Digital Badging:

Disruptive Innovation in Continuing Education

Jasmine Rezapour Bishop

UNC Charlotte

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Introduction

Digital Badges are a relatively new disruptor in the educational field. They create flexible pathways for learners to develop their skills and gain knowledge while providing an alternative way to display acquired skillsets and experience. According to University Professional Continuing Education Association (UPCEA) in a survey of 190 Institutions one in five colleges have issued digital badges (Fain, 2016); however, this type of credentialing is not without risks. For disruptive ideas to be successful they must be analyzed to see where they fit best and the proper methods for rolling them out (Peter, Janzow, et al. 2014). In the rigid learning ecosystems of higher education it can be extremely difficult to develop and conduct assessments with the traditionally risk averse nature universities practice. This inflexible nature leaves limited room for experimentation and exploration of ideas and technologies, especially high risk disruptive ones.

On the opposite end of the spectrum are adaptable units in the educational space that achieve profitability with small markets, quick decision-making processes and rapid course development thrive. Known as “Continuing Education”, “Continuing Studies”, “Extensions”, or “Outreach departments”, they offer non-credit courses to a variety of external student learners (Archer, Walter, et al. 1999). Their agile nature equips them with the ability to step in to help conduct exploration of innovative concepts in a lower risk environment. This allows for a “fail fast, fail often” agile methodology that offers benefits to the institute as a whole on quick correction of flawed ideas and projects (Anheluk, 2017).

Rationale and Purpose

Public universities practice risk avoidance, where they avoid investing their often limited resources on ideas and technologies that may not yield results, this is especially true in regards to risks that do not pertain to the institutes specific targeted programs, research and audiences. Instead they choose to invest in more sustaining ideas and technologies that offer performance improvements of their more established programs. In contrast, disruptive ideas and technologies often result in poor performance in regards to the main market in the short term, but can add value to consumers. They can be very 'unprofitable' in regards to a University context, especially if they do not push the main goals of the institute forward (Archer, Walter, et al. 1999).

This risk makes it difficult for universities to gather the needed support to invest in a disruptor. Then when they do have the ability to invest the adoption process faces hurdles and developmental issues. In relation to the development of digital badges, it can take more than a year to get the project off the ground due to the various stakeholders across campus. There are multiple interests to take into account, the type of infrastructure needed and the necessary assessments that must be performed (Raths, 2013). This slow development and deployment process lacks the adaptable and flexible environment needed to experiment and explore in.

The purpose of this research paper is to evaluate the viability of Continuing Education departments as lower risk models for a disruptor such as digital badging in regards to the initial testing and deployment. Additionally this paper will also explore what are digital badges, the type of badging platforms available, the value and impact, define the proper program

deployments, learning motivation and programs assessments, and the ethical concerns of digital badging.

Digital Badges

What are Digital Badges?

Digital Badges are more than just a new way of identifying what knowledge a student has learned, competency they have gained or skill set they have acquired. Instead, they are more powerful than that, offering an interactive visual representation of what students learn and how it connects to other possible pathways of additional growth and opportunities (Archer, Walter, et al. 1999). Understanding the purpose of a digital badge and the opportunity they afford are based on who the badge is serving and for what purpose. These relationships can be broken down based on the recipient of the badge, the issuer of the badge and the badge observer (Finkelstein, 2013).

The badges recipient obtains it as evidence of their progress or achievement of learned competencies of subjects or the acquisition of a skill. The badge holds value and is unlocked because of progress; it serves as a visual reminder of the learners progress and work. The badges issuer is the one who offers the achievement to the recipient when the correct criteria has been met for earning it. Typically, it is the institution or program provider who has guided the learner through the educational path and is now endorsing their achievement and or skills to an observer. Finally, the observer can be an individual or a collective group that reviews the badge and with it the learner's achievement in order to make a decision as to whether the badge and by extension,

the learner, holds value. This is currently an arbitrary process with no true formal oversight (Finkelstein, 2013).

Digital Badge Example

The following is a collection of badges created by Purdue University for their Introduction to Educational Technology course. The badges address the fundamentals of educational technology, including integration of instructional design, media, computers and related technologies within the classroom setting. The collection was created to help document learner concept understanding and achievements within each of the program areas (Bowen, Kyle, & Andrea Thomas, 2014).

Reference: Badges: A Common Currency for Learning

Bowen, Kyle, & Andrea Thomas 2014

Digital badges are one way of offering alternative credentials that allow for lifelong learning for traditional, non-traditional and Continuing Education students (Takeda-Tinker).

A 'badge' by any other name

It is not enough to just understand what a digital badge is and its use, it is vital to be aware of how they are perceived by recipients and observers. Using the appropriate terminology when addressing certain audiences is critical to the success of the badging program. Certain audiences are not receptive to the term 'digital badge' seeing it as of little value or even juvenile, instead preferring other terms such as, 'open credentials', 'micro credentials' and even 'skills qualifications' (Peter, Janzow, et al. 2014).

EdX founded by Harvard University and MIT in 2012 offers students who complete a course along with certain requirements a 'verified certificate' with courses offering specific types of certificates and is sharable. These certificates can be built up via a pathway. EdX offers 'MicroMasters', 'Professional;' and 'XSeries' certificates (edX). Their model also includes digital badges in which learners can earn and share with the Open Badging community, however they are seen more as personal achievements per an assessment. For edX, the terminology they used is important since it is used to bring viability and professionalism to their already innovative course model of Massive Open Online Courses (MOOCs).

A badge here, a badge there - what are Badging Platforms?

There are a wide offering of possible badging platforms with the model being built on the Open Badges work initiated by Mozilla and the MacArthur Foundation. This has allowed companies (vendors) to offer platforms to help colleges and universities create and deploy badges (Fain, 2016). One such vendor is Credly, which is widely used since it offers

organizations a flexible and secure platform to control the entire badging process and pairs with popular Learning Management Systems (LMS) such as Blackboard Learn, Canvas and Moodle (Badge Alliance). These vendor platforms differ from the Open Badges framework, where anyone can design and issue a badge on the Mozilla platform. Instead they have requirements for who they partner with in order to create verifiable and backed badges. Moving from an open badge model to a closed (Badge Alliance).

Continuing Education

Those in Continuing Education are working in a different type of environment than those with the main University. They are running a business - where there is a constant need to conduct market research for the coming quarter, manage expenses and make comparisons for return on investment. Their courses (non-credit in nature) are not beholden to the strict and long course development process. This allows for quick development and risk taking in an agile environment. Their students do not fall into 'traditional models' nor seek 'traditional degrees', they vary in age, careers, education and income levels. With this they can extend the reach of the main University by fulfilling their needs where traditional course offerings do not and by testing out new educational and technology disruptors without a high amount of risk to the University or students (Archer, Walter, et al. 1999).

Taking Risks, using Continuing Education for Innovation

Recognizing the value of non-credit students and by extension Continuing Education courses and programs is a persistent issue in higher education. Sixty three percent of working adults are considered professional learners and eighty five percent already hold a postsecondary credential or degree according to a 2016 Pew Research Center study; with the important role

continuous learning has on the the success and progress of today's employers institutions are now working toward addressing this problem (Radionoff, 2016). Growing alternative credentials measures, such as digital badges is one way of bridging that gap.

Using Continuing Education departments as a testing ground for the disruptive ideas and technologies, such as digital badges, offers universities a way to practice a deployment in a controlled environment and gather valuable data from a select sample of users segmented from the main campus population (Archer, Walter, et al. 1999). With their 'fail fast and inexpensively' model, they can help test the university's ability to deploy, collect user data and reactions, learn from successes and issues and see if the resulting technology should be and can be applied campus wide properly over a specific time frame (Anheluk, 2017). It also gives the institution the ability to learn experientially in a safe environment. Learning experientially opens the lines of communications, this is extremely successful across a traditionally siloed campus community, while learning what works and what doesn't (Wartham, 2017).

Sample Badge, Acquisition and Data Guidelines

One possible way of doing this is using an established non-credit certificate program alongside the Continuing Education departments separate registration and learning management system. By piloting a minimum viable badge (MVP) instead of a complete system institutions can manage the process better and build off a better foundation (Peter, Janzow, et al. 2014).

For example, in theory a student can earn a badge for their completion for the Business Analysis Certificate. In order to be issued the badge the student would need to take all the required courses in the certificates listed below in either FY19 or FY20. Courses taken outside these fiscal years will not count to earning the badge. Student progress toward the badage can be

checked throughout the process and then issued the digital badge based on completion of the preset requirements.

Course Code	Course	Course Taken	
BZA108	Business Analysis Success (3.0)	FY19	FY20
BZA104	Eliciting & Documenting Requirements	FY19	FY20
BZA106	Project Management for Business Analysts	FY19	FY20
BZA101	Requirements Analysis and Design Definition	FY19	FY20
BZA110	Solution Deployment & Evaluation	FY19	FY20

Reference courses and certificate from https://continuinged.uncc.edu/business

Based on the above set of criteria, the Continuing Education department can gather data for their pilot badge program. This pilot badge program allows for data collection under a specific time frame that can be used for possible badging models in the future (Digital Badges Transforming Non-Credit Education, 2016). With that segment of data the department can begin to make possible predictive models into understanding a student's motivation to learn in relation, pressure from time completion constraints and the effects of badges, which in turn can lead to better implementation of gamification based models (Shields, 2016).

One in particular set of important data to analyze includes student completion rates for the FY18-FY19 to FY19-FY20 Business Analysis Certificates in the example. This raises additional questions around what other factors could be driving completion rates and if the badge encourages students to complete their certificate program? With additional research needed to

look at other external influences, such as market fluctuations. The deployment of digital badging initiatives for colleges and universities can be a risky endeavor, but with the ability to offer agile courses to a diverse set of students in a variety of industries Continuing Education units can serve as beds of innovation in a lower risk environment (Digital Badges Transforming Non-Credit Education, 2016).

Adding Value and Determining Impact

Digital badges are more easily earned and thus issued than a traditional diploma. Bringing the question, what value comes from a digital badge? One reason badges are getting attention in higher education is their flexible nature. Their ability to offer lifelong recognition, their ability to visualize a learners overall and incremental progress while providing a way to recognize learning.

The institute sees improved retention in their courses, learners achievement in new ways and the ability to assess learners based on different aspects outside of traditional models (Finkelstein, 2013). The benefits of digital badges are known but their impact is still being explored. Known impacts include learning and development with customized learning pathways, and organizational scalability offering the ability to increase the potential impact within organizations based on individual opportunities (Finkelstein, 2013).

Motivation, Development and Assessment

Using Digital Badges to Motivate Adults

Digital badges can be used for multiple purposes, they can be used to incentivize engagement based on positive learning behaviours, identify progress and learning trajectories, offer credential and achievements and even institutional goals of filling courses and higher

completion rates. One of the main purposes is to serve as a motivator for learners and in today's learning environments it is more important than ever to understand how to reach and engage adult learners (Archer, Walter, et al. 1999s).

Understanding what drives an adult learner to complete a course is different than a traditional undergraduate student is just the beginning. By implementing badges in an environment specially tailored to adult students and their specific learning needs can design future courses and content to those students. This way colleges and universities can learn via data collection and exploration what their students respond to.

What came first? The badge or the badge process?

When developing a digital badging initiative there are a few key points that must be taken into consideration before the design of the first badge can even begin. This includes taking the time to gather requirements, conduct process mapping and plan short and long term goals and growth models is critical to the success of a stable digital badging program (Digital Badges Transforming Non-Credit Education, 2016). In order to execute these tasks the following must first be addressed (Radionoff, 2016). :

- **What is the purpose for badging?** This includes what are the institute's overall goals, specific stakeholder goals and learner goals (Fain, 2016).
- **What type of badging platform and or platform will be used? Does it make sense for your offerings and institution?** The institute will need to determine if the same platform will be required campus wide or if different areas be allowed to use other vendors/solutions.

- **How will badging be made operational?** The process for initial and the final roll out will need to be documented with stakeholder input. This includes trials and or phased roll outs to ensure smooth transitions with the chosen solution working for as many stakeholders as possible for the current and future IT and program environments.

Making the cut - Badge Assessments

Digital badges by design recognize that some sort of learning has occured, with the assessment that learning is based on a set amount of evidence (Itow 2013). By engaging learners and bringing feedback and assessment closer to the learning movement, educators can help learners continue to learn (DML Competition and Badges for Lifelong Learning, 2011). Some types of assessments for badging include (Itow 2013):

- **Level based systems** where learners work through as they become more familiar with the context and master it. Example: Points or stars working towards a badge
- **Expert judgement** on the work produced by learners. Could be a human expert, or machine logic driven with populated scores.
- **Measurable learning objectives** is a requirement of almost all badges. It is the basic premise that the badge is relevant to the subject matter.
- **E-pofilos** help trace a learning growth along their pathways, their overall journey.
- **Formative functions**, or formative feedback includes enough specific content to quality as a learning principle. The learning takes the assessment and shapes their work going forward, not just accepting a score at the end of the activity. This encourages communication and possible peer feedback.

Ethical Concerns in Digital Badging

Innovation brings the academic world new pathways to connect with students, it also brings possible ethical issues. Specifically in relation to a learners academic data and where that information is not only stored but distributed. Digital badges are an intersection of academic achievement and social media (Willis, Quick & Hickey, 2015). Badge data should be scrutinized since it is publicly available based on the environment, this includes the ethical affects per social media and possible nefarious uses such as hacking for surveillance (Willis, Quick, Hickey 2015).

Open and Closed Badge Environments

There are two types of environments when in relation to digital badges, closed and open systems. Closed environments display an individual's accomplishments only share data with specific recipients, such as instructors and employers. Open environments allow the sharing of badge data to basically anyone, bringing with it additional concerns. Issues include how badges affect a student's data, how that data is presented and if that data can be faked.

Issues with Digital Badges

Digital badges can help mitigate educational failures since they offer supplemental achievements, such as micro-credentialing. This is where a user builds on skills to be successful in other educational avenues. When this type of data is shared on the social media, or the web it is open to possible web crawlers. These crawlers can gather data on specific badges and specific users who shared their achievements. From this predictive analysis can be used to build profiles on these users. From there they could be targeted and harmed, either by stunting a student's

possible future employment or tapped to perform unethical behaviors, such as hacking (Willis, Quick & Hickey, 2015).

The disclosure of the student could present other possible policy issues. This includes The Family Educational Rights and Privacy Act (FERPA) for credit programs based on how the badges deploy. However, using a non-credit environment a badge could be on course completion and the badge awarded and only published via opt-in by the user. This is not something that should be discounted nor ignored, along with possible threats of badge forgery. The forgery of badges can also occur by simple spoofs where a badge is copied and altered then falsely uploaded on a user's own social media accounts to more complex ones where the badging platform is compromised. Forcing badge issuers into having to deal with compliance and possible legal issues. This would diminish the work of students who have legitimately completed and earned the badge and could reflect poorly on the college or university.

These issues require instructional design, legal and technology teams to work together to build systems and processes where cheating does not produce a reward. This may include vendor solutions paired with the adequate development time in order to study what should earn a badge, who should be allowed to earn a badge, and how they are controlled.

Conclusion

Though a disruptive topic in higher education currently, it is easy to issue digital badges given the variety of vendors and environments to choose from (HASTAC). Implementing a properly designed, tested and well thought out process for digital badging that is well documented and supported is not so easy. It takes the courage to propose such a disruptive idea,

the right resources to deploy it, a wide support network from the institution, talented staff to design it and a willing community of learners to test it.

With support for digital badges from upper-level administrators still lacking, universities need to rethink their approaches in how they utilize their Continuing Education departments (Raths, 2013). The implementation of digital badges can be a reality for any college or university, where that process starts is the key. Given the agile nature of Continuing Education departments they are a perfect place to trial innovative ideas in a low risk environment. Digital badges offer lifelong recognition and incremental progress monitoring while recognizing learning as well as improved student retention and achievement (Finkelstein, 2013). With the development of a minimum valuable badge program, Continuing Education departments can help successfully test then develop digital badging efforts for campus wide initiatives.

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