Vets website (https://badgesforvets.org/) to indicate their experience, which will be confirmed by various peers and experts in the system. Upon confirmation, individuals will be issued badges that they can use on digital résumés. Employers can also use the website to find candidates with relevant skill sets.

Manufacturing Institute Badges

The Manufacturing Institute has built and deployed formal education pathways that include nationally portable, industry-recognized credentials that validate core employability and technical skills for all sectors in manufacturing. However, the classroom is no longer the only place where valuable skills are honed, and some important qualities—such as being a team player or being a great mentor—are not necessarily reflected in degrees and certifications. In response, the Manufacturing Institute is building the National Manufacturing Badge system, recognizing the wide range of skills, competencies, capacities, qualities, and achievements that students and workers need to be successful in today's advanced manufacturing workplace and acquire through their participation in a number of world-class youth- and worker-development organizations partnered with The Manufacturing Institute. The National Manufacturing Badge system and the badges it supports will supplement formal learning requirements and pathways and will give individuals an additional platform—based online—to instantly convey to

employers what they know and what skills and experiences they bring to the table.[2] The program has four main goals:

1. **Supporting innovation and flexibility:** Recognizing skills not often captured from classroom learning, like on-the-job training

2. **Signaling achievement:** Telling employers a more complete story about the candidates

3. **Capturing the learning path:** Badging a granular set of skills and achievements to build a more comprehensive portfolio of skills

4. **Connecting organizations and learning:** Defining competencies and softer skills that are important in the industry and formally recognizing these through badges

Learners work through various partners to earn badges that recognize on-the-job training, experience, social skills, and more. These badges include both top-level defined badges and partner-specific badges. The badges are meant to be used along with formal credentials to tell a complete story about the learner.

Peer-to-Peer University

Peer-to-Peer University (P2PU) is an online, open access set of courses taught by peers. Courses range from open licensing, curriculum design, and Web development to literature, design, and knitting. P2PU aims to provide free learning experiences for hobbyists and lifelong learners who want to work with peers to learn things together.

The program has two main goals:

1. **Building community and kinship**: Growing the community, helping peers with similar interests find one another, and encouraging more peer help and support

2. **Capturing the learning path**: Recognizing granular skills so that learners can build portfolios that represent their own interests and goals

Learners automatically earn a number of badges by interacting with the community platform. P2PU has a set of skill badges with associated rubrics for which learners can apply, using work from any of the online courses or prior experience. These badges are peer assessed. A set of peer badges is awardable from one peer to another. These badges accumulate and roll up into community role badges. They also allow course facilitators and the community to create additional badges available within the site.

In each of the three examples above, badges serve to recognize a learner's work, encourage learning, and characterize efforts. The organizational and learner goals are key components for determining the "recipe" for each badge system, each of which has certain characteristics.

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[2] http://dml4.dmlcompetition.net/Competition/4/badges-projects.php%3Fid=2252.html

Badges for Vets:

- Skill badges are aligned with existing standards.

- Skill badges communicate granular skills to key stakeholders.

- Work experience and prior knowledge are used to earn the badges.

Manufacturing Institute Badges:

- Badges capture informal learning and social skills to complement formal curriculum, training, and credentials.

- Skill badges represent important skills and competencies not captured in schools.

- The cross-organizational definition of badges allows them to be issued by partner organizations.

Peer-to-Peer University:

- Participation and behavior badges represent and show the scaffolded nature of skills that are beneficial to the community.

- Skill badges, with more controlled assessment, acknowledge learning and skill development from the courses.

- Peer or community issuance of badges gives learners the ability to contribute, to build community, and to foster kinship.

Chapter 2: Value, Impact, and Potential of Badges

Although a great deal of the value of a digital badge comes directly from its electronic nature, tangential benefits flow from its digital composition. That badges can be more easily issued than a diploma, for example, both in terms of physical production and traditional fanfare, means they can be offered more often or for more granular purposes or topics. The technology for issuing badges is also readily available to anyone and contiguous with the Web, elevating the likelihood that groups not traditionally in the degree-granting realm will join the arena to give credit to those who meet their standards.

One reason badges are garnering attention is that they represent the convergence of several areas of recent activity and thinking around improving learning outcomes and practical benefits to learners. Badges are at once a way to look at achievement from a multidimensional, metadata-driven perspective; easily mark progress that otherwise goes unacknowledged at a time when there are more ways than ever for people to learn and share; connect to or reinforce learner engagement, motivation, and progress; and display evidence of achievement for observers reviewing learner skill sets.

The potential value and impact of digital badges include a range of possibilities:

Lifelong recognition: Achievements can be observed or measured in almost any setting, and badges can play a role in recognizing those accomplishments. Recognizing learning and successes from any part of an individual's life—including achievements in both formal and informal settings not traditionally assessed or recognized at all in both formal and informal settings—opens up possibilities for people of all ages to share a more complete narrative of personal identity. If you combine more ways to garner recognition with improved ways to share and curate, lifelong learners can truly back up their lifelong learning.

Decentralized credential granting: The ability to give formal recognition no longer needs to be solely the prerogative of degree-granting institutions or established certifying bodies or programs. Individuals or organizations with expertise and a willingness to put their reputation or brand on the line, for example, can give badges to those who obtain skills, knowledge, or achievement they value.

Granular levels of achievement recognition: By dispensing with the notion that granting credit is primarily the domain of educational institutions or professional associations at the completion of extended periods of study, more activities and different demonstrations of ability become the subjects of recognition. A more granular set of achievements can also aid hiring managers, admissions officers, or those assembling teams to find the person with the skills they are seeking.

Ability to visualize overall and incremental progress: The visual nature of badges—including such traits as shape, color, size, text, and iconography—and their relative form and placement in

relationship to other badges makes them very conducive vehicles for illustrating current or anticipated progress toward goals.

Motivation and engagement: Badges tap into many of the principles known to engage and motivate people in games. There is great interest in how this "game mechanic" element of badges can enhance engagement and motivation in learning settings. For example, young adults in New York City high schools who are involved in a digital literacy course are rewarded with both expected and surprise badges marking concrete and practical achievements along the way to completing their high school diploma.[3] These badges, in and of themselves, are valuable assets on résumés and job and college applications.

Improved retention: Breaking down lifelong personal and professional development into smaller, more discrete moments and milestones of observable achievement can provide victories early and often for busy adults who may engage in learning opportunities as time and resources permit. These learners might get discouraged or lose momentum when there is only a single defined end point way off on the horizon versus valuable milestones of recognition along the way. Thus, badges can improve learner retention and reduce attrition on a given learning pathway.

Recognition of prior learning: Badges can play a role in the recognition of prior learning. Completing a prior learning assessment can potentially save a learner time and resources toward a degree or certificate program, and extending the process to the awarding and recognition of retroactively issued badges would also provide a more efficient learning pathway.

Recognition of embedded learning experiences: Granting credit through badges can level the playing field and thus make it easier for local community groups, learning program providers, and training programs to offer opportunities to earn badges that meet national or association-based standards. National organizations can endorse or allow local groups to sign on to recognize the standards through their existing programs. This gives adults more opportunities to have the skills they demonstrate and develop validated by groups with whom they already interact daily and against an accepted set of criteria.

New forms of achievement: More aspects of life, learning, and individual contributions are technology mediated, meaning there is a wider spectrum of measurable data and observable records of achievement today than ever before. These data points can be used and correlated through automated and qualitative means to award credit for contributions and skills not previously acknowledged. For example, a local agency could correlate data from a reporting site with records relating to attendance at school board meetings and determine that a particular person deserves recognition for broad-based civic engagement. Assessments and grades are not the only ways to determine successful completion, and institutions, communities, peers, and individuals have a broader range of ways to discover evidence of achievement.

New forms of assessment: Assessment is no more inherent to what defines a badge than it is to what defines a diploma, yet most people would rightly assume that some form of evaluation

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[3] http://schools.nyc.gov/community/innovation/ConnectedFoundations/EDL/default.htm

against criteria led up to the moment a badge or diploma was issued. So although badges do not automatically mean the reinvention of assessment, certain unique characteristics of badges do bring the reconsideration of assessment possibilities to the forefront of the conversation about badges. For example, if the end game is no longer defined only as a diploma from a formal learning setting, and the "prizes" can now be skill- or competency-based milestones that can be earned in any setting, the notion of assessments can also begin to deviate more from traditional tests, quizzes, and essays to alternate forms of evaluation.

Individualized pathways: Although encouraging self-directed learning is first and foremost pedagogy—a method for teaching and learning—and can therefore be fostered in all kinds of environments and by a wide range of tools, many of the concrete characteristics that define digital badges and badge systems make them well suited for fostering the pursuit of individualized pathways for learning. The granular nature of badges, the suitability of offering them through learning opportunities occurring in a variety of places through a range of organizations, the concomitant exploration of alternative forms of assessment including such things as self-nomination and personal portfolio development, all make badges a particularly helpful approach to individualized goal setting.

Validation and trust: Current badge standards call for badge instances to be backed up by an assertion, essentially an online certificate offered or endorsed by the issuer that confirms the veracity of the data that a badge purports to represent. Validation serves all three parties to a badge transaction—the earner, issuer, and observer—by fostering a sense of trust in the process by which badges are awarded and rewarded. The earner can feel comfortable knowing the authenticity of the achievement has been affirmed. Although most learners will earn their achievements fairly, any perception that a system lacks appropriate validation can call into question the integrity of every achievement the system grants.

Mobility across disciplines and settings: Owing less to the general concept of badges and more to an evolving standard for which data and format constitute an individual badge, achievement recognition in the form of badges is easily portable. With a common specification and format for badge metadata, any organization, application, or platform can easily issue and display achievements, whether it was the originating source or not. In addition to the potentially granular nature and verifiable source of badges, learners can better present themselves and their credentials in any new settings they enter.

Identity curating for the badge earner: Badge portfolios or collections allow earners to tell a story about what they can do, how they contribute to various communities, and what they bring to new settings. This ability to curate one's public identity is at the heart of the badge ecosystem.

Scale-up of the impact of organizations: Thinking in terms of creating badge constellations—individual opportunities for achieving recognition that can be assembled by, with, and for learners in myriad ways—increases the potential impact for an organization. By disaggregating diplomas and honors as de facto components of all learning opportunities, organizations can potentially reach more people than only those who have the time and interest to settle into a

long-term commitment. Badges can be designed to encapsulate values and criteria important to one organization but also be issued by other groups. This, too, can affect the scale of the impact of an organization. In the end, the learner benefits by being able to construct a whole learning experience from parts offered by different entities, and organizations benefit by reaching new audiences in new ways and by focusing on providing learning opportunities where they can have the most impact.

Matchmaking: As a proxy for a cluster of descriptive data about an achievement, badges are easily searchable and help connect people with well-suited jobs or projects. Over time, just as particular degrees and industry certifications from particular schools and programs develop reputations regarding what can be assumed about the readiness of those who earned them for specific challenges, specific badges will come to be regarded similarly. Human resource professionals can use badges as a filtering method to isolate potential candidates.

Predictions for success and learning analytics: By marking or certifying skill sets previously unacknowledged, we open up the potential to correlate badges with the learning styles and approaches employed to earn them, as well as with future job performance data indicating how well certain badge earners do in certain roles or with specific tasks. These analyses can be used to offer predictive and suggested learning pathways to aid people seeking new skills and jobs. For example, research could determine that those with a particular badge certifying leadership skills are 90% more likely to be successful as managers at a particular company. These data can be valuable for all parties involved.

Resident expertise noted and leveraged: Organizations often overlook the talent inherent in their enterprise, unaware or ignorant of the skills their employees possess, including those developed on the job. Badges or microcredentials tied to human resource profiles and internal networks can provide new opportunities for internal growth and advancement.

Leveraging Supportive Technologies

Digital badges are at the center of many discussions in adult education because they leverage many other current trends.

Mobility and Connectivity

- **Mobile ubiquity:** According to the Pew Internet & American Life Project, about 85% of adults have cell phones, 82% of all U.S. adults age 18 and older say that they use the Internet or e-mail at least occasionally, and 67% do so on a typical day. With more adults connected and leaving tracks of their activities, there are more opportunities in native environments and organic ways to observe, record, and note achievements and milestones (Pew Internet & American Life Project, November 2012).[4]

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[4] http://www.pewinternet.org/Reports/2012/Mobile-Health.aspx

Data Capture, Usage, and Display

■ **Big data:** So-called big data include structured and unstructured datasets that are captured and stored across many different sites and platforms. With the proliferation of people using online tools for every aspect of their lives, there is great potential for individuals to tap into those data to convey the bigger picture about identity, knowledge, capacity, and achievement. The use of big data to reveal achievement will evolve, but because badges are a proxy for multiple dimensions of data at once (e.g., one badge conveys information about an achievement, who observed it, and what evidence backs it up), they are a potentially powerful and efficient tool to bring meaning to datasets recording individuals and their achievements.

■ **Visualization of data:** If there is one thing that all forms of contemporary media have in common—including social networks, other online services, film, and television—it's the persistent dominance of images over words, of elegant visualizations over tedious explanations. Whether for checking a bank account online, playing a game, or taking a course, more and more learning service providers are investing in ways to depict progress and data in more visually efficient and appealing ways. Badges and their cousins— dashboards, progress meters, and leaderboards—play right into this trend. Why explain in 140 characters what we can say with one image? Well-conceived visualizations make grasping key concepts easier and progress more evident.

■ **Standards:** When disparate platforms interoperate and share data, leveraging the relative strengths and purposes of each system, the end user experience can be more seamless and meaningful. One way to ensure that data—including the data represented by badges—can easily move from one location to another is by agreeing to a standard. This is equivalent to having an accepted gauge for railroad tracks or a common port, such as USB, for computer peripherals. Emerging standards, such as the Mozilla Open Badge Infrastructure (OBI)[5] and the Credly Open Credit Application Programming Interface that builds on it, provide such a framework for badge exchange and display between systems.

■ **Application programming interfaces:** The growth of application programming interfaces (APIs) as a given in new system development means that systems capable of measuring achievement can draw on and share data from and with external sources. Badges earned from a local learning service provider, for example, could be read into, displayed in, and relied upon by employment systems or admissions offices. API-based add-ons to common platforms, such as the open source BadgeOS for WordPress, allow achievement recorded on one website to easily be recognized and displayed on others. This means less work for adults as they seek out and obtain official evidence of their contributions or skills; the virtual "certificate" of their accomplishment is already prepared and ready for sharing when and where needed.

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[5] http://openbadges.org

Personalized Experiences and Free Resources

Individuals are seeking out information, solving real-world learning needs, and tapping into an abundance of free resources—and frequently doing so independently. They have also grown ever more accustomed to systems and services that are personalized to their preferences and needs. Badges represent great potential for allowing self-directed adults to garner recognition for these learning activities, which may potentially lead to the development of additional marketable and practical skills.

- **Using abundant self-directed learning opportunities:** From independent Google searches or studying online how-to tutorials through YouTube or other sources, adult learners can and do learn in a range of self-starting ways. The proliferation of nontraditional avenues to grow skills and knowledge is fertile ground for nontraditional means, such as digital badges, to give credit for developing those skills.

- **Accessing open educational resources (OERs):** Openly accessible, free content from diverse sources allows instructors to craft personalized learning experiences. Digital badges from different sources offer alternative methods for recognizing appropriately rigorous use of these resources for personal and professional growth.

- **Playlisting content:** The use of OERs to piece together a learning experience from various sources joins trends made universal by the likes of Apple's iTunes, whereby people choose only the songs they want without committing to an entire album. This à la carte approach has found its way to television episodes, textbooks, and courses. Badges are exactly the right tool for playlisting degrees and diplomas. Learners choose only the learning opportunities that serve particular life goals. They can pick and choose the skills and experiences they need, without expending limited time and resources on those they do not.

- **Adopting game mechanics and reward programs:** Although connected inevitably with military and scouting achievements in their analog form, badges have a close association to some Web users with game-based and social experiences in their digital incarnation. Their discrete nature, history of marking merit-based achievements, and visual characteristics make them an obvious and well-understood mechanic in these settings. Many experts and users expect significant growth in the use of game elements in online activities over the next decade[6]. Digital badges for learning can ride this wave or even overshadow it by elevating the rigor or assessment associated with their achievement.

- **Curating:** Adults have flocked to social networking sites such as Facebook, LinkedIn, and Pinterest. In fact, nearly two-thirds of adults who are Internet users say they use Facebook.[7] At their heart, these sites are tools for curating identity. Until relatively recently, the ability to curate or select from achievements has largely been limited to traditional self-written résumés. Although many people might wish they could white out specific lines on academic

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[6] http://www.pewinternet.org/Press-Releases/2012/The-Future-of-Gamification.aspx
[7] http://pewinternet.org/Reports/2013/Social-media-users/Social-Networking-Site-Users/Demo-portrait.aspx

transcripts, until now, most achievements were all or nothing; you either have a degree to show or you don't. Digital badges connect to the trend toward curating by letting individuals build up their learning identity the same way they revise résumés, depending on who is going to see it next. Badges offer the added benefit that those achievements are verified by their issuers and come from a broad range of sources representing a larger cross section of people's lives.

Communicating the Value of Digital Badges

All three constituents served by badges—the earner, the issuer, and the observer—have roles to play in cultivating an ecosystem where badges have value, and that value is communicated and clear to all involved. Many adult learners will need to see badges as prerequisites and rewards for jobs and activities they perform before they will appreciate the role that badges can play in their professional, academic, and personal lives.

Developing Badges for Local Employment Needs

One way to begin building out this ecosystem is for digital badges awarded by local learning service providers to be relevant to the needs of local employers. Once the learning outcomes a badge or badge system represents are tied to employer needs, their value to earners becomes more evident. For example, if a local restaurant adds to its descriptions of job openings that a "food sanitation" digital badge fulfills a necessary prerequisite, and a local community college offers that badge for completing an evening workshop on that topic, job applicants will quickly begin to understand a digital badge's value. Local learning service providers can collaborate with neighboring industry representatives to understand workforce needs, define badges that help meet those needs, and then jointly communicate them to the public.

Recognizing New Subjects for Certification

The growth of digital badges as an alternative form of achievement recognition also means that there is the potential for a broad range of skill and competency certifications in a wide range of areas. It is essential to communicate these skill areas using directories and other means that showcase where and how these skills can be obtained and validated in the form of badges.

Developing Well-Recognized Digital Badges

Digital badges with well-defined criteria—and that are offered by learning service providers who issue them with fidelity to the standards they are meant to acknowledge—can be very useful in a hiring process. A single well known or well-understood badge can represent many bullet points of requirements on a job description. This is no different than an employer currently requiring that applicants have a particular technical or project management certification or a bachelor's degree. Well-regarded, well-recognized badges will emerge in the same way traditional certifications have. Whether they gain ground and are developed first by national professional

associations or by independent companies or local learning service providers remains to be seen. It will undoubtedly vary from one industry to the next.

Recognizing Prior Learning

As discussed earlier, digital badges offer an opportunity to recognize prior learning, past experience, and current skills. This retroactive badge-granting can help adults immediately understand the value of badges while appreciating what they already bring to the table. For adults who may lack formal degrees or certifications but who possess valuable skills and life experience, badges can be a vital way to begin to break into a world of learning recognition traditionally not available to them.

Badging the Issuers

Digital badges are not only for individual learners; they can also help adults identify the most reputable sources of learning opportunities. The more adults see badges given to organizations, instructors, and employers themselves, the more they will understand the value of badges in their own lives.

Learning service providers who offer digital badges and appreciate their potential to the learners they serve should also consider which badges and digital certifications are available to their own staff. Public policy and government agencies fostering an ecosystem that includes more opportunities for adult learners should consider badges for grantees and those who represent their values. Employers seeking a wider pool of qualified, badge-wielding candidates should confer badges to recognize current employees who exemplify their standards. Each digital badge-espousing group needs to play its part.

Recognizing Organizations

One organization can issue another organization's recognition for meeting particular standards or demonstrating desired values. Credly Open Credit has extended the OBI standard beyond individuals so that digital badges can also be granted to institutional entities. The American Association for State and Local History (AASLH) and the Yale Center for Emotional Intelligence are two groups with digital badge programs that issue digital credentials to entire organizations through an assessment process that first "badges" individuals from those organizations. The more visibility badges garner, the more individuals will appreciate the value they might play in their own lives.

Currently Recognized Digital Badges

Even though digital badges for learning are very new and few industry-wide recognized digital badges are available, countless certifications already exist and are accepted by industries and disciplines. From scuba diving and product certifications to academic degrees and medical specialty certifications, there is nothing new about trades and disciplines expecting standards and levels of achievement in their respective fields. When viewed as a framework for certifications,

badges have the potential one day to fulfill the same role as traditional certifications; they will be more granular and more likely to be verified and offered through collaborative efforts, jointly offered learning opportunities, and alternative forms of assessment than traditional credentials.

Several currently evolving badge systems are looking toward industry-wide acceptance:

- EDUCAUSE, the leading association for information technology in higher education, has begun issuing digital badges to recognize professional achievement. According to Malcolm Brown, Director of the EDUCAUSE Learning Initiative, "While EDUCAUSE members have long engaged in the behaviors our new badges acknowledge, we've never had a mechanism to recognize those behaviors in a public way that helps advance the lives of professionals and the community as a whole."[8]

- The Society for Science and the Public administers the Intel International Science and Engineering Fair (Intel ISEF), the world's largest international precollege science competition. Whereas those with ISEF competition wins to their name have long been respected by colleges and industry, the recent addition of digital badges has allowed all students involved—even those who did not win—to earn official credentials recognizing the rigorous effort required to simply enter the competition.

- The American Association for State and Local History,[9] a longtime national player in developing standards for history professionals and their organizations, now offers a Project Management for History Professionals digital badge. As what may be the first open-standard digital badge specifically for project management skills, it recognizes those who have demonstrated knowledge and skill in bringing project management processes to exhibitions, education programs, fundraising initiatives, special events, outreach activities, and collections-based projects.

- The Yale Center for Emotional Intelligence trains education professionals in research-based curricula that facilitate emotional literacy in school communities. Digital badges recognize fidelity to each aspect of the program as teachers complete their certification process, which earns a digital badge representing the professional's certification status. The Yale Center for Emotional Intelligence is a widely recognized leader in its field, and badges conferred for completing its certification program are expected to be of great interest to schools integrating emotional literacy practices into their classrooms.

Using Digital Badges to Motivate Adults

Digital badges in and of themselves are not the source of motivation for many learners and in most cases should not be promoted as such. There is a very real risk of alienating otherwise well-intentioned, self-motivated learners by holding a badge in front of them as the reason to pursue a learning opportunity. Of course, every case is different, but it is fair to say that most experiences

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[8] https://credly.com/news/educause
[9] http://aaslh-pm.org

that will result in badges should not be positioned first and foremost as "badging programs" but rather as programs that happen to offer badges.

The best way to motivate adult learners in connection with digital badge-yielding learning opportunities is to emphasize the resulting benefits conferred once they have earned their digital credentials. What can they do once they have a badge that they cannot do without it? Which companies guarantee first-round interviews to those with the credentials this program grants? What special privileges or new learning opportunities are available to those who complete the milestones required by the current program? All these answer real-life, benefit-oriented questions that can imbue badges with a currency or value.

That said, digital badges can serve other ancillary purposes that can reinforce adult learners' motivation to participate in learning opportunities. Some of these include the following:

- **Illuminating steps in the pathways for achieving learning and life goals:** Constellations of digital badges form illustrations that make choices and next steps very clear. Although course diagrams and visual syllabi are not the exclusive domain of badges, badges do provide natural representations for achievable milestones that can help learners see that the big picture is possible if they can achieve the needed steps along the way. This can result in reduced attrition and enhanced motivation, especially when the exercise does not seem futile and the reward too distant.

- **Encouraging multiple opportunities for learning:** Learning providers can do a great service to adult learners by allowing the component steps and skills in a learning pathway to be fulfilled through interaction with multiple learning providers. This makes the overall pathway more flexible and the resulting credentials earned more transferrable or mobile. If learners know they can pick up where they left off on the path toward a credential in more than one venue, even if life events intervene, they may not lose hope and determination to achieve their goals.

- **Identifying and rewarding skills not currently credentialed:** One of the great promises for digital badges is in filling in the gaps left by existing forms of credentialing and degrees. Although badges for existing certifications are very important to making the ecosystem for learner credentials consistent, one place badges can have the greatest impact is in opening up areas for recognition that are not currently credited. This can mean offering credentials for skills or specialized areas of subject matter expertise not currently certified in any formal way.

- **Scaffolding progressive badges across multiple venues:** Policy making and funding organizations can encourage organizations to collaborate to create crossover or reciprocal digital badge-earning and badge-recognizing programs. Although constellations constructed within a single organization are very important, offering badges that acknowledge progressive levels of achievement across multiple venues and institutions improves the number and format of the opportunities available to busy adults while enriching the

experience. For example, an adult who earned a badge from a local school for participating in 20 hours of fundraising activities and who earned a badge for mentoring a student in learning Spanish language skills at an after-school program at a community center might automatically earn a badge from a third organization that celebrates English-as-a-second-language (ESL) learners contributing to their community. That badge might be sponsored by a local business that provides a scholarship for additional course work at a learning provider, encouraging the continuation of the learning pathway.

Chapter 3: Opportunities and Potential for Using Digital Badges With Adult Learners

The common notion of "literacy" often connotes the most basic reading, writing, and speaking skills, yet a much wider spectrum of competencies is actually at play. Those who lack sufficient literacy skills often find themselves unable to perform optimally in a range of real-world settings that overlay virtually every aspect of life, from performing on the job to addressing health matters, family concerns, and personal finances.

As cited in the National Academies Press report *Adult Literacy Instruction* (National Academies Press, 2012), the Adult Education and Family Literacy Act (Title II of the Workforce Investment Act, 1998) defines literacy as "an individual's ability to read, write, and speak in English, compute, and solve problems, at levels of proficiency necessary to function on the job, in the family of the individual, and in society" (National Academies Press, 2012, p. 8). Also cited by the National Academies is a broader definition from the United Nations Educational, Social, and Cultural Organization (UNESCO), which defines literacy as "the ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society" (National Academies Press, 2012, p. 8).

Although there is a dearth of research around what constitutes effective literacy instruction for adults, we do know that "adults bring varied life experiences, knowledge, and motivations for learning that need attention in the design of literacy instruction" (National Academies Press, 2012, p. 3). Regardless of their actual proficiency with specific literacy skills, adults usually come to the table with life experience and at least a tacit appreciation for how gaps they may have in content knowledge and particular skill areas can affect their job, health, financial, and overall prospects when it comes to education, work, and other practical aspects of their lives. In other words, for adults, learning is not an abstract matter as it might be for many youth who cannot yet see how education relates to their future lives. Adults are more likely to understand that properly channeled energy exerted toward learning the right skills can have a direct impact on their quality of life because they have already experienced what life is like without such knowledge.

Discussions about improving literacy outcomes for adults must include an understanding of adults' personal goals and their motivation to function well on the job and in their families and other societal contexts. When it comes to literacy skills, adults may be more likely to notice and wish to remedy their skill and knowledge gaps in technology, information and media, and basic financial arenas, which often represent the most tangible manifestations of deficiencies in reading, writing, and speaking fundamentals (such as being turned down for a job that requires

computer skills). Therefore, initiatives that address literacy remediation for adults should blend literacy improvement into other disciplines and skill-development programs.

Enter digital badges for adult learning and literacy programs. The attributes and potential benefits of badges as a form of recognition for learning align well with the characteristics and needs of the adult learner population. Some of the most relevant badge attributes follow.

- **Digital badge standardization and the democratization of achievement recognition:** A world where achievement is recognized primarily with diplomas and degrees represents a world full of barriers for many adults. Badges break down walls and allow many organizations—even those not traditionally in the credit-granting realm—to recognize success and achievement in their own domains of observation and interaction with people.

With evolving standards such as Mozilla OBI and free tools such as BadgeOS and Credly, which are means to issue an accepted and easily delivered form of credit, any organization can award badges that recognize the values and criteria it is equipped to observe and assess. This opens the door for adults to seek out learning opportunities that improve literacy outcomes in more venues and provides funding and governmental agencies a wider spectrum of learning service providers to support in fostering the cause of adult literacy.

- **Granularity, portability, and retention:** As the very definitions of literacy and most adult literacy curricula suggest, the skills required to be truly literate span a wide range of competencies and can be developed across a broad spectrum of disciplines. For adults, whose life demands make them prone to interruptions in completing courses of study, the granular nature of digital badges makes them an appealing measure of ongoing progress and success.

Most courses, certificate programs, or degrees reward only completion. The traditional understanding from seeing embroidered badges in our culture is that they represent incremental progress toward larger personal goals. Digital badges, which were derived from this model and remain true to their pedigree, give organizations opportunities to recognize learner progress and the attainment of job skills earlier and more often. As long as the issuing body is willing to perform the assessment required and put its identity on the line to assert that someone has achieved its standards, badges—even for smaller achievements—are no less meaningful and a lot more frequent. This sense of incremental achievement can be vital to improving retention, keeping adults engaged in their learning pursuits, and avoiding the sense that the meter resets to zero if they fail to complete an overall program of study.

The granularity of badges—in combination with emerging standards that define their digital existence—also makes them highly portable. Even though paper degrees and certificates can be carried from place to place, they usually lack any useful underlying data to acquaint future observers with the achievements of the person who earned it. Because digital badges describe more discrete accomplishments and skills, they are more succinct, and their digital nature attaches this information to the achievement wherever it goes. This representation of accomplishment can be automatically read or absorbed into systems at new learning venues,

where it can provide insight about a learner and potentially provide a better starting point for appropriate new opportunities.

■ **Embedded learning, new skills, and alternative providers:** By virtue of their capacity to recognize discrete skills and the fact that any organization or entity can issue badges or digital credentials, digital badges open the door for the recognition of new skills and competencies. Coupled with emerging frameworks such as the Open Credit system by Credly that can embed achievement recognition into any system or context, badges magnify the potential to reward adult learners for their contributions, involvement, and achievement in nontraditional and alternative learning settings. Cultural institutions, civic organizations, local clubs, houses of worship, and parent-teacher associations are only a few of the possible places where embedded learning can be seen using badges for a range of achievements, including those directly or tangentially related to core literacy skills.

Steps for Implementing Digital Badges

Efforts to identify badging models that align with the needs and goals of adult literacy learners should first appraise the adult education landscape. The recent flurry of activity around developing digital badge systems has produced several exciting outcomes, but perhaps none as important as this: nontraditional partners and stakeholders in the education ecosystem have found a reason to sit down together to identify new ways to collaborate in a very tangible and practical way.

The act of contemplating which activities or opportunities one's own institution could "badge" frequently results in a meaningful examination of the skills taught to specific populations in specific subjects. This, in turn, inevitably makes organizations more aware of and open to where their own programs can complement the experiences offered by other institutions or groups. This process lays bare the building blocks of learning experiences and begins to unearth new opportunities for learners to craft their own pathways rather than simply choose from larger scale, preset programs.

With conversations about the potential for digital badges ramping up, new collaborations between groups budding, and programs being deconstructed into more accessible and sharable components, several steps can be taken to reinforce a lifelong learning culture that values all learners regardless of past success and literacy proficiency. A completely new and seamless infrastructure to recognize learning and address the shortcomings of adult literacy will not develop overnight. Assuming that badges indeed have a vital and beneficial role to play, it will take some time to test and explore the models, rewards, and pathways that will render them the most meaningful. Following are some steps that can be taken immediately.

■ **Develop badges for adult literacy teachers and tutors:** The National Academies points out that "Literacy instructors need sufficient training and supports to assess adults' skills, plan and differentiate instruction for adults who differ in their neurobiological, psychosocial, and

cultural and linguistic characteristics, as well as their levels of literacy attainment. Yet, the preparation of instructors is highly variable and training and professional development limited" (National Academies Press, 2012, p. 5). One fertile area to bring badges into the adult literacy education ecosystem while modeling its potential for adult learners themselves would be the development of a constellation of badges that certify levels of preparedness and excellence for professionals working in the field.

- **Certify and scale successful practices and programs:** Digital badges not only have a role to play in identifying and recognizing individual professionals, but they also contribute to amplifying the scale and reach of adult literacy programs and specific practices that are yielding good results. Digital certification programs should be developed that enable institutions and other groups that are creating and offering education programs for adults—especially those that make concerted efforts to address the adult literacy population—to apply for or be proactively granted organizational badges attesting to their quality and results. Such initiatives can be modeled after voluntary programs such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED)[10] certification or the American Association for State and Local History's Standards and Excellence Program for History Organizations (StEPs).[11] The latter organization is developing a digital badge version of its traditional analog certificate program and could provide a valuable model.

- **Pilot efforts to align learning objectives using badge frameworks:** The National Academies found that "Adult literacy education is offered in a mix of programs that lack coordination and coherence with respect to literacy development objectives and instructional approaches. In addition, learning objectives for literacy lack alignment across the many places of adult education and with colleges and K–12 instruction" (National Academies Press, 2012, p. 5). A digital badge constellation can provide a framework for uniting efforts around a commonly accepted set of skills, competencies, and assessments in a way that offers great flexibility to both providers and learners for choosing the pathways best suited to the context and individual.

Many contributors can work concurrently on an extensive "honeycomb badge model"—like a Lego set that can be extended—that overlays different disciplines and addresses different subsets of the adult learner population. The result will be an interconnecting set of learning objectives that represent opportunities for achievement across multiple pathways. Initiatives that begin to map out the overall constellation of possibilities but also foster experimentation in building and piloting discrete sections of the badge schema in real-world environments should be encouraged.

- **Encourage discipline-specific badge initiatives and offer guidelines for embedding adult literacy instruction in nontraditional settings:** Assistance with implementation, training, funding, instruction, public relations, and marketing can be offered to organizations across multiple disciplines that are in a position to embed literacy skills into their adult

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[10] http://www.usgbc.org/leed
[11] http://aaslh.org/steps

programming. For example, financial literacy, parenting, health, and nutrition programs, whether offered locally or online, are often underfunded and undermarketed. Organizations leading efforts like these welcome additional sources of support even when tied specifically to adding literacy components to their otherwise unrelated programs because their own discipline-specific outcomes will benefit from learners who emerge with improved literacy. For example, adult literacy specialists can provide onsite or remote assistance to specific programs, getting to know their curricula and identifying ways to integrate literacy instruction. The full range of outcomes, including literacy-related results, can be acknowledged with transferable digital badges. Disparate efforts that include common literacy badges can also provide valuable data about the success and growth of particular literacy skills as nationwide efforts grow and link back to common criteria.

Learning providers that conduct programs of any kind for adults will benefit from guidelines and best practices for working with and assisting adults in developing their literacy proficiency. Environments that incorporate these practices are more inclusive communities for learning. If they choose to adopt adult literacy guidelines, remedial efforts, and supports, providers whose adult offerings are not primarily literacy based should be the recipients of program certifications and badges, honors, funding opportunities, and other special attention.

- **Embrace and encourage grassroots and nontraditional sources for solutions:** Digital badges have taken on a counterculture sensibility in some settings, where they are seen as disruptive to the established norms of top-down, large-scale, degree-granting institutions and governing bodies perceived as the historical arbiters of worthy achievement.

Central or other nationally conceived badge initiatives should not summarily shy away from such models; they might find that embracing them outright helps crowd-source solutions to part of the adult literacy problem, much the way citizen science efforts bring together large sectors of the public to solve a difficult problem or collect vast amounts of data. In fact, challenging the public at large, the technology sector, and innovative education institutions—through meetings, contests, or funding opportunities—to create grassroots, badge-empowered adult literacy solutions might yield a great number of unexpected and meaningful ideas.

- **Better integrate badge models for young adults and adults:** We know that "although originally designed for older adults, adult literacy education programs are increasingly attended by youths ages 16 to 20" (National Academies Press, 2012, p. 14), which is not surprising considering that, according to the National Center for Education Statistics as cited by the NAEP report, the "overall annual dropout rate (the percentage of high school students who drop out of high school over the course of a given school year) was 4.1 percent across all 49 reporting states and the District of Columbia" (National Academies Press, 2012, p. 14). Programs that bridge the gap between young adult literacy learners in high school and their parents can help address a contiguous problem concurrently.

One example of a badge-based program that does this is the Connected Foundations Digital Literacies Course, or DIG/IT,[12] which was created by the New York City Department of Education (NYCDOE) and LearningTimes and funded through a broadband stimulus grant from the U.S. Department of Commerce, administered by New York City's Department of Information Technology and Telecommunications and NYCDOE.

DIG/IT is available to students in transfer high schools—small, full-time high schools focused on re-engaging students who have previously dropped out or who have fallen behind in the credits needed for graduation—and teaches digital literacy skills that prepare youth for college and careers. They earn digital badges certifying their achievements through four content domains relevant to their personal, academic, and professional lives: digital citizenship, skills, and safety; college and career explorations; personal financial literacy; and arts, culture, and play. "As part of their DIG/IT experience, students plan, design, create, and present projects at an end-of-term 'Expo' at their school. At the Expo, each student teaches skills and knowledge they have learned in the course to a guest, typically a family member or an important person in their life."[13] In this manner, literacy skills learned and acknowledged with lifelong badges for high school students are transferred in a personal and meaningful way to siblings, parents, and grandparents. In some instances and in future implementations modeled after its success, attending guests can receive digital badges for carrying the torch forward, using the expo opportunity as a starting point to acquire more literacy skills and continuing to learn with their younger family members. Programs that connect families under a common badge-based taxonomy or constellation that reinforces the notion of lifelong learning should be explored and supported in the short term.

- **Listen to adult learners:** Any national or coordinated effort to develop a badge constellation mapped to an adult literacy skill and knowledge taxonomy should include specific outreach to and input from adult learners themselves. Potential badge recipients should be asked to share what kinds of badges would be most meaningful to them, and what rewards and outcomes they'd like to see those badges make available to them. Dialogue across all three intersecting roles united by badges—issuer, observer, and recipient—is paramount.

The Cooper-Hewitt National Design Museum, which conducts workshops and programs for young urban adults interested in pursuing careers in fashion and design, brings learners into the heart of the badge system design process itself. Participants are asked to identify what they think are the most valuable aspects of their program experience and the most important criteria, and they help craft the badges they themselves will earn upon completion. Earners need to appreciate what a badge stands for if they are to feel good about earning it, and one specific way to accomplish this is to include learners in the badge creation process from the beginning.

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[12] http://schools.nyc.gov/community/innovation/ConnectedFoundations/EDL/default.htm
[13] http://schools.nyc.gov/community/innovation/ConnectedFoundations/EDL/default.htm

Enlisting Partners to Support Digital Badge Systems

As the population of adults in need of adult literacy education is large and diverse, so, too, is the range of organizations and agencies that can help address the issue of implementation. As discussed earlier, the recent activity focused on digital badges has been an effective catalyst for interdisciplinary gatherings and the convergence of a diverse set of stakeholders to explore the issue together. There is still much room for more of these budding discussions and collaborations and for the support to help take them from brainstorming to actual badge systems that consider the specific needs and interests of the adult literacy education community.

Many organizations not traditionally involved in discussions about basic literacy skills can be included in the planning of a badge constellation for adult literacy. Any group that has the mission, capacity, and programming to reach adults and help them develop new skills— including skills in other literacy domains such as health, finance, civic engagement and digital communication—is a potential partner that can contribute to an adult literacy badge model and taxonomy likely to reach as many adults in need of this support as possible.

Many organizations and individuals are natural partners to create a badge-based model for adult literacy:

- **Adult literacy learning program providers:** The expertise of existing providers of adult education literacy programs in the trenches today should be central to informing badge-based initiatives and models for adults. In addition, providers should be encouraged to help lead efforts focused on the development of adult literacy badges certifying the skills of those providing instruction and services in their field. In any ecosystem that supports badging the skills of adult learners, adult basic education providers will need to play a central role.

- **Education researchers:** Successful instructional strategies for adult learners should combine what we know about teaching literacy to younger learners with special consideration for what makes adult learners different, such as their motivation, life experience, and possible "age-related neurocognitive declines that affect reading and writing processes and speed of learning" (National Academies Press, 2012, p. 241). An enlarged and coherent adult learning and education research agenda should be developed to support those designing badge models and best practices, and new research should be conducted alongside newly developed badge programs. Education specialists in K–12 education, postsecondary education, and adult education could also be invited to help inform and define the overarching adult literacy skill taxonomies described earlier. A fair amount of work is being done now, especially in the K–12 world, on "learning analytics"—gathering and analyzing data about how people learn based on learning modalities employed and outcomes realized. Advocating the use of learning analytics in adult education programs will enhance the likelihood of the success of any badge models in the adult literacy space.

- **Human resource professionals and workforce and industry association representatives:** Human resource professionals and workforce and industry representatives from fields poised

to hire more adults who meet or exceed basic literacy requirements should be part of the badge model discussions. In particular, they can be called on to provide input into the taxonomy itself and to offer concrete examples of rewards and opportunities they might extend to people who demonstrate various literacy skills. The addition of a workforce overlay to the badge constellation showing specifically the industries or companies hiring people with particular skills and for specific types of jobs would be helpful to adults selecting their own learning pathways.

- **Vocational schools, community colleges, and universities:** A badge taxonomy and an economy that reinforces literacy and learning as a lifelong continuum cannot neglect the key role played by postsecondary institutions confronting adult literacy daily. Inadequate literacy is a serious issue for all providers in the educational landscape, including colleges. For example, more than 50% of community college students "enroll in at least one developmental education course during their college tenure to remediate weak skills," and nearly 40% do not complete the remedial programs to which they have been referred (National Academies Press, 2012, p. 14).

- **Cultural institutions, libraries, community and civic organizations, and local service providers:** Many other groups interact with and are in a position to support adult learning on a regular basis, including the many adults in need of literacy instruction. They can encourage, observe, and even certify improved literacy skills in contexts in which adults may already be engaged, even if they are not traditional literacy-remediation venues.

Other institutions and groups can help design and issue badges that align with adult literacy standards, even if the badges are not literacy centered. Such groups include museums conducting family workshops about the arts; libraries hosting résumé-writing, computer skills, or foreign language courses; and community groups organizing people for charitable causes. These partners are especially important because they help eliminate any stigma associated with the need for remedial literacy skills and create the potential for badges that embed literacy requirements in accomplishments that adults will be proud and excited to showcase.

- **Advocates of nontraditional learning:** Although digital badges can be awarded based on traditional forms of assessment and existing instruments for measuring results, their unique characteristics also equip them to encourage the production of authentic portfolio- and evidence-based artifacts as demonstrations of acquired skills and knowledge.

When developing best practices for badge models that put a premium on authentic adult learner work products, groups that focus on this kind of learning certification should be consulted for their expertise. One such group is the Association for Authentic, Experiential and Evidence-Based Learning,[14] which is beginning to issue digital badges for work in this field.

- **Government agencies and nongovernmental organizations:** Government agencies and nongovernmental organizations need to play an essential role to advance the adult education

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[14] http://www.aaeebl.org

system toward fulfilling its potential. The exercise of convening partners to initiate collaboration and cooperation; the introduction of creative and targeted funding opportunities that bring existing and new stakeholders together to identify and address common concerns; and the persuasion of the Department of Education to impel a concerted effort to address adult literacy issues across the broadest possible spectrum of society are all mechanisms that should be deployed by those with the greatest visibility and ability to fund and act.

■ **Technology providers:** Tackling the adult literacy gap requires cultural, motivational, and instructional solutions, all of which can be aided by the smart application of technology. Considering the role that technology skills play in the exercise and application of core literacy skills in today's everyday world and workforce, it makes sense to bring technology providers to inform the development of potential badge models. Groups such as Credly, which supports free and open source projects like BadgeOS[15] and the Open Credit API[16] (application programming interface), have been working across disciplines and demographic boundaries to create opportunities for learners of all ages to receive and showcase credit for achievements they earn along a lifelong continuum. The Mozilla Foundation has been rallying the community to coalesce around a common technical standard to ensure that badges for credit received at any learning juncture in one's life are portable and transferable to any other venue. Both groups and like-minded others can inform the emergence of a badge-based model for adult literacy, even while their participation informs their own underlying technologies to adapt to any unique needs of adult literacy learners.

Creating Badges for Different Achievement Levels

A constellation of or taxonomy for badges can be conceived in many ways. We can slice and dice important literacy skills across many dimensions. Imagine a badge constellation framework that can automatically regenerate itself with a simple checkbox that requests only badges that certify learning and readiness for job placement in a manufacturing setting versus a back-office environment. Consider what a badge map would look like if viewed by high-level ESL learners trying to craft an individualized pathway for taking their next learning steps toward personal goals versus adult native English speakers learning to read and write for the first time. The possibilities are as vast as the needs and diversity of the population.

Although specific details and an exhaustive exploration of badge system design for literacy are beyond the scope of this report, a few framing models are offered as inspiration for further investigation.

■ **Essential literacy skills framework:** Adult literacy experts and partners can craft a framework that identifies the granular literacy skill and knowledge standards organized by

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[15] http://badgeos.org
[16] http://support.credly.com/knowledgebase/articles/150879-what-is-the-credly-open-credit-api

traditional literacy milestones (such as the NRS Educational Functioning Levels) in overarching categories such as writing, reading, and oral communications.

- **Essential literacy application frameworks:** An application-oriented framework can present badges that suggest what adult learners can actually *do* in the real world—in other words, how they can apply their skills. Such frameworks may reduce the stigma of purely literacy-based badges and therefore be more sensitive to the outward utility of an earned badge in the eyes of a possible employer. Badges in this domain might include representations for such achievements as writing business letters, giving a persuasive presentation in English, or mastering phone communication skills.

- **Discipline-specific frameworks:** Adult literacy badges can be organized according to specific subject area domains, whereby literacy skills are embedded into other skill- and knowledge-based badge sets. This is analogous to organizing a language textbook around real-life settings, such as chapters on going to the doctor's office, navigating an airport, or visiting a school. Sample domains include personal financial literacy; digital literacy; parenting; and diet, exercise, and nutrition. Badges in this constellation might certify skills not directly related to literacy—such as badges for personal budgeting, essentials of childhood nutrition, or video capture and editing—while still encompassing essential literacy skills.

- **Pay scale framework:** Very simply put, this badge constellation can offer progressive levels of badges that align to the salary ranges those with the associated literacy levels or granular skills might expect to earn. This framework can create real-world incentives associated with continued acquisition of skills and knowledge.

- **Job and career framework:** A job-centric constellation that overlays specific workforce roles available to individuals with the literacy skills described by the associated badges can be a useful tool for motivated adults to choose learning pathways that pave the way toward particular jobs and careers. Real-time, local job opening data can be integrated with such a framework to aid learners in connecting with employers and also to encourage ongoing learning across the continuum, which could connect to other workforce constellations in established fields, such as manufacturing, technology, or financial services, outside of the literacy domain.

Digital badges might also play other roles with adult literacy learners because badges offer a number of benefits or opportunities for issuers and earners beyond skill certification. Multiple badge systems are and will continue to emerge, and each may emphasize different benefits of badges to the issuer, the observer, and the earner in different ways. Such diversity toward the end of addressing an issue with a diverse population should be welcome and encouraged.

Chapter 4: Making Digital Badges a Reality in Adult Education

In the first two chapters of this report, we described digital badges and badge systems as well as their value, impact, and potential. In Chapter 3, we considered the feasibility of using digital badges in the adult education context. Next, we consider the policies, practices, and resources needed to make digital badges a realistic tool in adult education.

Building an Adult Education Badge System

To create an adult education badge system, the starting point must be the value of the endeavor, which hinges on the value that consumers—individuals and organizations—assign to badges. As Carla Cassilli writes in her blog on badges, the value of their use boils down to trust.[17] How do recipients and observers of badges know that the information provided by badges is valuable and that the issuers of badges are evaluating or assessing them to ensure that recipients meet the criteria for their award? This notion underscores the importance of a badge system that immediately addresses concerns of value and trust and ensures that the system will continue to evolve as more issuers and users of the system are integrated. Hence, this discussion of badges is timely: the adult education field has the opportunity to create a badge system that reflects what it values while contributing to the definition and creation of badges that reflect the needs of learners, practitioners, and policymakers.

When thinking about how badges may be defined and used to create a badge system for adult education, it is important to consider different types of recognition and to assess the skills, knowledge, or behaviors that are missing. Where are the gaps in adult education? For example, adult education programs and staff might identify the steps toward advancing a level, developing a skill, or achieving a particular outcome or a desirable behavior that strengthens learning overall and leads to certification or completion. By breaking the work into granular, observable units, a badge system can include interfaces where a learner or badge recipient can mark meaningful and valuable progress.

What kinds of assertions do badges make, and what evidence proves their value? One way to determine the value of badges is to consider methods of assessment. These methods should make clear the evidence that supports the assessments represented by the awarding of a badge, the criteria used to evaluate the evidence, and the identity of the evaluator. Different consumers (including the issuers and learners themselves) could use these transparent methods of assessment to decide which badges are valuable to them. The strength of a badge system is that it does not rely on a strong central prescription, although national, state, and local partners can agree on a systematic approach. For example, an adult education badge system will endorse

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[17] http://carlacasilli.wordpress.com/2012/08/24/mozilla-open-badges-building-trust-networks-creating-value

certain evidence-based badge designs with a clear and approved assessment process that is consistent with a state or national framework.

In addition, badges should make visible in a verifiable way the particular value behind teaching, learning, performance, knowledge, and skills—all the things that adults learn and that enable them to learn well—allowing recipients and observers both to connect and contrast that value with what other individuals, organizations, and governmental agencies think is important. Those contributing to the development of a badge system need to determine how to exchange documentation, share expectations, interpret practices, and provide supports. These efforts will benefit from a common or guiding framework that comprises the range of skills and competencies that are badged and what constitutes mastery of each. When working on a badge constellation that attempts to encompass even a few skills, a program provider will benefit from scanning an accepted framework to align those knowledge areas with content, assessment, and progressive activities.

What characteristics of a competency framework make it conducive to a distributed approach to development and assessment? It is helpful to look at standards and competencies as they exist in the adult education system, such as the college and career ready standards for adult education, soft skills as identified by the Department of Labor, and O*NET occupation groups and descriptions (http://www.onetcenter.org). In addition, the Organisation for Economic Co-operation and Development's (OECD's) forthcoming results from the Program for the International Assessment of Adult Competencies (PIAAC) international survey—which "measures the key cognitive and workplace skills" that adults need to succeed in the workforce—may include skills to consider as stepping stones in the adult learner pathway.[18] A valuable taxonomy needs to strike the right balance between breadth and depth, including both specific skills but also guidance regarding the kind of assessment known to properly gauge mastery. As a starting point for developing a badge system, using existing and accepted competencies and standards will help create wider interest and acceptance. However, the badges ecosystem allows multiple standards to coexist; therefore, it is important to help the consumers of badges navigate these systems and decide which are appropriate for their purposes.

To be most effective, a framework should be informed and accompanied by evolving best practices for assessment and an understanding of what constitutes sufficient evidence of achievement for each skill or knowledge area. Badges are not in and of themselves assessment instruments; they are indicators that some form of assessment has been exercised to determine that a badge is merited. The taxonomy will benefit from direct connections between the framework and examples of the kinds of existing or newly crafted assessments that can be used. It would also benefit from guidelines for how and where to store the underlying data gathered from learners both for research into best practices and to preserve the underlying evidence of achievement. From a technical standpoint, the badge model is ideal because its cluster of metadata includes the ability to track the location of evidence that is the basis of every badge.

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[18] http://www.oecd.org/site/piaac/theoecdsurveyofadultskills.htm

Several existing models (see chapter 1) offer badges via formal educational pathways and informal training, experience, and skills that can serve as a starting point for creating a national badge system. Similarly, an adult education badge system should identify the types of skills, knowledge, and behaviors that can and should be measured; determine how to assess those skills; provide options to recognize skills as stepping stones toward larger goals; and create comparability across programs nationally so that a badge for teaching peers, writing a story, or solving a problem means the same thing in Denver as it does in New Orleans. Alternatively, the adult education badge system may be state-driven or correspond only to a certain level of badges, with more granular steps leading to a credential stacked with badges designed by programs and their staff. The ability of the badge system to seamlessly link badges from different systems makes it different from a certificate of completion posted online, and it requires a shared and open infrastructure. An inherent value of badges is the flexibility they allow for learners to develop and demonstrate competencies and for educators to help learners do so.

In the adult education badge system, creating a correspondence of competencies at some level of badge award may be useful for comparability. Collaboration among individuals and organizations at the federal, state, and local levels is imperative for creating a badge system that is equally understood and valued across the fields of education (including postsecondary education and training) and workforce (including industries and small businesses), and in communities (including civic organizations, families, and cultural institutions). Areas not directly related to literacy but that are valuable to adult learners can be connected to the adult education badge system to build individual fingerprints for recipients while contributing to their short- and long-term career pathways. The value of a badge system lies in its ability to assemble evidence of different granularity and from different sources; that is, diverse ways to pull together evidence of competence at both the individual and the institutional level.

Developing, Issuing, Managing, and Sharing Digital Badges

For an adult education badge system to work there must be a process for developing, issuing, managing, and storing badges. By sticking to open interoperability standards, the badge system will remain flexible and be easily integrated into an individual's portfolio of achievements. Badge *development* can occur at the individual, local, state, or national level, but the resources required to support this development may be beyond the scope of local programs—although they can and should contribute to the conversation about policies and practices regarding who defines and issues badges and for which recipients. Nonetheless, the technological burden remains with the badge software developers to make highly usable software for learners and educators. Indeed, as the technology to create and display badges grows, opportunities are expanding for educators to participate in badge creation and reward. For example, Purdue University has developed Passport and Passport Profile, two Web applications that allow educators to create badges and learners to display the badges. In other words, there is room in a badge system for individual creativity at the classroom level so teachers can create badges to motivate and reward students.

Additionally, students can create badges to recognize peers, reward teachers and program staff for supportive services, and contribute to their communities at the most granular level of recognitions and rewards.

Given that the opportunities to develop badges are expanding, it is important to determine which individuals or organizations will have the authority to *issue* badges. Will it be teachers, programs, states, or a national issuer? A combination of all these issuers will work, depending on the nature of the badge and how it is used. At a minimum, educators can begin to use badges almost immediately by making use of available tools to create badges and tie their rewards to instruction and classroom goals. In the Scenarios section below, several levels of badges are imagined— including badges for adult learners, badges for program staff, and badges for adult education programs. The issuing authority will depend on which level of badge is earned and for which competencies.

Managing the portfolio of badges received requires storing them; current options for doing so include mobile portfolios (e-portfolios), Purdue University's Passport Profile, the Mozilla Backpack, and Credly—online tools that allow users to store the badges that they earn in one central, portable portfolio. Given that adult learners may earn badges from multiple organizations and businesses, the system should allow for managing and sharing a holistic view of students, not only their learning-related accomplishments. Adult learners and other badge recipients will be able to control which badges to display to particular observers, presenting themselves much as a résumé is customized for different employment opportunities. More than a résumé, however, the digital badge portfolio will present an array of skills that offers a fuller picture of an individual's identity.

In addition, digital badges move with their recipients—an important factor for the transient adult population served in the adult education field. Prior learning and progress will not be lost when adults move to a new school or job. The skills, knowledge, and practice gained in one setting can be shared with teachers, employers, and community members through an online portal, enabling observers to view badges and their associated detailed information all in one place, thereby reducing the need for employers or educators to track down information from different schools, training programs, organizations, and previous employers. As noted earlier, the badge system affords the ability to track the location of evidence and supporting details, creating portability.

Marketing badges, which entails encouraging buy-in from various entities, will become easier as the use of badges continues to grow. As industry, universities, and government agencies create and use badges, they add to the growing credibility of badges for recognizing learning and skills. State and local program providers, business and industry leaders, and government policymakers will need to participate in developing an adult education badge system. Local program providers in particular can lead the conversation on developing taxonomies for the steps leading to student achievements and outcomes. Also, partnering with the American Library Association and other groups involved in adult literacy could help endorse the system broadly while increasing opportunities for recommending the use of badges. All of these partners are potential marketers

of the new badge system. As noted above, the learners themselves will market not only the badges but their own developing identities as students, workers, and community members.

The Federal Role

The adult education field needs to begin a discussion about standards for issuing badges to ensure that the value of badges is recognized consistently in different venues. For adult education, recognizing student progress and helping students see the progress made over time toward a self-identified end are integral to creating individual career and life pathways. Digital badges offer a way to do this while allowing innovation and independence at the individual and teacher levels. Individuals value the rewards they must strive for, so rewarding the work of learners, staff, and programs must meet standards of quality that make these accomplishments meaningful. In addition, a high-quality badge system that is recognized as worthwhile will contribute to the reputation of programs, staff, and learners, thus enhancing the reputation of the field. Again, credibility and trust are essential to buy-in at all levels.

The U.S. Department of Education's OVAE has a particular role to play in the development of an adult education digital badge system and the pathways that it can produce. This report is the beginning of a larger conversation in the field about the value of and challenges to making this system a reality. An adult education digital badge system will rely on a broad coalition of groups with multiple connections to the target population. To lead this development, OVAE must connect with other federal agencies and national leaders in technology, industry, employment, and postsecondary education to review current badge system designs; identify the supports needed to convene these partners; and create a system that serves the needs of adult learners across different areas of learning, work, and life. Collaboration at the national level requires this leadership and the resources to make these conversations happen. The right team members have to be freed from day-to-day internal responsibilities to reach out and explore new partnership opportunities. Funding bodies and agencies should follow the lead of groups such as the MacArthur Foundation, which sponsored the Badges for Lifelong Learning Competition (2012), and develop grant and funding opportunities that specifically support collaboratively developed badge frameworks with potential impact on adult learners.

This focused collaboration may result in public policy and the recognition of digital badges as an integral part of the adult education system, that is, an endorsement of the system. These stakeholders can determine what standards or criteria must be established and how the badges will be recognized. Additionally, teachers and program staff may be the most likely to award badges for learning; thus, involving them in the development of badge types and standards will be necessary to create a policy that addresses their needs and concerns. As already occurs in public communities such as LINCS, OVAE can support conversations and sharing among educators as they develop more granular badges for the informal learning that happens inside and outside the classroom.

Evaluating the adult education digital badge system can contribute to the evolution of the system by demonstrating its impact, and ongoing conversations about badges will ensure that all stakeholder voices are included in the establishment of the adult education digital badge system. Measuring the progress of badges and evaluating their use throughout this process will also help to maintain momentum and create a culture shift toward recognizing informal learning. Although some evidence points toward digital badges strongly supporting learner motivation,[19] the effect of badges on adult learners and the ways in which badges might support not only motivation but also learning, long-term achievement, and lifelong goals is not yet clear.

Adult Education Badge System Scenarios

Digital badges as described in this report apply but are not limited to adult learners. To truly build value for a badge system, all aspects of the system must be badge worthy and badge ready. Learners, program staff, and programs themselves can all be recipients of badges from various sources. Following are scenarios for badge systems for each of these recipients, along with some specific questions and considerations for the policy, practices, and resources needed to support them.

Badge the Learner

Digital badges serve as a feedback mechanism to let learners know that their efforts are recognized and meaningful. Badges for learners recognize informal skills and reward incremental learning achievements. Each small step contributes to students' overall growth and leads to higher-level badges that encompass a group of skills or competencies. These badges represent certain standards identified by the issuer. As a whole, the system of badges at this level helps create and capture a learning path for adults. Badges can be used to help adult learners set goals and measure progress; identify the steps needed to learn larger concepts; create a sense of affiliation with others working toward similar goals; and provide a platform for mentoring and peer support for other students who want to achieve that skill, share their accomplishments with others, and create social and professional reputations.

- **Policy:** At the learner level, teachers are responsible for observing, recognizing, and rewarding earners' achievements and accomplishments. Although national or state policy can guide the development and types of badges to align with recognized competencies and standards, there is a need to recognize the informal learning that occurs in the classroom, on the computer at home, at a job site, in a social setting, or while volunteering in the community. Teachers require space to explore and innovate with using badges for rewards and recognition, both to motivate students and to tie important learning steps to larger concepts and greater understanding.

- **Practice:** Teachers can design badges to encourage certain behaviors among students, such as participating or leading group work, accomplishing steps toward an assessment, or

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[19] http://hastac.org/digital-badges-bibliography

reaching other classroom-level achievements. The creativity of adult educators can be applied to developing badges that create and reward learning experiences. To the degree that teachers within a program share criteria for badges, these rewards can be used consistently throughout the program and among sites.

As noted earlier, learner badges can be stored in an online portal and arranged to display the skills and knowledge that learners choose. Here, learners are empowered to identify their education and career pathways and opportunities, view their progress over time, build their reputation in areas of interest, and market themselves to individuals and organizations. Badges can help learners create their educational, professional, and social identities. Presented in an online portfolio, the fingerprint of each adult learner becomes a distinguishing mark of comprehensive learning and achievements.

- **Resources:** Technology is integral to any badge system; therefore, learners will require guidance or training on technology to make use of digital badges and to create their own badge portfolios. Many adult learners have limited digital literacy skills and access to broadband to enable the online development and sharing of their badges. Adult education programs that do not already include digital literacy coursework will need to add this component for their learners—and possibly training for teachers as well. Program administrators and state and local professional development staff must ensure that programs and educators are prepared to transfer this knowledge to students.

Badge the Staff

In this scenario, individual teachers, tutors, professional development staff, transition specialists, career counselors, case managers, administrators, and other program staff receive badges for a variety of work, achievements, and the successful completion of activities. The value of badges at this level is the ability to assemble evidence of different scales (granular to comprehensive) and from different sources: a badge system offers diverse ways to pull together evidence of competence at both the individual and institutional levels.

From the perspective of the adult education field, badges for staff work performed in an adult education program may include successfully teaching or transitioning students, improving the performance of the program, providing or completing professional development of a certain quality and quantity, mentoring peers and participating in other collegial activities, or manifesting some other behavior that contributes to the individual and the program. Badges as recognition and reward help improve staff retention, encourage continued learning and success, and enhance the professionalization of the field by recognizing staff—particularly teachers—for their contributions.

- **Policy:** Who will badge the provider's staff? This may be a national badge; however, states vary in their adult learner populations, staff type and requirements, and goals. Stakeholders at the state and local levels will inform the definition of quality for staff badges on the basis of the interests of the state and community and the outcomes they want to achieve, which

recommends a state-driven system of badges for teachers. Students also have a voice in designating meaning for digital badges, given their stake in ensuring that programs and staff address the pressing needs of learners. Ideally, states will confer badges on the basis of similar qualifications so that badges are not only publicly accessible but have meaning throughout the adult education system. A badge for successful team teaching of ESL and nursing should have the same meaning in Michigan as in California or Arkansas. Alternatively, badges must have value for teachers as well, which means including teacher input in the development of which badges are created and whether they have meaning that teachers and their collaborators value. As noted above, learners, too, can have input into the system of badging staff and may be empowered to create badges and reward program staff for their work.

- **Practice:** Program staff will need clear information about the standards for earning badges and a process to document their skills and ongoing development. Also, teachers who move among programs will have the opportunity to identify their skills and achievements via badges that reward not only a professional skill but also their myriad contributions to the success of programs and learners. Badges at a granular level may also add to staff motivation and retention by rewarding staff for their work in a way that they find inherently meaningful.

- **Resources:** Technology is integral to any badge system; therefore, teachers will require guidance and training on technology to use digital badges and create their own badge portfolios. Staff will need to learn about badges and badge systems and understand and buy into their value; communicating this value and the application of badges to their professional and personal lives will build and sustain interest. National organizations that provide professional development will need to add training on creating digital badges, linking badges to competencies, and building online portfolios. These organizations, too, may want to develop badges for their learners, the teachers.

Badge the Provider

In this scenario, providers are recognized with digital badges they earn by meeting state and national standards of performance (outcomes and more granular-level achievements), administration, management, professional development, facilities, accessibility, and more. Programs can also earn badges from other organizations, such as community associations, local businesses or industries, and other partners that recognize the accomplishments of the program in serving learners. Adult learners can view digital badges to understand how a program is performing, its strengths, whether it meets the needs of an individual's career path, and how it is viewed by local partners. In this way, digital badges may help distinguish a program, provide information for learners and other stakeholders, and help the program set its own goals.

- **Policy:** A national entity such as OVAE, with partner agencies, can develop digital badges that correspond to specific standards of performance. This may require developing not only standards but also an evaluation process to confirm and monitor the continued adherence of

programs to those standards of performance. Most federal and state agencies already perform monitoring, and the badge system could align with existing processes; however, there needs to be agreement about what defines a quality program. Whether badges are awarded nationally or by state entities, providers must be involved in the conversation and contribute to the establishment of these standards to ensure the value of these standards to an array of providers.

■ **Practice:** At any level, badge systems require buy-in from programs and their staff. Badges can be used to inform stakeholders and promote programs. Programs will need to consider what they contribute to learners' careers and educational pathways, and badges will help define those contributions. Badges can also improve the recruitment and retention of staff, including teachers, whose professional goals align with the program.

■ **Resources:** Some technology is needed in any badge system, including the design of the badge and the housing of information about the badge and the issuer. The monitoring and evaluation of badges awarded within an identified timeframe for review and re-approval will require staff resources at the national or state level. Partners will also contribute resources such as staff, time, and technology to ensure coherence among badge systems. Each program will need a website with links to display its badges to the public.

Conclusion

The preceding chapters addressed several considerations for using digital badges in the field of adult education, especially with regard to adult learners. Digital badges are emerging as a new way to capture and communicate the skills and knowledge of individuals. The characteristics of these badges, including their ability to acknowledge very specific skills and their portability, offer a number of potential benefits for the recipient, the issuer, and the observer. These benefits align with the adult education field's interests by using badges to recognize lifelong learning and achievement, and by recognizing both overall and incremental progress. For adult learners, badges may also help motivate them to persist if the students understand and embrace what the badges represent: a specific skill that is valued in different types of work and thus offers potentially greater employment opportunities. It is important to consider how to convey the value of digital badges not only to the learner, but also to their instructors and potential employers.

Steps for using digital badges to certify the skills of adult learners involve the development of badges for adult literacy teachers and tutors, certification and scaling of successful practices and programs, and pilot efforts to align learning objects that use badge frameworks. Another important step in making badges work within the adult education system is to enlist partners that would support digital badge systems. Among these potential partners are adult literacy providers, education researchers, human resource and workforce professionals, industry association representatives, and representatives from postsecondary educational institutions and government agencies. The field may consider different frameworks or models to address essential literacy skills, literacy applications, discipline-specific skills, or job and careers, for example.

Ultimately, the most important element to consider is trust: how will the recipient, the issuer, and the observer be able to trust that the digital badge ultimately embodies what it purports to stand for? One way to identify the value of badges is through assessment methods, ideally ones that are aligned with a state or national framework. Characteristics of a competency framework for digital badges will lend itself to a distributed approach to development and assessment. Best practices for assessment should also inform the framework. While Although there are a number of ways to develop, issue, manage, and share digital badges, the role of OVAE is pivotal in developing an adult education digital badge system. This report marks the beginning of a discussion among the field and key stakeholders that must include other federal agencies and national leaders in technology, industry, employment and postsecondary education.

Reference

National Research Council. (2012). *Improving adult literacy instruction: Options for practice and research*. Washington, DC: National Academies Press.

Addendum, June 2015:

In July 2013, *The Potential and Value of Using Digital Badges for Adult Learners* report was released for public comment. This report examined the nature, value, and potential impact of digital badges in adult education as an emerging electronic form for recognizing an individual's knowledge and skills. Interest continues to grow across educational and employment settings in identifying and acknowledging learning, progress, and competencies; and K–12, higher education institutions, and employers are turning to digital badges for this purpose. Since its release, the report has been downloaded from LINCS 868 times, viewed by community of practice members close to 10,000 times, and cited in publications such as, *Gamification in Education and Business* (Ostashewski & Reid, 2015) and the *Handbook of Research on Innovative Technology Integration in Higher Education* (McWhorter & Delello, 2015).

In the K–12 arena, Cities of Learning promotes learning, via digital badges, outside the classroom in settings such as parks, museums, community centers, and the community at large to help students appreciate that knowledge can be gained beyond traditional academic settings. In response, The Sprout Fund, which supports innovation in Pittsburgh, PA, has recruited about 120 educators and subject matter experts across 7 content areas to create systematic "learning pathways" so that badges earned through the Cities of Learning activities build upon one another and are interconnected. These digital badges will be stackable or clustered so that high schools, colleges, internship sponsors, and employers can easily understand the value of the credential.

Similarly, providing adult students with opportunities to demonstrate their abilities and knowledge through competency-based digital badges can lead to increased academic success and employment. As described by Extreme Networks, competency-based approaches allow "students to master skills at their own pace, via multiple pathways and generally mak[e] better use of technology" (Nilsson, 2014). Subject matter knowledge and expertise obtained on the job, through service learning, training, and community involvement can all be assessed using badges; adult students' prior life experiences and new learning can be captured using this digital reward system.

A 2014 employer survey[1] revealed that more than 70% of executives, owners, CEOs, presidents, and other senior-level staff at 400 companies deem college graduates underprepared for the workforce. Graduates are falling short in oral and written communication, teamwork, ethical judgment and decision making, critical thinking, and applying knowledge and skills to real-world settings (Hart Research Associates, 2015). These are the skills that adult basic education and adult English as a second language students need to ensure that they are competitive in the workplace. Employers also are finding that new hires lack the ability to apply their field-specific knowledge to the workplace; thus, they prefer to hire people who have completed internships or apprenticeships where skill and abilities have been demonstrated and are therefore verifiable. Digital badges offer micro-credentialing, which helps employers understand exactly what the applicant knows and can do.

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[1] Survey conducted by Hart Research Associates on behalf of the American Association of Colleges and Universities

Through its Acclaim program, Pearson Education, Inc., is working with various credentialing bodies, academic institutions, professional organizations, and industries to translate learning outcomes and credentials into badges for job seekers and those trying to retain or advance in employment. Operating within this "ecosystem," the Acclaim program enhances the legitimacy of these credentials to other institutions and employers. For example, the GED Testing Service issues badges through the Acclaim program, signifying to employers that those who passed the test possess the critical thinking and problem-solving skills desired in most workplaces. Teachers are part of the workforce and Digital Promise has developed competencies for teachers to systematically track skills gained on the job and to receive recognition for professional growth (Cator, Schneider, & Vander Ark, 2014). In this example, K–12 educators master skills on a daily basis, while digital badges provide credit for the expertise they develop along with a road map to completion (http://home.pearsonvue.com/About-Pearson-VUE/Discover-Pearson-VUE/Pearson-VUE-businesses/Acclaim.aspx).

The Badge Alliance, another program that supports the use of digital badges for professional development, currently sponsors a workgroup called Badges for Educators & Teacher Professional Development (http://etherpad.badgealliance.org/ba-educators-sept11). This workgroup encourages education and workforce systems to use badges as a way for educators to elevate their professional reputation and identity along with increasing skills and advancing in their careers. Badges can be valuable for encouraging and supporting professional and personal growth and continued learning by recognizing existing and gained expertise and building communities of professionals.

Examples from other education systems and the workforce underscore the need for digital badges in adult education. However, badges and micro-credentials require a structure to ensure that widespread implementation provides a cohesive path to learning in school and the workplace. In March 2015, the Education Design Lab kicked off a 9-month pilot to examine the use of digital badges in adult education (http://eddesignlab.org/wp-content/uploads/2015/03/Badging-Challenge-Press-Release_FINAL-3.2.15.pdf). The pilot began with convening partners from seven private and public universities in the greater Washington, DC, area, including the District of Columbia, Maryland, and Virginia institutions as well as businesses, to articulate and test the 21st-century skills needed for entry-level professional employees. Through the pilot, digital badges will be used to measure general skills that apply in all work contexts (e.g., communication, critical thinking, creativity, collaboration) and that students should develop to successfully gain and maintain employment. Results will further inform the adult education field about how to identify, instruct on, and measure skills that employers value in the current economy.

The next step for the adult education field will require educators and program administrators to explore the potential of digital badges—with learners in the classroom and for professional development of teachers. Organizations such as the Badge Alliance offer workgroups for individuals and organizations to join others working on badge initiatives (https://www.badgealliance.org/). At the same time, professional development for adult education teachers is now including instruction on how to create and use digital badges; for example, the online courses provided by the System for Adult Basic Education Support, or SABES, in Massachusetts (http://www.sabes.org/event/146).

Adult educators continue to search for effective ways for their learners to demonstrate what they know and can do and for ways to recognize those abilities outside of traditional degree and certificate programs. Digital badges provide adult educators with the option "to both support learning and provide evidence of that learning" (Hickey, 2012). This is particularly important for adult learners because digital badges offer these learners an opportunity to showcase what they know and can do for their instructors, their employers, and themselves.

References

Cator, K., Schneider, C., & Vander Ark, T. (2014, April). *Preparing teachers for deeper learning: Competency-based teacher preparation and development.* Retrieved from http://cdno4.gettingsmart.com/wp-content/uploads/2014/01/FINAL-Preparing-Teachers-for-Deeper-Learning-Paper.pdf

Hart Research Associates. (2015, January). *Falling short? College learning and career success: Selected findings from online surveys of employers and college students conducted on behalf of the Association of American Colleges & Universities.* Retrieved from http://www.aacu.org/sites/default/files/files/LEAP/2015employerstudentsurvey.pdf

Hickey, D. (2012). Recognizing, supporting, and attracting adult learners with digital badges. Retrieved from http://www.evolllution.com/program_planning/recognizing-supporting-and-attracting-adult-learners-with-digital-badges/

McWhorter, R. R., & Delello, J. A. (2015). Green computing through virtual learning environments. In F. M. Nafukho & B. J. Irby (Eds.), *Handbook of research on innovative technology integration in higher education* (pp. 1–28). Hershey, PA: IGI Global.

Nilsson, B. (2014, October 8). Analytics and competency-based education (CBE). Lessons from EDUCAUSE 2014: How CBE will revolutionize higher education. Retrieved from http://www.extremenetworks.com/analytics-and-competency-based-education-cbe

Ostashewski, N., & Reid, D. (2015). A history and frameworks of digital badges in education. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 187–200). Cham, Switzerland: Springer International Publishing.