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Are Badges Working? Student Perceptions of the IPT 286 Badging Program

Bryan B. Tanner
Brigham Young University - Provo, bryantanner@gmail.com

ARE BADGES WORKING?

STUDENT PERCEPTIONS OF THE IPT 286 BADGING PROGRAM

An evaluation

by

Bryan Tanner

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Executive Summary

Dr. Richard West created and implemented the Educational Technology (ED TEC) badging program for the Brigham Young University's Instructional Psychology and Technology "Technology for Teachers" course (IPT 286) in 2012 with the following objectives:

1. to allow IPT 286 students to **customize** their instruction to better accommodate the diversity of interests and department emphases of the students taking the class,
2. to **motivate** higher achievement through increased student engagement, and
3. to **provide** a resource for IPT 286 students to continue professional development and learn additional technologies beyond what is required of them in the course.

The IPT 286 badging program (badges or badging) is a layered system of micro-credentials designed to incentivize and reward students for mastering specialized technology skills useful to secondary education teachers. After three years of implementation, this evaluation seeks to inform West, and the other IPT 286 instructors, about student perceptions of the strengths and weaknesses of the badging program for IPT 286 as currently implemented.

This evaluation uncovered the following three, main findings:

1. **Like water, students seek the easiest path.** While students appreciated being able to customize their own instruction, the singular criteria of those earning badges was how easy they felt the badges were to earn, rather than how valuable they would be based on their major or personal interests.
2. **Students who believe, achieve.** Students who believed that badges would become a recognized and valued credential in their future professional community completed their assignments at a higher standard, and even expressed a desire to "upgrade" to higher levels of badges after graduating. Students with little hope that badges would become a valuable professional credential were unmotivated to engage beyond minimum course requirements. The letter grade in the class was their motivation.
3. **If you build It, they will come.** Students unanimously agreed that badges would be a preferred alternative to traditional professional development systems if well accepted by their professions generally. They are not currently motivated to engage with the badging program after completing the course unless and until the badges become an officially recognized and accepted professional development credential.

The key recommendations, based on these findings, aimed to better achieve the stated objectives are as follows:

1. **Initiate a basic marketing campaign** to be used by IPT 286 instructors to promote badging among their students.
2. **Better prepare IPT 286 Instructors** and Teaching Assistants to present badging to their students on the first day of class.

3. **Require students** of certain majors to earn the badges developed for those majors.
4. To earn an A grade in the course, **students must earn at least one main IPT badge** of their choice.
5. **Create a video vignette** designed to provide students with instruction and vision of the benefits of badging.
6. **Increase hiring principals' awareness** of what our badging program can offer them by creating an informative webpage.
7. **Capture badge perceptions of student opinion leaders** regarding their opinion of the value of the ED TEC badges for future hires and subsequently **present students the positive findings** by some easy to understand method such as a video.
8. Work with state boards to **allow badging to count towards teachers' required professional development** hours.

Table of Contents

List of Appendices, Tables and Figures

Other Authorities

Chapter 1: Introduction

The Problem: Is Badging Working?

In a continuing effort to find ways to teach technology skills to future secondary education teachers, West created and implemented the IPT ED TEC badging program for IPT 286 as a way to expose students to essential course material, motivate them to earn the badges, provide them with an opportunity to experiment with micro-credentialing and encourage them to use the badging system for future professional development. From the time this experiment began, it has never been evaluated.

How Did This Evaluand Come to Be of Interest to You?

Having had been an instructor of IPT 286 for 4 semesters, I was naturally curious to know how students perceived how the course was being taught and other aspects regarding the course. During Spring 2015, I asked West if I could help him gather evaluative data and suggest improvements to the IPT 286 course. I had seen some applications for badging in industry, but higher education had not yet explored the use of badging.

How is the Evaluator's Background Relevant to This Evaluation?

In addition to having a personal interest in qualitative inquiry, my four semesters of experience teaching the ED TEC badging system to IPT 286 students provided me with the background to address this evaluation. I have taken three graduate-level, qualitative inquiry courses through BYU. I have conducted approximately a dozen interviews using protocol instruments and audio/video recording devices for the U.S. Air Force. I have also conducted additional interviews and focus groups through various projects done during my Master's degree at Utah State University.

Key Stakeholder

In 2009, West joined the Instructional Psychology and Technology faculty at Brigham Young University as an assistant professor. One of West's assigned courses was IPT 286—Technology for [secondary education] Teachers. West wrote the content for the IPT 286 course curriculum, including its course objectives. In 2012, West created and implemented the ED TEC Badging Program in IPT 286.

Additional Stakeholders

While this evaluation did not directly collect data to address the concerns of secondary stakeholders, the evaluation team was aware of their needs and felt some of this information may be beneficial to the following:

- **Dan Randall**, a fellow IPT PhD student is currently doing his dissertation on the evaluand—the IPT ED TEC badging program. His future dissertation articles will likely call upon some of the information produced in this report and subsequent journal articles.

- The **graduate instructors** and **teaching assistants** for the IPT 286 course might be interested in learning how badging is perceived by students in order to better help students adopt the badging program. While these individuals played no role in the collection of data, as an evaluation team we are aware that our results will have a direct impact on how they administer the sections of the course over which they have ownership.
- **IPT 286 students** could be interested in more fully experiencing a richer, more interesting learning environment and the social benefits badging. IPT 286 **students**, past and future, were invested in the outcome of this evaluation. Future IPT 286 students will hopefully benefit from the results of this evaluation.
- **Principals in secondary education** might want to know if the technical skills people are bringing into the workforce with them.
- The **McKay School of Education** might be interested in the outcome of this report. West informed me that he and others from the IPT department faculty have been approached by the school to develop new course curriculums around a badging infrastructure. Ultimately, college administrators are concerned for their students and want to offer them the best pre-service preparation possible. They also hope badging will afford learners all the benefits mentioned in the "Key Stakeholder Interests and Concerns" section below.
- The **Academic community** may be interested in the findings of this evaluation as they add to the body of knowledge regarding badging and micro-credentialing systems in general.

Evaluand — What is Being Evaluated?

The evaluand for this project was the implementation of the **ED TEC badging program in the IPT 286 course.** The ED TEC badging program is described in more detail below. It was evaluated by reviewing survey data and conducting interviews with a sample of students to assess student perceptions. This evaluation offers West findings and recommendations regarding student feedback on the badging program in IPT 286 to help him make enhancements to the current implementation of badging in the course.

Course Description

IPT 286 is taught by Rick West and Staff. IPT 286 has no pre-requisite classes, however students are required to complete a Technology Skills Assessment (TSA) prior to registering for the course. Successfully completing the TSA ensures that students have a basic level of computer literacy before taking this course.

The IPT 286 course description can be found on BYU's online course catalog:

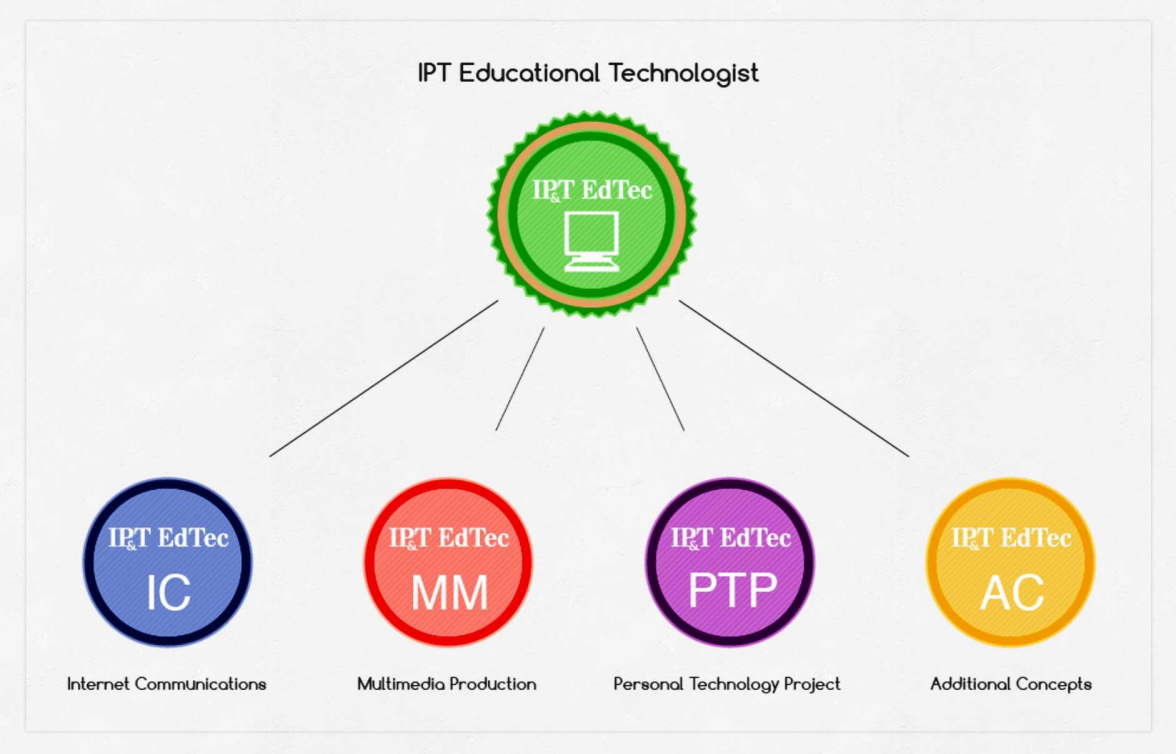
> Using instructional design, visual design, and differentiated staffing principles along with multimedia authoring systems, telecommunication, and other computer-based tools in the development of educational applications for secondary education.

IPT 286 is a BYU course required for most secondary education majors across several University departments. For students wanting to become secondary education teachers, their teaching major is housed in a department focused on their teaching emphasis. For example, students preparing to become high school English teachers will be English-teaching majors in the English department. The majors that currently require completion of the IPT 286 course include: English, PETE, Social Sciences, Health, History, Physics, Biology, Chemistry, FACS, and Performances Arts. Other teaching majors, such as Math, have their own Technology for Teachers courses.

The course schedule is essentially broken down into four major units:

1. Internet Communication — Students must create a website that serves as a portfolio to host badge content.
2. Movie Making — Students must create a simple video that could be used as a teaching tool.
3. Personal Technology Projects (PTP) — Students must earn 15 points-worth of badges related to their respective disciplines.
4. Additional Concepts
    a. Copyright and Creative Commons — Students learn how to use multimedia in a way that is compliant with copyright law.
    b. Internet Safety — Students learn how to safely explore and utilize the internet in order to protect information, identities, and software.
    c. Mobile Technologies — Students become familiar with teaching apps on various mobile platforms.

Figure 1. Screenshot of the basic badge hierarchy of the IPT ED TEC Badging Program



A complete calendar of assignments is found through the BYU course catalog (Instructional Technology, 2013).

West developed the mode of instruction in an effort to accommodate student needs from the various departments, and most effectively present information. Early on, the traditional model of instruction was to lecture face-to-face on all the content. However, in order to meet the needs of students of varying technologically abilities, the mode of instruction shifted to offer a half lecture/half online (blended) approach. Reducing the amount of mandatory seat time allowed learners more flexibility to complete tasks on their schedules and reduced the perceived load as it was already demanding for a 1-credit class. On non-required class (open lab) days, instructors invite students who may be struggling to come in for additional instruction. Students with passing grades are not required to attend open labs, but are free to work on their selected badges at their own pace. For the time period examined by this evaluation, West would occasionally offer the course completely online.

Course Objectives

West crafted the IPT 286 curriculum and associated course outcomes based on it being 1-credit hour. The following excerpt was taken directly from West's Fall 2012 Syllabus (Instructional Psychology, 2012). While some of his graduate instructors have taken liberties with the verbiage below, very little has changed from the four outcomes listed here:

Instructional (sometimes called educational) technology is becoming an increasingly important part of K-12 education. New and emerging technologies are what your students will be using to learn and complete homework, and it will be what they will use to succeed as professionals in the workforce. It can also be how you enhance learning, improve motivation and engagement, increase accessibility, individualize instruction, and improve communication with parents and stakeholders. In this course, we will learn ideas and skills for integrating technology effectively into your teaching. Specifically, I hope that by the end of the semester, you will be able to:

1. Understand how technologies can enhance teaching, professional work and communication, and personal professional development.
2. Design technology-enhanced lesson plans, activities, and resources.
3. Identify resources to assist you in learning how to integrate technologies in the future.
4. Be motivated and confident in your abilities to learn how to use new technologies in your teaching.

Course Components

In 2013, West implemented two major infrastructure tools to help him structure the learning environment for his students and support the use of badges. West adopted *Canvas* as a learning management system (LMS). He also hosted his own website on BYU servers (IP&T Educational Technology, n.d.).

- Canvas LMS — For a learning management system (LMS), West decided on Instructure's Canvas as it offered students many features that other learning platforms lacked, including Blackboard and BYU's Learning Suite. One of the most important features was its open and relatively flexible infrastructure. This flexibility to add and take away from the fundamental LMS afforded West the freedom to direct how his students engaged with the content and with one another. But more importantly, West felt that by using Canvas, he would have the flexibility to incorporate badging more easily than with other platforms.
    - IPTEDTEC.ORG Badging Website — In addition to a adopting a Canvas LMS, West created a companion website to host badge rubrics and facilitate badge dissemination. On the first day of class, West and the other IPT 286 instructors made sure to teach their students the value of badging and how to earn the badges. West did this by including a five-minute training module in the first week of the online content. He also made sure to briefly show students the website and how it works on the first day of class. Anyone is welcome to earn IPT ED TEC badges. To earn badges, learners first visit the site, select a badge rubric, complete the requirements, host evidence of their work online, and finally submit links to be reviewed by badge graders (IPT instructors). Feedback is then returned to the learner via google docs. If the badge criteria are met, the learner is

issued a digital badge which they can download and store in their Mozilla backpack. If projects need further revision, learners can make corrections and resubmit when ready.

ED TEC Badging Program in IPT 286

The ED TEC badging program was designed to mirror the IPT 286 course curriculum. Each of the four course units, outlined above, are associated with a badge. For example, the blue *IP&T EdTec IC* badge, pictured above, can be earned after completing the course requirements to the highest standard. Sometimes, in order to earn one of these four badges, students must earn subordinate badges. For example, you must earn *Copyright and Creative Commons*, *Mobile Technologies*, and *Internet Safety* in order to earn the *Additional Concepts* badge. Once a student has earned each of the four main badges, they qualify for the green "grand-daddy" badge, *IPT Educational Technologist*. Very few students have ever earned this badge. To explore all 56 badges offered by IPTEDTEC.ORG (IP&T Educational Technology, n.d.).

As mentioned previously, a badge represents true mastery of a skill. This means that a student can earn an A (e.g. 19/20) without earning a badge. In the pursuit of mastery, West's students are encouraged to re-submit their badge projects, after having received specific feedback from a badge grader regarding unmet criteria. In doing so, learners can confidently say they have mastered a specific skill.

Key Stakeholder Interests and Concerns

The key stakeholder—West—wanted to achieve the following objectives with the badging program:

- Allow IPT 286 students to **customize** their instruction to better accommodate the diversity of interests and department emphases of the students taking the class,
- **Motivate** students to achieve mastery through increased student engagement, and
- **Provide** a resource for IPT 286 students to continue professional development and learn additional technologies beyond what is required of them in the course.

Through this evaluation, West seeks to better understand his students' perceptions on badging for three main reasons. He hopes that the recommendations in this report will help him improve the way badging is implemented in IPT 286. Additionally, he hopes the findings will support his larger (current and future) research interests, and will generate material for future conference presentations. Lastly, late in the evaluation process, West and other members of the IPT faculty reported that they had been contacted by BYU's McKay School of Education to pilot additional courses for the college with *badging* as a core component for their structure and assessment.

Chapter 2: Literature Review

The Need for Alternative Credentialing

The Information Age of the 21st Century has made affordable, lifelong learning pursuits increasingly popular. Internet technology has opened a way to anyone who wants to learn—beyond what is offered by accredited institutions—almost anything on demand (Brandon, 2013). The concept of badging was necessitated by the growing demand for informal learning assessment. Badges are being recognized as a leading alternative. For an excellent diagram depicting how badging works, see Appendix 1. How Badging Works Diagram.

The Evolution of Badging Systems: Physical, Digital, and Open Badges

Youth programs and other organizations, established to promote lifelong learning, have long used badging systems to recognize what a person knows, has accomplished, or has become. Recently, as online educational communities (e.g., Khan Academy) and social networks (e.g., Foursquare) have developed, badging has digitized to accomplish the same purposes. Simply put, *digital badges* are digital images used in place of physical badges. The Mozilla Foundation built upon this digital badge movement by creating the Open Badges Infrastructure for issuing and managing digital badges with embedded metadata. This infrastructure is an open and free credential-issuing platform that acts as a validator between issuers and earners (The Mozilla Foundation, Peer 2 Peer University, & The MacArthur Foundation, 2012). This allows a badge issuer to easily award badges to an earner, who can store these badges in a digital backpack. Mozilla (n.d.) explained that "the web and other new learning spaces provide exciting ways to gain skills and experience . . . Badges provide a way for learners to get recognition for these skills, and display them to potential employers, schools, colleagues and their community" (Mozilla, n.d.).

Recently, there has a been a push to further differentiate between digital badges and the concept of Open Badges. To learn about the four main differences between digital badges and Mozilla Open Badges, see Appendix 2. Four Differences Between Digital vs. Open Badges.

Theoretical Constructs

Part of the academic appeal of badging systems is their positive impact on theoretical constructs such as ***self-regulated learning***, student ***autonomy***, and student ***intrinsic motivation*** (Randall, Harrison, & West, 2013). Student autonomy and self-regulation have historically been among the best predictors of student performance (Pintrich & De Groot, 1990).

Self-regulated learning theorists identify key processes and distinctive features of how students self-regulate their academic learning. Zimmerman (1990) observed that self-regulation involves planning, goal setting, organizing, self-monitoring, and self-evaluating (p. 4). Badges are

designed to support *self-regulatory* behaviors in that badges themselves provide learners with very specific, attainable goals. Badges afford students greater freedom to guide their own learning experiences within a badging infrastructure.

In addition, badging supports *student autonomy* in that learners are provided options when choosing how to fulfill larger course requirements. Instead of expecting students to complete the exact same requirements as their peers in the same sequence, students are allowed to tailor their educational experience to better meet their individual interests and needs. Thus, badging choices offer learners autonomy to become active participants in their own learning, which is a key motivator in the learning process (Goligoski, 2012).

Another fundamental concept of badging is that badges may be earned immediately after demonstrating mastery over a single skill. Alternatively, most credentialing systems award learners only after long, arduous learning experiences, which require summative mastery over multiple skills. By chunking student learning in this way, learners can experience greater *intrinsic motivation* to acquire new skills and easily communicate the specific skill they have mastered. As Shunck (1990) explained, "When students perceive satisfactory goal progress, they feel capable of improving their skills; goal attainment, coupled with high self-efficacy, leads students to set new challenging goals" (p. 71).

Badging systems are still too new to be grounded by strong, empirical evidence in the research, but theoretical constructs such as self-regulated learning, student autonomy, and student intrinsic motivation easily suggest that the additional choices and performance feedback offered by a badging system potentially provide great benefits.

Chapter 3: Evaluation Design

The criteria are the measurements for determining the success of the evaluand. The standards state the level or degree to which the measuring criteria are to be performed for success. The evaluation questions flow from the criteria and standards and quantify the approach to be taken in the review of the evaluand.

Criteria and Standards

The criteria for evaluating students' perceptions of the ED TEC badging program are as follows:

1. Badging affords students autonomy to customize their learning experience.
2. Students earn badges aligned with their major and personal interests vs. those that were easiest to earn.
3. Student engagement leads to achievement of higher levels of technology skills.
4. New technologies beyond the course requirements are learned.
5. Secondary ed teachers see badging as a legitimate resource for ongoing professional development.

Evaluation Questions

The overarching question is intentionally a general, open-ended one. It is followed by three evaluation questions targeted to solicit perceptions of the students. The reasons for this approach are described in the criteria and standards below. The three sub-questions are grouped because they relate directly to stakeholder concerns and intentions of implementing badges in the first place.

There was one overarching evaluation question: What perceptions do BYU Instructional Psychology and Technology 286 students have about their experience with the ED TEC badging program? In an effort to better understand this larger issue, we asked three subordinate evaluation questions, to which this report responds.

1. How are students selecting which badges to earn?
2. How were badges motivating to students?
3. How do students perceive the ED TEC badging program's potential as a continual professional development resource?

Data Collection and Analysis Methods

Once evaluation objectives were discovered and evaluation questions had been established with their associated criteria and standards, we then selected a theoretical approach that would lead us to determining an appropriate sample size, time frame, and methodology.

Theoretical Approach to Answering the Evaluation Questions

When presented with the inherent trade-off between seeking a breadth vs. depth of perceptions, the evaluators felt they were capable of providing both to a certain degree. We first looked at survey response data to get a picture of the evaluand and to inform the case study selection of our qualitative portion of the evaluation. We then sought to provide West with rich descriptions of student perceptions by narrowly looking at our case studies, which combined data collected from the following: course data, artifacts, generalized insights from prolonged observations, survey responses, and findings from in-depth interviews.

While exploring a phenomenon among a larger number of people in less depth can be especially helpful in trying to document diversity or understand variation, this was not the intention of this study. The key stakeholder was looking for in-depth information from a small number of people which, "can be very valuable, especially if the cases are information-rich" (Patton, 1990, p. 184).

When conducting qualitative inquiry, Patton observes that researchers and evaluators can have reasons to be random in their approach, as well as purposeful. He suggests 2 random approaches and 14 purposeful ones (1990, p. 169-186). Of the strategies recommended, extreme or deviant

case studies was the purposeful sampling strategy that seemed to best fit the needs of this evaluation. Patton defines extreme or deviant case sampling as, "learning from highly unusual manifestations of the phenomenon of interest, such as outstanding successes/notable failures, top of the class/dropouts, exotic events, crises" (Patton, 1990, p.182).

Determining Sample Size and Time Frame

In determining the sample size for this study, we chose to focus on a smaller sample size in order to gather richer data. Patton notes that "Qualitative inquiry is rife with ambiguities. There are purposeful strategies instead of methodological rules…There are no rules for sample size in qualitative inquiry. Sample size depends on what you want to know, the purpose of the inquiry, what's at stake, what will be useful, what will have credibility, and what can be done with available time and resources" (1990 pp.183-4). Patton continues to argue that "The validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size" (1990, p. 185).

To maximize credibility in qualitative inquiry, Lincoln and Guba (1985, p.202) recommend sample selection to the point of redundancy. I.e., sample the entire population, or at least enough participants until no new information is forthcoming from new sampled units. However, Patton argues that in purposeful sampling "the size of the sample is determined by informational considerations…what you what to find out, why you want to find it, and how the findings will be used and what resources (including time) you have for the study" (1990, pp. 184-5).

In this evaluation, we were burdened with reporting general findings as well as very specific ones. In order to uncover the depth and richness required by the evaluand, the design necessitated a qualitative approach. We would look at multiple points of data surrounding only a few case studies in order to get a more insightful picture into student perceptions in general.

West introduced the ED TEC badging ecosystem to the course in 2012. The population sampled was all BYU pre-service teachers who took IPT 286 since 2012. For this evaluation, we are specifically looking at the time between 2013-2014. We chose this time frame because by that time, West had the most complete sets of student feedback from post-course surveys. We decided to sample all BYU students from 4 different semesters/terms (Winter 2013, Fall 2013, Winter 2014, Spring 2014).

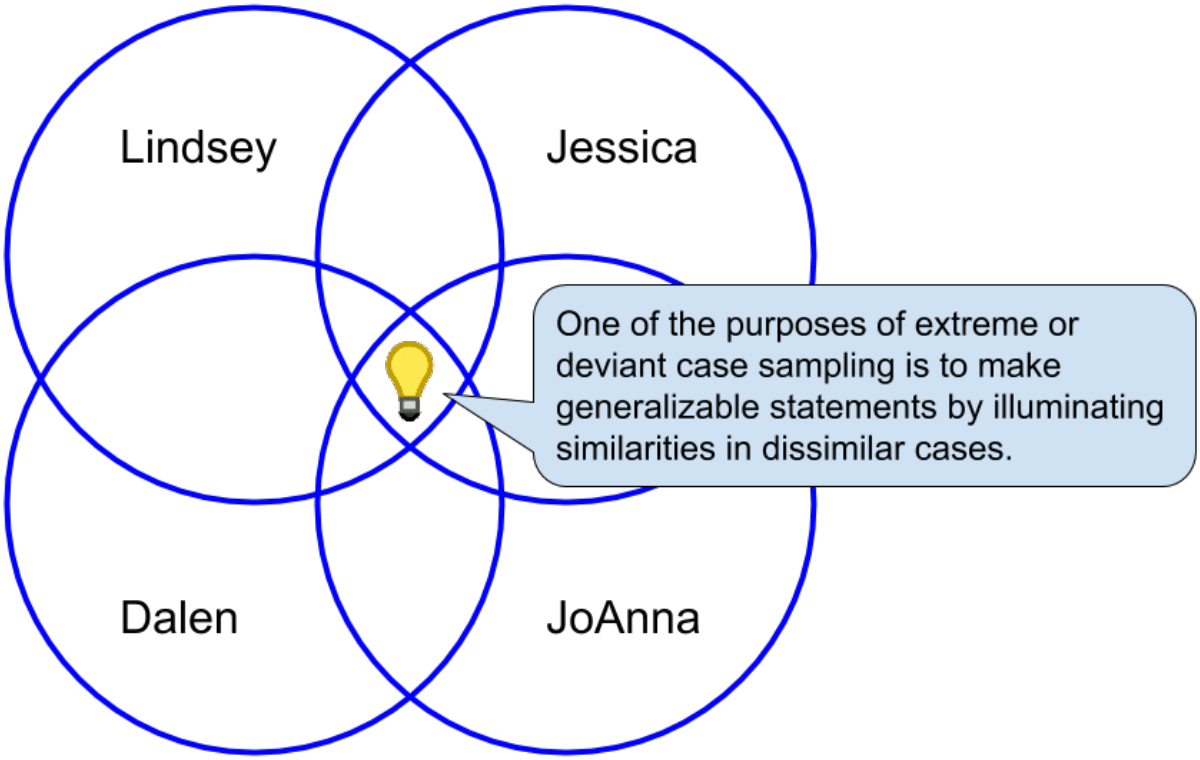
Methodology

To get a general sense of how students in the sample perceived badges, we first looked at quantitative data from a post-course survey West required of students from all sections of the course. The means and standard deviations of their responses on badge-related items provided us

with a general idea of how students felt about badges. They also gave us the individual information we needed to identify interesting cases that we explored more in depth.

Once we had an idea of what students thought of the badging program, it was time to take an in-depth look at student perceptions by selecting case studies. Through purposeful, *deviant-case* sampling (Patton, 1990), we selected four case study participants who provided insights beyond their survey responses into their perceptions of the effectiveness of the badging program. Hoping to learn from highly unusual cases, we needed to select participants for our case studies with extremely different survey response data. By identifying the common perspectives or the overlap from these four divergent participants, this report will identify findings that are more likely to be representative of the perceptions of the entire population.

Figure 2. Venn Diagram Representing Student Opinion



We examined the survey data to identify students who gave the most extreme responses for each of the three badge-related items. (See Appendix 3. Interview Participant Selector.) Once we had identified the high and low responses from the 58 students in the sample, we then attempted to make sure we had representation from different semesters, teaching modalities, student genders, and instructors. By selecting the most unique participants, we hoped their findings would reveal especially enlightening perceptions, as Patton suggested. Additionally, we would be able to potentially make additional observations by comparing and contrasting their vastly different experiences.

Participants were initially contacted through both Facebook and email (provided in their post-course surveys). See Appendix 4. Participant Invitation to Interview Letter. Although two of our initial potential candidates were unavailable to participate, four students were ultimately selected as case study participants. The participants consisted of three females and one male (n=4, 3 females, 1 male). Interviews were scheduled online. Two were current full-time teachers, one was currently conducting his student teaching, and one was still completing coursework. Their disciplines consisted of english, chemistry, and geography. More information about the demographic backgrounds of each of the participants is found in Appendix 5. Case Study Profiles.

We conducted an in-depth, semi-structured interview with all participants. Three interviews were conducted face-to-face at the IPT grad lab and one was conducted using Google Hangouts. During each interview, one researcher conducted the interview while another took field notes and assisted in making sure all of the evaluation questions were adequately covered. After the interview, the evaluators conversed and recorded their observations from the interview in order to capture more rich insights that would be lost by simply listening to the recording. Field notes to all four of those case studies can be found under Appendices 6A, 6B, 6C, and 6D, titled by their respective names: Lindsey "*The Practical One*", JoAnna "*The Lifelong Learner*", Dalen "*The Methodical Skeptic*", and Jessica "*The High-Achieving Disbeliever*".

In order to get the most realistic, genuine responses from our participants, we decided to take a developmental approach to naturalistic inquiry. Meaning, we followed a semi-structured interview protocol, but we allowed our interview conversations to develop naturally, allowing the participants to not feel pressured to strictly adhere to the questions we had sent them beforehand. As we continued to interview, our protocol developed (see Appendix 7. Interview Protocol) to reflect new and interesting topics which emerged. Ultimately, this process yielded a wide breadth of findings regarding badging and other aspects of IPT 286. For this evaluation's purpose, one round of interviews was sufficient to gather adequate data. However, we were initially prepared to perform multiple rounds of interviews.

We made sure our interview protocol items reflected West's interests and objectives for the evaluand.

Table 1, Data Collection Method

Evaluation Questions	**Associated Interview Questions**
How are students using their autonomy to **modularize** their own instruction by selecting badge options to fulfill course requirements?	You were given various badge options to fulfill unit requirements. Did you like that? Would you rather be told what is required? How did you select which badges to earn?

	What could we do to allow you to chart your own course even more?
How were badges **motivating** to students?	What do you understand the purpose of badges to be? Did you feel motivated to earn badges? Why did you or didn't you choose to earn badges? What good are badges? What potential could badges have? What would motivate you to achieve more in IPT 286? What would make you want to earn badges?
How do students perceive the ED TEC badging program's potential as a continual **professional development resource**?	Will you ever go back to the ED TEC website? Are you motivated to stay up to date on new technologies? How will you continue learning after graduation?
Additional Stakeholder Interests	**Associated Interview Questions**
Does badging give students hands on **exposure to** and experience applying cutting-edge technologies?	Were the technologies taught through badges new? Easy? Useful? What technologies or knowledge did you feel was missing from the course?
Does badging increase learner motivation to **explore** and achieve mastery above and beyond curriculum requirements?	Did the idea of earning a badge motivate you to work any harder on assignments? How did you pick which badge to earn? Tell us about your experience with the ED TEC badging website. What could be done to motivate you to explore even more?
Does badging offer **practical credentials** students can use as they applied for teaching positions?	Do you know what the Mozilla Backpack is? Do you use it? Do you share your badges? Do you tell others about them? What could be done to make this more effective for you?
What **perceptions** do BYU Instructional Psychology and Technology 286 students have about their experience with the ED TEC badging program?	How would you describe badging to someone who hasn't heard of it before? Why do you think IPT offered badges? Is earning a badge worth it? Or a waste of time and effort? What could make the badging initiative even better? What can be done to better serve IPT 286 students?

At the conclusion of each of the interviews, my interview assistant, Christina Catron, and I performed brief, post-interview analyses on the data just collected from the interview. We added observations to our field notes which would have been lost had they not been immediately

captured. Those notes were originally recorded on each interviewee's protocol, referenced above. As we reviewed and summarized each interviewee's responses, additional themes emerged and we created codes for them and added those to our master list.

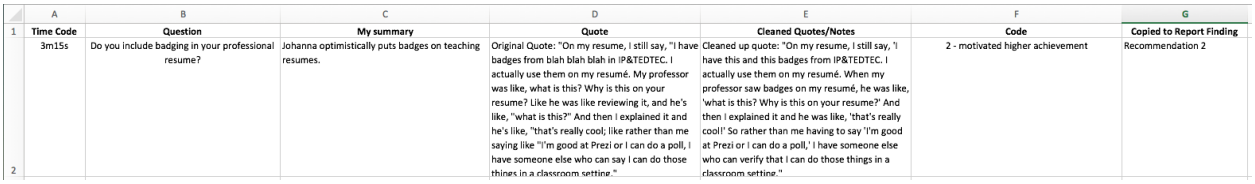
In preparation to analyze the interview data, the evaluation team performed inter-rater reliability testing (See Appendix 8: Inter-rater Reliability Testing) to ensure we would be coding in similar ways. However, before any real coding could be accomplished, Catron left the project.

The analysis method for this evaluation was unique. I developed my own method for analyzing data based on my understanding of Robert Stake's Multiple Case Study Analysis and other analysis methods/strategies discussed in my Fall 2015 Qualitative Inquiry class.

To provide a quick description, I used Excel to capture all of the data (see figure below). I created a sheet for each of the four interviews. The columns are ordered based on the natural sequence in which I performed tasks. The first column captured time codes (XmYs). Had this evaluation had more than four interviews, I would have began with an identifier column to include each interviewee's name and session number, instead of just naming the sheet using the bottom tab. As I listened to each recording, I would be ready to stop the recording and mark the time whenever I heard a potentially valuable quote.

The second column captured the interviewer's question. The third column captured a summary of the response. If the quote wasn't germane to the three specific evaluation questions, I would not take the time to transcribe the entire quotation. However, if the quote related to any one of the stakeholder's express evaluation questions or interests, I would take the time to capture the quote in the fourth column. The sixth column was reserved for analysis notes. In the seventh column, I marked which code the quote was most likely to pertain to. In the eighth and final column, I stated which section of the report the quote had been used in. (Some quotes may be used in multiple instances.) Finally, I listened to the interviews many times each to ensure that I had captured all of the important data.

Figure 3. Screenshot of Interview Data Analysis Method



	A	B	C	D	E	F	G
1	**Time Code**	**Question**	**My summary**	**Quote**	**Cleaned Quotes/Notes**	**Code**	**Copied to Report Finding**
2	3m15s	Do you include badging in your professional resume?	Johanna optimistically puts badges on teaching resumes.	Original Quote: "On my resume, I still say, "I have badges from blah blah blah in IP&TEDTEC. I actually use them on my resumé. My professor was like, what is this? Why is this on your resume? Like he was like reviewing it, and he's like, "what is this?" And then I explained it and he's like, "that's really cool; like rather than me saying like "I'm good at Prezi or I can do a poll, I have someone else who can say I can do those things in a classroom setting."	Cleaned up quote: "On my resume, I still say, 'I have this and this badges from IP&TEDTEC. I actually use them on my resumé. When my professor saw badges on my resumé, he was like, 'what is this? Why is this on your resume?' And then I explained it and he was like, 'that's really cool!' So rather than me having to say 'I'm good at Prezi or I can do a poll,' I have someone else who can verify that I can do those things in a classroom setting."	2 - motivated higher achievement	Recommendation 2

After completing all of the necessary transcription and coding for all four interviews, I addressed the evaluation questions by presenting three major findings conglomerated from the interviews. I triangulated these interview findings with all of the other sources of data for each participant,

including field notes on body language (during interview and post-interview). (See Appendix 5. Case Study Profiles.) From this, recommendations and conclusions were developed.

Reporting to Stakeholders

I met with West more frequently early on in the evaluation process. Playing dual roles as this evaluation's key stakeholder and my project sponsor, I came to him in person and via email with questions about evaluation project procedure, in addition to clarifying needs and providing formative feedback along the way.

West requested some preliminary findings he could report at his badging presentation at the 2015 AECT conference. I provided him with a professional-quality PowerPoint slide deck which he found valuable. (See Appendix 9. 2015 AECT Slide Contribution Requirements, 2015 AECT Badge Update (Bryan Slides)

During the writing process, West offered frequent suggestions which helped to move along the development of the report. He asked that the formatting be professional and consistent—not necessarily APA formatting, since this was an evaluation report and not a research article. Later on in the process, West requested that I follow the department sponsored PhD Evaluation Project template, which I was happy to do.

Required Resources and Personnel

Before this evaluation could officially begin, we first had to receive approval BYU's Institutional Review Board for Human Subjects (IRB), since this evaluation data will likely be re-produced in the form of at least one journal article. Once approval had been received, we were required to appropriately manage participant consent forms as a required element of this evaluation.

The resources required for data collection were phones to record interviews, laptops to take notes using Google Docs, and Microsoft Excel to record and analyze collected data.

Our interviews were scheduled and conducted in the conference room of the IPT grad lab, in an effort to reduce time and expenses due to unnecessary travel and paid reservations. All data collection and analysis was performed on resources already available to the research team. Extra financial costs incurred by this evaluation project were minimal. The only expense was $10 Visa gift cards given to our case study participants to compensate them for their time.

As a former instructor for IPT 286, I had some preconceptions of my own about the evaluand as well as preconceived notions about how students perceive the badging program. I was aware of these going into each interview and was careful to remain open to understanding the participants' perspectives throughout time our time together, as well as in the analysis process. Establishing

strict criteria helped me combat this evaluator subjectivity. Additionally, information used to support this report's findings was sent to the participants for member checking.

Chapter 4: Findings

Findings from Evaluation Questions

Specific findings below from the student interviews conducted for this evaluation are the basis for the general assumptions about student perceptions in the IPT 286 population that follow. The purposeful design employed in this evaluation was intended to discover the greatest number of findings based on the fewest number of cases. Additionally, by looking for interview findings that were more universal in application, we can more confidently draw assumptions about general student views than if we were to have sampled randomly. The three general categories of findings below are coordinated with the three subordinate evaluation questions. Additional findings are included in Appendix 10. Additional Findings and Recommendations.

Finding 1: Like Water, Students Seek the Easiest Path

In harmony with Evaluation Question 1 — "How are students selecting which badges to earn?" — all four interview participants reported that two, hierarchical motivations factored into their decision to earn a badge. First, they would select the badge which seemed easiest for them complete. For Dalen, *easiest* equated to selecting the badge he felt would require the least amount of time to accomplish. When asked, Dalen replied, "[I would choose] whichever badge that can be completed first" (Dalen 14m10). Overwhelmed by the number of badging options, and not finding any that she could clearly identify as being helpful to her future English teaching career, Jessica simply picked at random. She explained her experience by equating her badge selection decision to choosing an ice cream flavor at Baskin Robbins "31 Flavors." "I have a hard time making decisions. When I go to the ice cream shop, I take forever. I think a lot of people have similar concerns in class. I would prefer to be given one option…(37m55s)." JoAnna believed that the badge rubric with the least number of requirements would be the easiest one. "If I had a bunch of assignments due in other classes, I would just pick the shortest one. But even after trying to pick the easiest one, I would get into the rubric and realize it was pretty hard" (16m45s).

After some experience with the badging program, JoAnna advanced beyond the basic Maslovian decision process. "Once I realized [all the badges] were hard, I began to chose badges based on which ones I thought would be the most helpful to me in my future classroom (1710s)." The other three students interviewed continued to follow their personal strategies and superstitions as to which badges would be easiest to achieve in that moment—similar to how many people choose a checkout lane at the grocery store or shift lanes on the freeway.

Given this data, it is reasonable to extrapolate that most, but not all, IPT 286 students appreciate being able to customize their own instruction. However, each will have their own varied reasons for doing so, which will not likely be the same reasons the stakeholder had intended. We know of only two factors that inform the badge selection decision. First, students tend to apply a personal strategy to guess which badge will be easiest for them to accomplish. Second, for those

students who realize later that their strategy is unsuccessful, some might alter their decision-making process to reflect the motivations hoped for by the stakeholder—i.e., to select badges based on major/minor/personal interest.

Finding 2: Students Who Believe, Achieve

In response to Evaluation Question 2 — "How were badges motivating to students?" — we discovered two ways badging motivated students to increase their level of achievement. Students who felt motivated to achieve badges did so because they:

- viewed badges as incentives to achieve a greater number of skills and to a higher standard (i.e., badging was fun for learners), and
- desired to earn an additional credential that could differentiate them in a job interview

"I love badging!" JoAnna said, representing the "lifelong learners" in our population. "I can even go back and do more if I want to; it's like a never ending class…even after the semester was over, I still remember emailing Rick and ask him if I could re-submit an assignment so I could get a badge…badges offered that extra motivation that made IP&T a different experience for me" (48m10s). JoAnna went on to express her desire to continue using the badging program as an unofficial professional development resource, in addition to demonstrating her understanding of the IPT ED TEC badging hierarchy when she revealed, "I've even gone back and thought about upgrading to the teaching versions of my current badges…the website says that if you can demonstrate that you can actually use [a badging skill] in your teaching, you can then upgrade it…I'd eventually like to upgrade all my badges." (4m45).

The only other motivation students reported for wanting to earn badges was to have a credential to include on a résumé or mention in an interview. While three of the four interviewees recognized that badges could hypothetically aid student teachers in getting a job, only JoAnna actually put her badges on her résumé in hopes that it will be a commonly recognizable credential in her professional community. "Hopefully, in time people will learn what badges are. But as for right now, I can explain it until it catches on. Rick talked about badges like they were going to be a thing. And I really hope they are, so when I go to apply for a job, they'll be like, 'oh, you have badges; that's cool!' (6m35s).

While badging did not serve to motivate Dalen to achieve more, he was the only other student in the sample who supported the idea that badges could make a difference in a hiring situation. "While I was in IPT 286, I really hadn't grasped the idea that I would need to go out into the workforce and sell myself. It's important to have talking points to distinguish yourself during your job interview. I see now that badges offer that." (46m20s). JoAnne later echoed Dalen's observation that ED TEC badges can help distinguish badges earners from other job applicants when she fantasized about the day when badges would be well-respected in the professional teaching community. In that day, she said, "I would go back and redo all of [my badges] so I

could get the big one and be like, 'look, I can do everything! I'm your person!' Any leg up on your résumé is good" (JoAnna, 30m20s).

There were many reasons why students were actually unmotivated by the badging program. In the interviews, five such reasons of why badges failed to motivate a higher degree of achievement were mentioned by the sample students. They reported that they were not motivated by badging because they did not:

- believe a badge would help them get a job
- recognize practical application of badging skills
- recognize an immediate benefit (such as increasing their grade for the course)
- believe they could achieve the standard (i.e., badges were too difficult)
- understand the value of badging to make an adoption decision either way

Three of the four participants (excluding JoAnna) were resistant to believe that badging would help them get a job. This disbelief was a leading factor for their lack of motivation for badging. Jessica articulated, "I don't think anyone I interact with, or apply for a job with will be aware of these badges, which is kind of why I wasn't motivated…(22m10)." Similarly, Dalen reported that he would remain unmotivated to earn badges until they were explicitly requested by hiring principals. He said, "I hadn't heard [badging] from any of my other professors…Right now, I'm applying for teaching positions and badges are not requested on any of them. Until an application tells me, 'these are the badges that you need', it's going to be really hard for me to be motivated to earn them (27m30s).

Additionally, all participants, excluding JoAnna, failed to see practical teaching applications for many (if not all) of the skills badges teach in IPT 286. When asked which teaching technology skills she uses in her Geography class, Jessica replied, "I haven't used any of the technologies we learned [in IPT 286] …" (18m45s). "If I were doing some other job that was centered around technology, I might be more inclined to earn badges, but school administrators aren't looking for that" (36m00s).

Jessica found very little value in badging because she didn't feel the need to meet anything higher than the standard measure for skills "mastery"—a letter grade. In our interview, she asked, "Why should I work harder when I can already earn an A without having to get a badge" (25m08s)?

Some students were unmotivated to earn badges because they were unconfident in their own abilities to achieve. Jessica felt the expectation level set by badge rubrics was too high to be achieved. "I think the expectations were too high for me—someone who already wasn't motivated to earn a badge." (Jessica 25m20). Dalen shared his frustration with not being able to quickly master badge concepts and skills. "The badge rubrics were like, 'here's what you need to

do' and then you had to figure out on your own how to actually do it. I sometimes had to mess with it for 5 hours until I got it right. But if I still couldn't get it, I was toast" (40m).

Others stated that badges didn't motivate their learning and achievement because they failed to initially comprehend the overall concept behind what badges are. When talking about her frustrations regarding the difficulty level of badging in general, Jessica remarked, "…I didn't believe it was possible to earn them [badges]" (Jessica 25m20).

To summarized the findings for Evaluation Question 2, students who believed that badges would become a recognized and valued credential in their future professional community completed their assignments at a higher standard, and even expressed a desire to "upgrade" to higher levels of badges after graduating. Students with little hope that badges would become a valuable professional credential were unmotivated to engage beyond minimum course requirements. For some students, the letter grade in the class was their motivation; they don't see value in additional credentials.

The pivotal construct differentiating highly motivated and unmotivated students was the way they perceived the usefulness of the badging program during their initial exposure. Two key factors determined a student's motivation to buy into the program. Primarily, if a student believed badging would help them get a job, then badges motivated them throughout their IPT 286 experience and beyond. If they failed to buy into that vision, their next consideration was how participating in badging would affect their letter grade for the course. When they discovered that earning badges was not required to earn an A, they completely lost interest and didn't give earning badges a second thought. For students to reap the intended benefits of badging as a motivation for higher achievement, instructors need to be more influential in their introduction to badging.

Finding 3: If You Build It (Offer Professional Development Credit), They Will Come

In an effort to address Evaluation Question 3, we asked participants if they would ever feel motivated to continue to use the learning resources hosted by IPT ED TEC. Only one positive response emerged, while two reasons to the contrary were stated. Additionally, there was one conditional response, after which this finding is titled.

JoAnna, "the lifelong learner", was the first and only interview participant to offer a reason for wanting to use IPT ED TEC resources. Even after JoAnna had passed the class, she felt the magnetic-like effect badges had on her, constantly challenging her to earn more. It is clear from one of her interview statements that she doesn't believe her desire for higher and higher achievements will fade. "Earning a badge gives me a feeling of accomplishment. I like the feeling I get when I know that I've truly mastered the technology" (12m28).

The three other participants concurred with Jessica who sarcastically quipped, "Wow, I've learned so many new things [in IPT 286]—enough for a lifetime!" It was obvious from numerous similar remarks that West's website held no allure for any of them as things were. Jessica seriously added, "…Until the need arises, I don't think I'll be going out of my way to learn new technologies (43m20s)."

Participants would, however, most definitely continue to utilize the resources offered by ED TEC program if one crucial thing happened—if the state of Utah legitimized and embraced the ED TEC badging program as a professional development option that counted toward their required number of continuing education hours to renew their teaching license each year. Lindsey, who we interviewed first, made a comment that caused me to ask about it in all the subsequent interviews. She said, "In the teaching conferences I've gone to, I've been talking to other professionals, and I found that [alternative forms of professional development] is actually becoming a much bigger deal." In our next interview with JoAnna, I initially offered the suggestion that badges might be sued to count towards teacher professional development requirements. JoAnna responded positively. "If earning badges would count towards my professional development hours, I would definitely be even more motivated to earn them!' (44m40)." At the end of his interview, I asked Dalen the same question and he concurred, "That would be great because some teachers just don't even know how to use computers…(53m). When asked for her thoughts about badges being offered as professional development credit, Jessica recounted this personal anecdote, "Traditional professional development is just a bunch of people chatting and no one actually learns anything. So if I had a choice to earn a badge or attend a professional development meeting, I'd much rather earn a badge. Then I might be able to actually use [what I learned] in my classroom" (46m).

To summarize this third finding, it is noteworthy to observe that none of our interview participants had confidence that their prospective hiring principals understood the concept of badging nor that badges would have any meaningful value on a résumé.

In conclusion, one of the most significant elements of this finding is that students would overwhelmingly prefer earning badges if they satisfied a requirement for professional development hours, rather than doing what is currently offered to meet those requirements. Because all four interview participants agreed on this point, it can be assumed that this sentiment would be agreed upon generally among our population of students.

Chapter 5: Recommendations, Limitations, & Conclusions

Based on this evaluation's three major findings, the following eight recommendations are suggested.

Recommendation 1: Initiate a basic marketing campaign to be used by IPT 286 instructors to promote badging among their students.

This campaign would include deliverables such as posters, fact sheets, pass-along cards and other visual and tangible promotion tools to bring the badging system to students' awareness. According to the interview data, none of the four participants felt they completely understood the the badging process to one degree or another.

To increase learner motivation to buy into badges, instructors need standardized training on how to teach students the structure of the badging system. In addition to effective training, instructors can help promote top-of-mind awareness by posting a motivational visual somewhere in the classroom for learners to literally and figuratively look up to each time they enter that learning environment.

Recommendation 2: Better prepare IPT 286 Instructors and Teaching Assistants to present badging to their students on the first day of class.

Require all IPT 286 Teaching Assistants to earn the "IPT Instructional Technologist badge" as a way to inspire them to be badging evangelists.

In order to qualify to work as an IPT 286 instructor, candidates should ideally work as a TA under an instructor who is already excited about bading. As TAs grade projects and work under a seasoned instructor, they will become informally indoctrinated on the merits of badging and naturally catch the vision themselves.

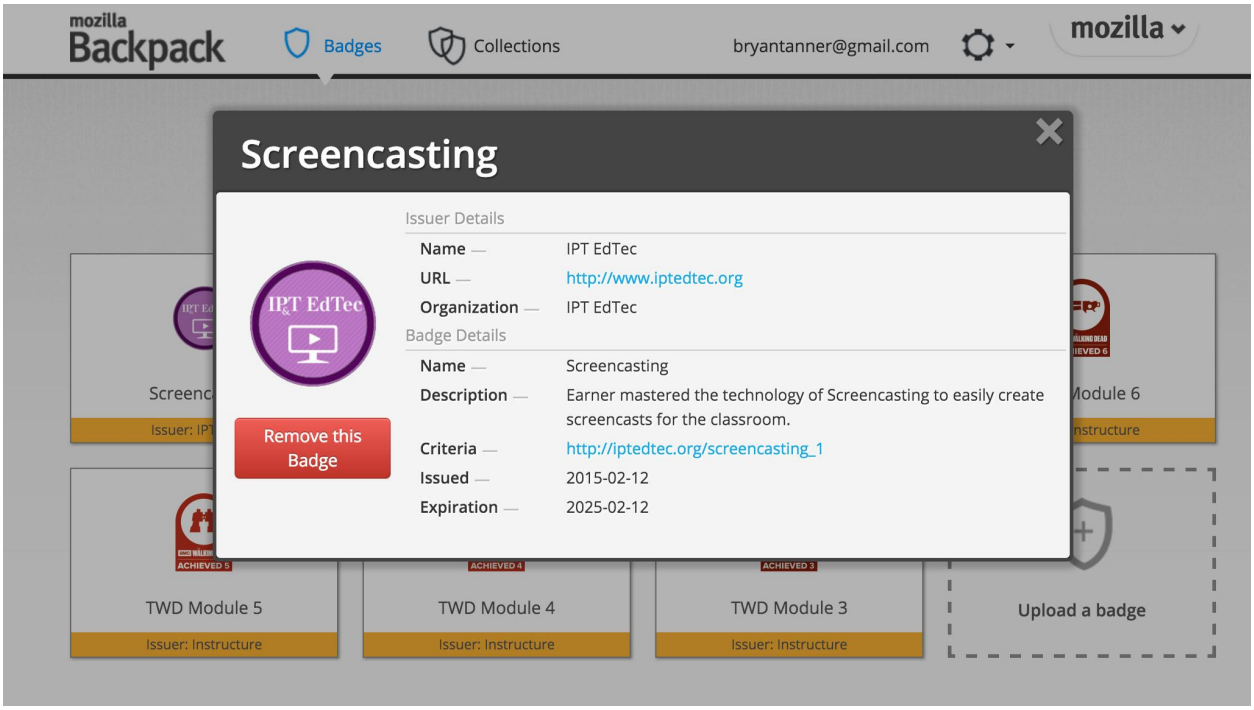
Recommendation 3: Require students of certain majors to earn the badges developed for those majors.

In response to the finding that students are not selecting badges based on their usefulness to their major, but rather which are the easiest to complete, we recommend requiring students to complete certain major-related badges. While this removes the benefits of learner autonomy and intrinsic motivation, students will ultimately receive the benefits of being exposed to tools designed for use in their respective fields.

Recommendation 4: To earn an A grade in the course, students must earn at least one of the four major IPT badges of their choice.

Conduct a focus group to collect evidence of support for badging from influential persons in the field of secondary education – from people whose opinions the IPT 286 students value. These stakeholders might include principals from local Utah school districts, and other secondary education administrators, former students who have had positive experiences using badges after graduation, and articles or other news stories of badging successes. Students would be motivated by video clips of principals stating that they would highly value seeing badges on the resumes of their prospective hires.

Figure 4. Mozilla Backpack



Recommendation 5: Create a video vignette designed to provide students with instruction and vision of the benefits of badging.

To better help students understand the purposes of badging, and show how this alternative credential could benefit them throughout their lives, create a video vignette which unifies instruction and adds credibility to the concept of badging. This 2-minute instructional video would illustrate three learning pathways representing different motivations for why individuals use badges.

1. *Pure competency-based learner* — Lifelong learner/Programmer who skips college and just jumps from job to job by matching competencies asked for on job postings.
2. *Traditional* — College student who wants that extra edge, also wants the flexibility of owning her own credential.
3. *Hybrid* — College graduate who is not sure what they want to do with her life, so she gets a teaching degree. But then she doesn't want to be a teacher any more and wants to jump careers but doesn't want to have to go back to school. Instead, she uses badges she earned as micro-credentials and simply transitions them over into her new area of interest.

Recommendation 6: Increase student opinion leaders' awareness of what our badging program can offer them by creating an informative webpage.

Our participants agreed that student motivations to earn badges are heavily motivated by the opinions of people who influence their educations and future careers. These opinion leaders

could include potential hiring principals, peers, former secondary education teachers who (especially those who went through the IPT 286 course), and authors interested in writing on badging in journal articles or other news media. In order for students to become more motivated by badges, these badges need to have value in the eyes of those they look up to. For now, group whose opinions matter most seem to be their future bosses—hiring principals.

By helping these principals recognize that the IPT Instructional Technologist "granddaddy" badge represents a level of technology skills mastery that BYU awards to distinguish secondary education students from their peers. If and when principals recognize badges as being valuable in making their hiring decisions, student competition to earn badges will rise among IPT 286 students, resulting in higher achievement.

As a tool to better inform principals, create an informational webpage designed specifically to help hiring principals by describing the ED TEC badging system and its role in identifying the mastery of technology skills of their potential hires. If principals clearly know that we offer the IP&T Instructional Technologist badge, and ask about it in interviews, we can then tell students, "Even though badges are still relatively new, local principals know about badges and will ask you about them in job interviews." Hopefully this will serve to inspire students as JoAnna suggested. "My motivation would definitely increase if principals were aware of badges. Then the principals might ask, 'why didn't you get this badge, I know you should have'" (JoAnna, 30m10s).

Recommendation 7: Capture badge perceptions of hiring principals regarding their opinion of the value of the ED TEC badges for future hires and present future IPT 286 students and capture the positive findings.

A few captured sound bytes or video footage from well-informed principals regarding the value they ascribe to badges would go a long way to motivate students. Alternatively, a survey for written quotes could be more convenient for everyone involved, and a good starting place.

I took the initiative to begin piloting an informal study surveying principals to understand how aspects of badging benefit them. The result was positive and informative. For more information on a mini-pilot study I performed, see Appendix 11. Pilot Principal Survey. This appendix includes screenshots of and a link to the live Qualtrics survey as well as an actual response from a high school principal.

Recommendation 8: Work with state boards to add badging as a viable option for earning professional development education hours.

The ED TEC Badging Program would more likely be adopted by Utah state officials if it were first piloted and had received positive teacher responses. First steps to get state boards to legitimize it

1. make teachers and principals aware of the badging program
2. Have it be used for a period of time
3. Conduct a wide range survey for results
4. Submit those to the board as evidence.

Because of the complicated nature of this recommendation, further research is necessary to determine the next steps.

Limitations

While making broad, confident statements about the population of IPT 286 students—past, present, and future—was not the purpose of this evaluation, through surveys we were able to collect a limited view into how most students (over 50%) perceived some aspects of the badging program in IPT 286. The quantitative findings from the survey responses may not be as generalizable as they could have been had we received more responses from students in the sample (All 286 students enrolled during W13, F13, Sp14, Su14). All of the post-course survey responses from Summer 2014 term were somehow deleted from Qualtrics servers. Additionally, not all of the students enrolled during those semesters/terms took the survey. And not all those who began the survey answered all three badge-related questions used for our statistics. Without these missing data, we can only make somewhat-confident statements regarding the perceptions of students sampled, let alone represent the entire population of 286 students—past, present, and future. A more rigorous investigation is recommended to be able to make more generalizable claims.

The limitations of interviewing only 4 participants out of a viable sample size of 58 (participants for whom we had post-course survey data during our period of interest) is that our findings may not be as generalizable as they could have been had the evaluation's design focused on obtaining generalizable statements representing the entire population with a specific confidence interval. Instead, this evaluation was interested in "capturing the validity, meaningfulness, and insights generated from qualitative inquiry [which] have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size" (1990, p. 185).

The fact that West was the Stakeholder for this project and my project advisor is both a strength and weakness of this project. A third party advisor may have provided insights that West and I may have missed as we both may have been too naive to view the setting without imposing our pro-badging biases. Additionally, our close relationship with the setting and with one another caused some communication confusion early on, especially when it came to understanding stakeholder needs.

In the second finding, I report that students who believe that badges will catch on reported that they worked harder on their assignments than they would have had badges not been offered. One of the limitations of this study is that I failed to support this finding by verifying the interviewees' grades on selected assignments.

Conclusions

The essential findings were not necessarily surprising. The introduction of a supplemental learning opportunity in addition to meeting the course requirements was confirmed as a difficult tool for most students to embrace. Most seem to lack the desire while in college for lifelong learning. The badging program could become a bridge to lifelong learning if it were perceived as both valuable in succeeding in the IPT 286 course, and creditable toward the future professional development requirements to renew their teaching credentials. The challenges to such success at this point seem to be finding a way to market the system to incoming IPT 286 students so they are aware of it. Next they need to find the tools in the ED TEC badging program easy to find and use. Finally they need to be persuaded that badges will be valuable to them not only as students in the class but also in their future efforts to find a job and perform well in their future classrooms.

If the recommendations are followed, students will enter the IPT 286 course by being presented with an inspiring introduction to the system of badging by people who have been adequately trained and mentored by enthusiastic and informed instructors using a variety of methods. If at the beginning of each semester the IPT 286 students were shown a video containing testimonials from hiring principals about the value of the ED TEC badging credential, there is a high likelihood that their interest in badging would be sparked. This video approach could be supplemented by diagrams posted in the classrooms for the course showing the hierarchy of the badging program, accompanied by short positive quotes by influential educators. By building a marketing plan to increase the student's awareness of the benefits of badging, perhaps they would listen more carefully when the program was explained.

Even if badges are not directly tied to their grades, students will find relevancy in the badging program as a way to master the skills expected of them during their college experience. Ultimately the success of badging can be enhanced if those badges earned by the IPT 286 students become recognized and helpful to them in their future employment, and something they will continue to use as they pursue lifelong learning goals. A further step in the success of badging would be taken if the Utah State Board of Education recognized badging as a legitimate for professional development alternative to the existing offerings for license renewal.

Chapter 6: Meta-Evaluation

General Strengths

The main strength of this report is that it is the first evaluation of its kind. According to the stakeholder, no formal evaluations have been performed of badging in IPT 286. Nor have I found in the literature any evaluations of similar badging programs. The findings of this evaluation will serve to verify many findings about student perceptions, which until now have just been speculation.

General Weaknesses

The major weakness of this evaluation is the length it took for the final report to reach the key stakeholder. This evaluation should have taken less than 150 hours. However, since it was the first time the evaluator had written a report of this magnitude, there were many stops and starts in the learning process which prevented a more expeditious conclusion.

Additional Field Notes provide a more thorough self-critique including project strengths and weakness, lessons learned, and plans for improvement. These are found in Appendix 12. Strengths, Weaknesses, and Lessons.

Program Evaluation Standards

Stufflebeam's 30-point checklist was the most relevant and rigorous system for critiquing this evaluation. These 30 guiding principles for evaluations are generally accepted standards (The Joint Committee, 1994). Additionally, I followed Stufflebeam's associated 10-point checklist to ensure that I understood and was following the 30-point checklist correctly (Program Evaluations Meta Evaluation Checklist, 1999). I will now report on how this study held up against each of the 30 meta-evaluation standards during its planning, execution, and reporting stages.

1. Utility Standards

The utility standards are intended to ensure that an evaluation will serve the information needs of intended users.

U1 Stakeholder Identification — Persons involved in or affected by the evaluation should be identified, so that their needs can be addressed.

Dr. Richard West was both the sponsor and key stakeholder for this badging program evaluation. In many cases, stakeholders are clearly identified based on their financial contributions to the study. In this case however, very few resources were involved in the development, execution, and reporting of the evaluation. Nevertheless, it was clear that West would benefit the most from this report. We communicated with him throughout the course of the evaluation on progress and questions. West's background, needs, and criteria and standards for success are all described in

detail above in the *Stakeholders* section of the *Introduction*. West's needs are then specifically addressed in the subsequent sections.

Non-key stakeholders are also identified and their potential interests in the evaluation are also noted in the Background section. It is up to the discretion of West to share relevant report findings with these other stakeholders. We discussed involving more stakeholders throughout the evaluation process in an effort to both address their needs and raise awareness of badging simultaneously. However, we decided that doing so would detract from the scope and purpose of this evaluation, which focused chiefly on student perspectives.

U2 Evaluator Credibility — The persons conducting the evaluation should be both trustworthy and competent to perform the evaluation, so that the evaluation findings achieve maximum credibility and acceptance.

Initially, there were two evaluators involved in this evaluation. I had the most experience, having conducted many project-related needs analyses and taken a graduate level course on evaluation. My evaluation partner was an undergraduate, with an interest in the world of evaluation. However, her unfamiliarity with evaluations was an asset to the trustworthiness of this study; her sensitivity caused her to question the purpose behind all the steps in our evaluation process. While novices in the field of program evaluation, we worked closely with West and Williams on the IPT faculty when we ran into questions or concerns of our own. With their guidance, we felt confident that our learning experience would not lead to completely unusable data.

We could have done better in inviting more peer review of our evaluation plan, analysis, and reports. I felt like once we had an instrument, we rushed to implement it when we really could have benefitted from outside opinions from those more experienced in the evaluation community. We should have planned ahead to engage in peer debriefing, progressive subjectivity checks, etc. I kept accurate field notes and audit trails after spending time on the project. These can be helpful when screening for subjectivity and looking for researcher subjectivity and assumptions in evaluation methods and conclusions. However, those purposes are not served when the evaluator fails to share them with peers for review.

U3 Information Scope and Selection — Information collected should be broadly selected to address pertinent questions about the program and be responsive to the needs and interests of clients and other specified stakeholders.

We conducted a needs analysis of stakeholder and established evaluation questions. We also did an inventory of previous evaluative work done on this program, which turned out to be nothing—the main problem this evaluation solves. From this information we formulated the key objectives and questions for the program.

U4 Values Identification — The perspectives, procedures, and rationale used to interpret the findings should be carefully described, so that the bases for value judgments are clear.

I have kept an audit trail for all the evaluation activities so these can be peer reviewed. I also created a matrix describing how my instruments would specifically address and capture data related to each of the stakeholder's needs. Additionally, I have tried to be consistent and objective in recording and analyzing our interviews by creating a data collection spreadsheet which captures evaluand-relevant information from each participant. I have ensured that the surveys are designed and analyzed appropriately. We should have had our evaluation design and findings peer reviewed by current IPT 286 instructors and graduate students and faculty not in our program, but well-versed in evaluation.

U5 Report Clarity Evaluation — reports should clearly describe the program being evaluated, including its context, and the purposes, procedures, and findings of the evaluation, so that essential information is provided and easily understood.

I was grateful for the guidance provided by the IPT department's official PhD evaluation project guidelines. I used this outline to format my evaluation report. I should have employed it (including this 30-point checklist) earlier in the evaluation project planning phases in order to set up checks to ensure that my methods would be deemed credible and robust in the eyes of any review committee. I did my best to follow my stakeholder's explicit instructors on formatting—that this report was to be professional and formatted consistently. No APA formatting was required.

U6 Report Timeliness and Dissemination — Significant interim findings and evaluation reports should be disseminated to intended users, so that they can be used in a timely fashion.

Before the final report was submitted to the stakeholder, I created a stack of PowerPoint slides for West, which he used in his 2015 AECT presentation on the progress of the ED TEC Badging Program. West said that the data and figures included in these contributions were valuable to the presentation.

U7 Evaluation Impact — Evaluations should be planned, conducted, and reported in ways that encourage follow-through by stakeholders, so that the likelihood that the evaluation will be used is increased.

My hope is that the conclusions section of this report is formatted in a way for West to clearly understand actionable recommendations based on the findings regarding general and specific student perceptions of the Badging program.

2. Feasibility Standards

The feasibility standards are intended to ensure that an evaluation will be realistic, prudent, diplomatic, and frugal.

F1 Practical Procedures — The evaluation procedures should be practical, to keep disruption to a minimum while needed information is obtained.

Evaluation procedures were kept to a minimum by limiting the number of stakeholders we would be representing in the final report. To limit the number of participants involved, we selected as few participants as we could to capture a full spectrum of in-depth perceptions from the sample to successfully address the evaluand. The interview protocol, though general in its approach, mostly kept to the scope of the evaluand; steering away from irrelevant tangents when discovered.

Inter-rater reliability training was held between my interviewing assistant, Christina Catron, and myself as we initially began to code our interview data. Although Catron left the project before contributing to that portion of the data analysis, our conversations were helpful for me to more clearly identify important themes in the future.

F2 Political Viability — The evaluation should be planned and conducted with anticipation of the different positions of various interest groups, so that their cooperation may be obtained, and so that possible attempts by any of these groups to curtail evaluation operations or to bias or misapply the results can be averted or counteracted.

While this evaluation chiefly catered to the needs of only one key stakeholder, many other stakeholders may find value in these findings—especially the following three groups: BYU secondary education students, the secondary education professional community, BYU's McKay School of Education, and Utah's State Board of Education (the body responsible for defining standards which fulfill required professional development licensing hours). Many of the findings and recommendations in this report involve these groups and are respectful of their interests.

F3 Cost Effectiveness — The evaluation should be efficient and produce information of sufficient value, so that the resources expended can be justified.

We tried to be as unobtrusive as possible in our use of resources and personnel throughout the course of this evaluation. We designed our participant selection in a way so no potential participants were contacted unnecessarily. Our interviews were scheduled and conducted in the conference room of the IPT grad lab, saving time and expenses due to unnecessary travel and paid reservations. All data collection and analysis was performed on resources already available to the research team.

Financial costs incurred by this evaluation project were minimal. The only expense was $10 Visa gift cards given to our case study participants to compensate them for their time the spent being interviewed. After these gift cards were sent, each participant was follow up with via email to ensure that their card was received.

3. Propriety Standards

The propriety standards are intended to ensure that an evaluation will be conducted legally, ethically, and with due regard for the welfare of those involved in the evaluation, as well as those affected by its results.

P1 Service Orientation — Evaluations should be designed to assist organizations to address and effectively serve the needs of the full range of targeted participants.

Since the targeted participants included only a small amount of previous IPT 286 students, it was easy to effectively serve their needs by being considerate of their time and service.

P2 Formal Agreements — Obligations of the formal parties to an evaluation (what is to be done, how, by whom, when) should be agreed to in writing, so that these parties are obligated to adhere to all conditions of the agreement or formally to renegotiate it.

The only formal contracts made throughout this evaluation were IRB-related. These include receiving approval from the IRB committee and also reviewing the approved consent form with the four case study participants.

Aside from these formal agreements, the only other agreements which were made were the three between me, the evaluator, and West, the stakeholder/project advisor. In January, I agreed to complete this evaluation as my final PhD project. Later, West and I agreed upon a date to submit the final report—12/19/2015. This one submission would fulfill both acts of reporting to the stakeholder and submitting to the department. The only other informal contract we made was that the formatting style of this evaluation report needed to be professional and consistent, but not necessarily in APA format.

P3 Rights of Human Subjects — Evaluations should be designed and conducted to respect and protect the rights and welfare of human subjects.

The evaluators on this project took great care to make the interviewees' feel comfortable during the interviews. While conducting interviews, we tried to help participants feel at ease by always having two interviewers present, one of each gender. Interviews were conducted in a well-trafficked, familiar location. We also compensated them with a token gift card as an expression of gratitude for their time.

P4 Human Interactions — Evaluators should respect human dignity and worth in their interactions with other persons associated with an evaluation, so that participants are not threatened or harmed.

Interviewees were made to feel comfortable throughout the process, always treated with care and respect. I tried to limit the interactions I had with West. But when I did, I made sure to schedule his time a few days in advance. In the final hours of revising this report, I corresponded with him via email, allowing him to reply at his convenience.

P5 Complete and Fair Assessment — The evaluation should be complete and fair in its examination and recording of strengths and weaknesses of the program being evaluated, so that strengths can be built upon and problem areas addressed.
Since this was the first evaluation done of this particular evaluand—student perceptions of the ED TEC badging system—much valuable data was uncovered. Care was taken to also be transparent in the ways the study could have been improved, such as better self-imposed deadlines, more peer review, and more thoughtful questions. See Appendix 12. Strengths Weaknesses and Lessons.

P6 Disclosure of Findings — The formal parties to an evaluation should ensure that the full set of evaluation findings along with pertinent limitations are made accessible to the persons affected by the evaluation and any others with expressed legal rights to receive the results.
As made clear throughout the report, West and I agreed on what findings would be delivered on what date. Other stakeholders who may be interested in this report's findings will likely receive them eventually via conference reports, journal articles, changes to the current application of badging in IPT 286, and through the creation of new McKay school courses.

P7 Conflict of Interest — Conflict of interest should be dealt with openly and honestly, so that it does not compromise the evaluation processes and results.
One of the things that made us especially suited to perform this evaluation was that we had already developed a strong relationship with the key stakeholder, which I represent in the body of the report. Having worked with him for the past two years as an IPT 286 instructor, I felt like I already knew a lot about his values and concerns and was familiar with the environment allowing me to more effectively address them. There is a downside to this familiarity. I didn't see myself as an internal evaluator, since I was no longer working as an IPT 286 instructor. However, all of my background-related subjectivity remained so my interpretations of the findings may not have been as objective as a truly external evaluator's might have been. I tried to combat this by inviting Christina Catron to join the evaluation team. Regularly, I would ask for her outside opinion to see if there was anything else that might be insightful for the key stakeholder. Additionally, I intentionally separated my thoughts in my field notes from the events as they happened. My subjectivity as a researcher is a strength to the report in a way, as it adds insight from someone familiar with the program and processes to offer more apt recommendations.

Having both male and female evaluators present during the interview process was an asset in other ways as well. This bi-gender representation avoided a lot of potential social insecurities. With both evaluators present, we didn't have to worry about being alone with a member of the opposite sex. Additionally, I felt that a rapport of trust was established more easily than if I were the interviewee's only point of focus. Having Catron present allowed both me and the interviewee to relax and be more trusting. By the end of the interviews, some of the participants

had so much confidence and trust in our influence as evaluators that they pleaded with us to make suggested changes to the implementation of badges in IPT 286, with sincere hope that it would happen.

P8 Fiscal Responsibility — The evaluator's allocation and expenditure of resources should reflect sound accountability procedures and otherwise be prudent and ethically responsible, so that expenditures are accounted for and appropriate.
As stated in the body of the evaluation report, our finances were conserved extremely well. In total, this evaluation project only cost $40 to conduct. Those $40 were spent on $10 gifts cards for each of our interview participants to compensate them for their time.

The only remarkable thing that happened with our finances was that I forgot to follow up with our participants to see if their card had been received. Thankfully, West reminded me to do so, and so I did. It turned out that JoAnna hadn't received hers. I asked her for her new address via email correspondence, however, she told me not to worry about sending out another card.

4. Accuracy Standards

The accuracy standards are intended to ensure that an evaluation will reveal and convey technically adequate information about the features that determine the worth or merit of the program being evaluated.

A1 Program Documentation — The program being evaluated should be described and documented clearly and accurately, so that the program is clearly identified.
We have thorough documentation of the ED TEC badging program. This report details how what badging is, where it came from, how West adopted the concept for his ITP 286 course, what its structure is like, and how students and instructors interact with it. Multiple citations to other scholarly articles regarding the ED TEC program specifically are referenced at the end of this report. We have interview recordings of student perceptions on the evaluand. In addition, a section of our field notes describes the evaluand. Hopefully, in the future, if my recommendations are followed, a more marketable webpage/website will be created, dedicated to informing visitors about what the ED TEC program is and how is can be beneficial.

A2 Context Analysis — The context in which the program exists should be examined in enough detail, so that its likely influences on the program can be identified.
I have a good understanding of the context surrounding the IPT ED TEC badging program because I have been actively a part of it for the past two years. Having been an instructor during the time period this evaluation examines, I can think of only two or three other individuals who may have a better understanding of the moving parts that make up and surround the IPT ED TEC badging program.

A3 Described Purposes and Procedures — The purposes and procedures of the evaluation should be monitored and described in enough detail, so that they can be identified and assessed.

West was very open in terms of what kind of final product he expected from this evaluation. Regardless of what data was collected, his general sentiment was that any data provided would be useful. Consequently, at the outset of the evaluation the key stakeholder offered no formal criteria, nor related standards to judge this evaluation's outcome. Nevertheless, based on the key stakeholder's desires and expected outcomes, the evaluation team was able to determine three criteria and three standards, to which the key stakeholder subsequently agreed.

The purposes for this evaluation were defined by West in the initial stakeholder meeting. After many hours of sifting through and refining appropriate criteria, we determined that the best way to understand if badging is working (from a student perspective) was to judge them against the following criteria, which have their own section in the report:

The criteria for evaluating students' perceptions of the ED TEC badging program are as follows:

1. Badging affords students autonomy to customize their learning experience.
2. Students earn badges aligned with their major and personal interests versus those that were easiest to earn.
3. Student engagement leads to achievement of higher levels of technology skills.
4. New technologies beyond the course requirements are learned.
5. Secondary education teachers see badging as a legitimate resource for ongoing professional development.

At West's request, the following three standards were removed from the main body of the report. However, these standards were still used as measures for criteria during the evaluation:

1. Accuracy - Did it capture the true essence of the students' perceptions?
2. Useable/Actionable? - Were findings and recommendations easy to understand and act on? Did the report generate useful data to extend the learning on the topic for academic community?
3. Influential? Did the report improve IPT 286 and future classes?

The actual procedures of this study exhibited a lack of discipline and overall structure. Many tasks were first attempted out of order and only correctly through trial and error. Fortunately, my metaphorical qualitative magnifying glass was large enough to capture all the appropriate data necessary to draw clear and hopefully satisfying conclusions for the key stakeholder.

A4 Defensible Information Sources — The sources of information used in a program evaluation should be described in enough detail, so that the adequacy of the information can be assessed.

All information found in this report exists on a shared Google Drive folder with the key stakeholder. Even after the final stakeholder report has been submitted, West will have shared ownership of this data so he can go back and review student quotations and additional information at his leisure. The primary sources of information for this document are the 4 case study participants themselves. Their recordings are in the shared Google folder along with the Excel document used to analyze their interview recordings. Descriptions and additional information about each of these participants are found in detail in Appendix 5. Case Study Profiles. In addition, many other source documents exist, some of which are referenced as descriptive appendices of their own in this report. Other documentation, not included in this report, but which are shared with West include: expert reference materials, additional field notes, and some quantitative survey data analysis.

A5 Valid Information — The information-gathering procedures should be chosen or developed and then implemented so that they will assure that the interpretation arrived at is valid for the intended use.

Instead of using the term *validity*, which is better applied in quantitative research, this evaluation referenced Lincoln and Guba's *credibility* standards in order to enhance the trustworthiness of our evaluation (1989). We employed retroactive, prolonged engagement by audio recording former IPT 286 instructors (myself and my roommate, Dan Randall) consulting with one another on what our recollections of students perceptions were during the time period this evaluation examined. Findings and a link to this recording linked to in my field notes. These observations we made were then validated by students responses in an IPT 286 post-course survey. These responses were then followed up on in personal interviews. We even asked them to forecast their feelings on the same questions into the future.

We also tried to guard against distortions by making it explicit that we were looking for their candid feedback so we could make badging in IPT 286 as impactful as possible for future students and the ED TEC Badging Program as a whole.

In addition to the breadth we got through prolonged observation, we were able to deeply examine the key focus areas identified by our stakeholders through persistent observation (Lincoln and Guba, 1989). Because we were naturalistic in our interviews, some other key themes emerged that we discussed in Appendix 10. Additional Findings and Recommendations. In an effort to make this data transferable, we provide thick descriptions of the participants' background and experiences in our field notes (Lincoln and Guba, 1989).

We also triangulated by looking at a number of different sources of data from each of the participants (Lincoln and Guba, 1989). Once our interview participants had been selected, we asked them about specific artifacts such as grades, and badges earned. In addition to collecting course data, we looked at survey data to determine how our participants perceptions of different

aspects of badging. Finally, we conducted in-depth interviews to discover descriptive insights from each of the participants.

Using a strategic sampling method lends credibility to this evaluation. By purposefully examining extreme cases, we aim to explore the most radical perceptions held by our population. We hope that this will both capture the most number of perceptions and that all other perceptions within the population will fall within their bounds. Naturally, negative case analysis would be useful in verifying these claims. This report requests that in any additional research done on this evaluand, that negative cases be actively sought to support or refute these findings (Lincoln and Guba, 1989). For example, it might be interesting to conduct evaluative interviews applying a different, more moderate, sampling method in an effort to truly capture additional views students have.

By conscientiously separating etic and emic observations throughout this report, readers can have greater confidence that evaluator subjectivity was countered. One of the benefits of having me as an evaluator for this project was my ability to provide both emic and etic perspectives our key stakeholder. This was done by collecting survey data, conducting interviews, and retrospective participant observations (see Field Notes, June 20, 2015). For the sake of scope and time, all data other than that taken from the interviews were not mentioned in the final report.

Additionally, many of the reported quotes were stylistically altered from what was transcribed from the original recording. Therefore, interview participants were contacted and notified that we will give them the opportunity to member check their quotations taken from the interviews upon completion of this report (Lincoln and Guba, 1989).

A6 Reliable Information — The information-gathering procedures should be chosen or developed and then implemented so that they will assure that the information obtained is sufficiently reliable for the intended use.

I faithfully kept field notes throughout the life of the project. They served as my memory for facts that happened and data collected back at the beginning of the project. While writing the report, I reviewed my field notes in order to check dates and establish in what order I did certain things. I can imagine for even longer projects, field notes would be invaluable to establishing credibility for qualitative studies.

In order to insure that our interviews were both accurately and safely captured, we always had two recording devices going during each interview. This practice paid off as my recording of Dalen's interview was corrupted.

A7 Systematic Information — The information collected, processed, and reported in an evaluation should be systematically reviewed, and any errors found should be corrected.

We have carefully selected our data gathering methods to get us both quantitative and qualitative data on the participants' perspectives for this evaluation. Information collection methods will be addressed in the following two sections (A8,9). The final report was read and reviewed by myself and questionable data was double-checked against its source to ensure accuracy.

A8 Analysis of Quantitative Information — Quantitative information in an evaluation should be appropriately and systematically analyzed so that evaluation questions are effectively answered.

During the quantitative analysis phase of the project there were two of us doing the calculations independently, which was extremely helpful to find and fix errors. Through this process, we were confident that the statistics reported were accurate for the samples and populations they represented.

A9 Analysis of Qualitative — Information Qualitative information in an evaluation should be appropriately and systematically analyzed so that evaluation questions are effectively answered.

The qualitative collection portion of the evaluation was conducted very carefully, as mentioned in Standard A6. Once the interview data had been collected, I attempted to limit the number of data entry errors follow an iterative process of listening and recording, listening and recording, at least four times for each quote I recorded. These were then reviewed after some time away for accuracy once again. Additionally, to combat keystroke errors and promote openness, I my analysis method called for a separate column for "corrected" quotes.

A10 Justified Conclusions — The conclusions reached in an evaluation should be explicitly justified, so that stakeholders can assess them.

Each of the conclusions drawn at the end of this report were sustained by the recommendations connected, findings, and evaluation questions connected to them. The report is careful not to make assumptions which are too general and cannot be supported by the methodology used.

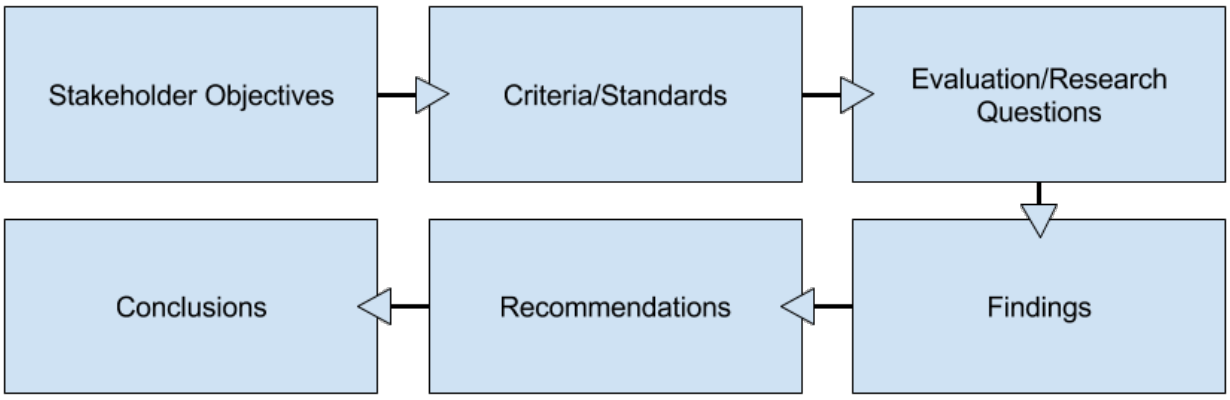
A11 Impartial Reporting — Reporting procedures should guard against distortion caused by personal feelings and biases of any party to the evaluation, so that evaluation reports fairly reflect the evaluation findings.

As a former instructor for IPT 286, I had some preconceptions of my own about the evaluand as well as preconceived notions about how students perceive the badging program. I was aware of these going into each interview and was careful to remain open to understanding the participants' perspectives throughout time our time together, as well as in the analysis process. Establishing strict criteria helped me combat this evaluator subjectivity. Additionally, information used to support this report's findings was sent to the participants for member checking.

A12 Metaevaluation — The evaluation itself should be formatively and summatively evaluated against these and other pertinent standards, so that its conduct is appropriately guided and, on completion, stakeholders can closely examine its strengths and weaknesses.

I am impressed by the amount of growth that I have experienced in the past short while. My understanding of the academic writing process has grown more in the last three weeks than in the last two years. Through this evaluation project, my understanding of the structure and flow of the necessary elements of a graduate-level paper has finally coalesced. I clearly see how each section or chapter of a paper is necessitated by its predecessor and how each element is interdependent on the other.

Figure 5. Academic Paper Flow



Additionally, I have learned valuable lessons about project and time management. As stated in the Methods section of the report, this evaluation excelled at minimizing financial cost and resources. However, it could have greatly improved on time and project management.

In comparing the actual schedule with the proposed schedule, there are a number major discrepancies. Overall, the time needed to complete this evaluation project was far less than the actual time spent accomplishing it. In order to learn from this experience, I will note discrepancies in the actual versus the proposed/ideal schedule and hours for this project. My field notes indicate that this evaluation project officially initiated on January 26, 2015 when an amendment to West's current badging research project began. However, I didn't sign up for project credit until the add/drop deadline of BYU's Spring term, May 5th, 2015.

Table #: Comparison of Proposed Schedule with Actual Hours

Project Task	**Projected Hours**	**Actual Hours**	**Ideal Schedule** Start date: 3/16/15	**Actual Schedule** Start date: 3/16/15
Initial stakeholder	3+	20	Initial stakeholder needs assessed by	Initial stakeholder needs assessed by

assessment, needs analysis, and additional consultations			3/20/15 *Additional consultations [Schedule regular progress updates monthly]	3/20/15
Interview protocol development	15	10	Complete by IRB Submission deadline [4/16/15]	Complete by IRB Submission deadline [4/16/15]
Acquire IRB Approval	5	10	Submit IRB request by 4/16/15 Receive IRB approval by 5/16/15	Submit IRB request by 4/16/15 Receive IRB approval by 5/16/15
Select method, Quantitative summary & qualitative participant selection	10	15	Select Method by 3/31/15 Gather appropriate quantitative data by 4/8/15 Analyze quantitative data & select case study participants by 4/16/16	Select method by 3/31/15 Gather appropriate quantitative data by 4/8/15 Analyzed quantitative data & selected case study participants by 4/16/16
Interview 4 participants	10	5	Complete all interviews within this timeframe: 3/20/15 - 4/18/14	Completed all interviews within this timeframe: 3/20/15 - 4/18/14
Data analysis	30	60	Complete analysis for findings section by 5/1/15	Completed: 12/19/15
Reporting	70	140	Stakeholder report written by 6/4/15 Member checking and revisions complete and submitted by 6/16/15	Turned in AECT findings on 11/4/15 Finished written, revising, and submitted final report on 12/19/15
Misc. cushioning	20	150(0)	*Misc. time accounts for the unexpected periods of time during which I was not on	*It accounted for well over 100% of time I actually

			task. This should account for no more than 10-15% of my time.	worked on the project.
Total time	163	410+		

IRB approval took many more weeks than anticipated. On March 16, 2015 this project was approved by the BYU IRB office after a two-month wait. From this, many lessons can be learned. Researchers should allow for a variable amount of time to hear back from the IRB office given all the breaks and holidays in the academic calendar. Once IRB approval process was underway, instead of waiting to perform any work, I should have been accomplishing non-participant-related tasks like preparing the literature review, planning with my advisor, analysis of quantitative data, and preparing data collection instruments. Additionally, as I prepare for my dissertation, I should avoid thinking that I can immediately jump into collecting data as soon as an opportunity presents itself. Something that I might do to try to hastened the IRB approval process could be to extend a courteous phone call every week or two to the IRB office inquiring into the status of the report.

While the initial analysis of the various stakeholders' needs should only take approximately two weeks, additional formative updates and reports should be scheduled throughout the life of the project. These will allow the stakeholders and evaluation team to make necessary adjustments as needs arise.

The quantitative portion of this evaluation did not demand very much time. It took Christina and me only 15 hours over two weeks of meeting together to identify appropriate ways use the available data. The only changes I would make to this part of the ideal schedule would be to better clarify who would be accomplishing which tasks, and when.

Our interview process went very well. However, on the table, I doubled the time from 5 hours to 10 on the "proposed" schedule (actually future schedule) because we should have scheduled follow up interviews with each of our four participants. Methodologically, this evaluation demands it for greater credibility. During our initial interviews, they were very natural and only semi-structured. Once the analysis was completed, it would be important to go back to each participant and re-invite them to be interviewed a second time. This way we can confirm and dig even deeper into our previous findings.

Creating my own data analysis method was difficult. I learned through this analytical and creative process meaningful data doesn't always come in the first iteration. I thought I had established a very clear, very effective set of evaluation questions, carefully listening for criteria I was listening for on the recordings. However, it was only after searching for patterns in the data numerous times during that first time through. I figured after that would be done with analysis.

However, the truth was that once the interviews were transcribed, and even coded—that was when the real analysis began. By the end, I took twice as long as I had hoped because I had to go back and relabel all of my interview quotes all over again. I used to hear from everyone that data analysis takes forever, and now I know why.

When West and I first agreed upon criteria for a final project at the beginning of the project, Rick requested that his final stakeholder report be the same documents as the PhD evaluation project report. His specifically requested that the report would be formatted "professionally" and "consistently" ("not necessarily APA"). When I reminded him that the rubric asks for APA formatting, he re-assured me that I didn't need it for this evaluation—which saved me a lot of time this time around. However, it also made me realize how much I don't know about APA formatting. I will need to learn more before beginning writing my dissertation proposal. I will need to schedule study time in the near future to pursue Purdue's APA website, and also reading the blue, APA style book floating around the grad lab.

Although it wasn't asked for by West, I regret not being able to schedule an hour-long face-to-face conference with him to report my findings. I feel like a personal report would be an enjoyable experience for both of us, as we have both invested so much time into better understanding the evaluand. Assuredly, our visit would yield additional recommendations about how to improve the badging program not found in the report. If a final meeting doesn't take place, valuable lessons would be lost. Therefore, I will be sure to schedule West for a *post mortem* meeting after Christmas break and include Dan Randall, as he may also be interested in the findings.

I've learned many lessons throughout this project. (Many of them are found in Appendix 12. Through this evaluation experience, one of the most-important lessons I learned was of the importance of an aggressive project management, especially when goal setting, is an essential element to the success of any large project. I realize now that by failing to create a projected schedule for myself (like the one above), I postponed the life of this project unnecessarily.

In addition to failing to establish a proposed schedule, the life of this project was additionally extended because I was frequently seduced by the need to endlessly revise my writing. I attribute this primarily to not having initially set clear criteria for the project. Consequently, I couldn't know when a project task was good enough. Resolved to improve my future performance, I came up with two reasons why I got stuck in revision cycles and then offer solutions to these time management issues. First, I worked under the impression that I didn't have any formal time constraints to complete this project. The future solution to this mistake is simple: ask. But even if there aren't formal time constraints on a project, I will make informal ones. That way, I can maintain a productive and happy lifestyle. (I find that I am most happy when I am actively making and meeting goals.) The second reason I got caught in the revision cycles was because I lacked the skills necessary to confidently complete many of the project tasks by myself.

Additionally, since I was unsure how long a many project tasks should reasonably take to complete, I was hesitant to set any goals at all. Therefore, for future projects, I will have the humility to confidently seek counsel from mentors and task experts when I feel like I am in over my head, rather than trying to fruitlessly muddle my way through.

Now that I have experience with the flow of the project as a whole, I will be sure to plan out future project timelines with a more accurate idea of how much time each section will require. While these milestones will be flexible, they will offer the necessary motivation and mini-deadlines required to complete large tasks.

I should have spent more time on developing interview protocol. In an effort to make up for lost time and trying to hurriedly submit my interview instrument as part of the packet for IRB approval, I anxiously constructed an interview protocol, which I loosely based on the stakeholder's criteria for the evaluand. I should have been more thoughtful in my approach. Had I been more aware of the PhD Evaluation Template provided me by Williams, I would have applied the matrix which asks the evaluator to identify what specific data collection procedures will be used to address each of the evaluation questions. Doing this would have added more structure and focus to the interview process.

While conducting this evaluation, by the end of the writing process, I learned to follow an effective process for managing my time. Whenever I was preparing to work on the project for a block of time, I quickly made the following inventory:

1. What has already been accomplished?
2. What tasks remain?
3. Which of those tasks must be accomplished first (prioritized)?
4. How much time will each of those first few tasks take?
5. Schedule by when each of those tasks should be accomplished. (Forecast as far as reasonable.)
6. Complete block of tasks.
7. Review this overview and make adjustments.

One final note: I learned that to conduct a thoughtfully review of all 300 points of Stufflebeam's metaevaluation is extremely time intensive and mentally demanding.

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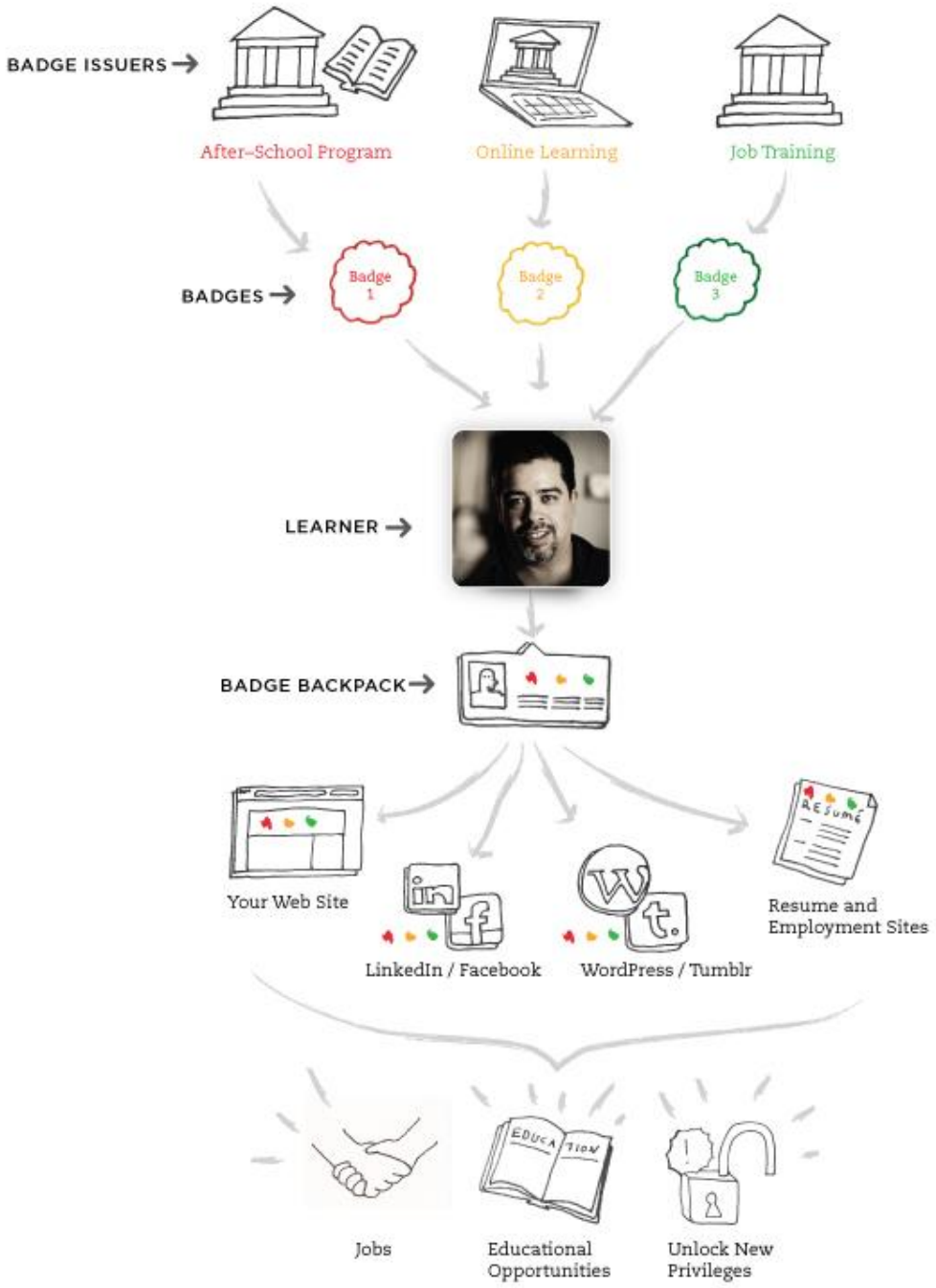
Appendices

Appendix 1. How Badging Works Diagram



http://www.learningsolutionsmag.com/assets/images/learningsolutions/2013/130128/image1.jpg
Brandon, B. (2013). Open badges: Portable credentials for learning. *Learning Solutions Magazine*. Retrieved from http://www.learningsolutionsmag.com/articles/1094/open-badges-portable-credentials-for-learning

Appendix 2. Four Differences Between Digital vs. Open Badges

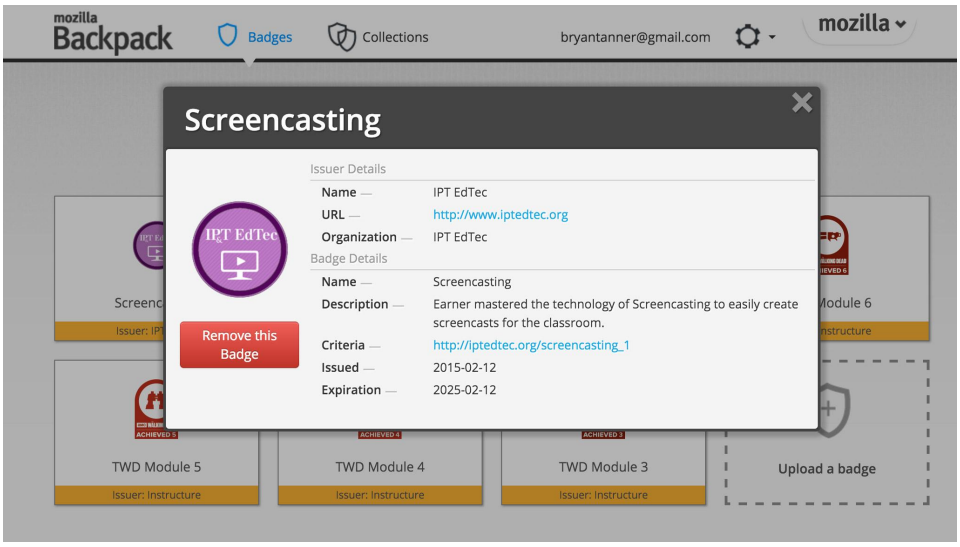
Since the proliferation of digital badges, there has been a push to distinguish Mozilla Open Badges from these traditional digital badges. Since digital badges are nothing more than an image that is shared digitally, they do not offer the security nor the assurances that the earner truly deserves the badge. Mozilla's
The Open Badges Infrastructure can build upon the digital badging movement in four significant ways.

First, Mozilla's Open Badges have an open infrastructure, meaning anyone can create and issue badges to be stored in the Mozilla backpack. Digital badges, on the other hand, are mere images that exist exclusively within their issued programs. While a notification of badges earned can be shared via social media, the code itself typically cannot be transferred outside of their respective, private systems (Brandon, 2013).

Second, open badges improve upon digital badges in that the information is not only given to the badge earner for storage and distribution, but the data is also hosted on the badge issuer's servers. In this way the Open Badges Infrastructure provides a level of security and reliability that common digital badges do not (Brandon, 2013).

The third way open badges improve upon digital badges is by accompanying the digital image along with practical metadata. Traditional transcript metadata might include the credentialing institution's name, the course name, when the credential was earned, and what mark was received. And while essential, this information is insufficient to be practically useful. Open badges contain this information along with additional useful metadata, such as badge criteria, a URL hyperlink to online evidence of learner mastery, a badge expiration date, and more.

Figure 4. Screenshot of the Mozilla backpack at: http://beta.openbadges.org/



By attaching this helpful metadata, viewers can retrace the steps of the badge-earner's accomplishments, thereby deriving real meaning from what the open badge actually represents. Additionally, since the Open Badge Infrastructure is based on an open standard, Mozilla (n.d.) advertises that earners can combine multiple badges from different issuers to tell the complete story of their achievements — both online and off. Badge earners can display their badges wherever they want on the web, for employment, education or lifelong learning.

And fourth, Mozilla Open Badges are designed to offer recognition for mastery, while digital badges signify less-significant accomplishments along the way. Digital badges are typically employed to reward users for progress on their path towards mastery. By distinguishing between these *lightweight* and *heavyweight* badges, earners can feel the security their their accomplishments have significant worth. Here are some examples of lightweight digital badges:

- Swarm's "You have more check-ins than your friends" stickers,
- Microsoft Xbox's "# kills/second" achievements,
- Duolingo's badges for "# consecutive days practiced", and
- Khan Academy's accomplishment badges for "# minutes of YouTube videos watched".)

Name		Contact information	Semester		High Motivation	Low Motivation	High Employment	Low Employment	Easy Badges	Difficult Badges	Contacted	Replied	Sceduled	Interviewed
Brittany	Bodily	britbodily@gmail.com	W13	2 5 4	X		X			X	X			
Jenna	Gwilliam	jennagwilliam@live.com	W13	3 4 5	X		X			X	X			
Laura	Mortensen	laura.aleise@gmail.com	W13	6 1 2		X		X	X		X			
Allen	Purvis	cavemen77@gmail.com	W13	6 1 1		X		X	X		X			
Fanfan	Charles	charlesff07@yahoo.com	W13	2 1 2		X		X		X	X			
Morgan	Fitzgerald	da.morgster@gmail.com	W13	2 1 5		X	X			X	X			
Spencer	Clement	spencercclement@gmail.com	F13	3 5 5	X		X			X	X			
JoAnna	**Brown**	**joanna_williams2010@hotmail.com**	**F13**	**3 5 5**	**X**		**X**			**X**	**X**	**X**	**X**	
Katherine	Fortney	katherine.hart@gmail.com	F13	6 4 2	X			X	X		X			
Shelby	Wood	shelbyjwood@gmail.com	F13	7 1 4		X	X		X		X			
Alexis	Bosco	lex.bosco@gmail.com	F13	6 1 4		X	X		X		X	X		
Kyle	Richins	kyle_richins@yahoo.com	F13	1 1 2		X		X		X	X			
Jessica	Madson	madson.jessica@gmail.com	F13	2 1 2		X		X		X	X	X		
Brittni	Vawdrey	brittnivawdrey@gmail.com	F13	3 1 5		X	X			X	X	X		
Emily	Schild	emschild@gmail.com	F13	2 1 1		X		X		X	X			
Lindsey	**Rogers**	**lindseymrogers@gmail.com**	**W14**	**6 1 2**		**X**		**X**	**X**		**X**	**X**	**X**	**X**
Erin	Nelson	erinvk@msn.com	W14	2 1 2		X		X		X	X			
Laura	Ebeling	lauram.ebeling@gmail.com	Sp14	6 1 2		X		X	X		X			
Dalen	**Howard**	**dalenhoward@msn.com**	**Sp14**	**1 1 4**		**X**	**X**			**X**	**X**	**X**		

Patton, Intensity Sampling
http://www.qualres.org/HomeInte-3810.html
http://legacy.oise.utoronto.ca/research/field-centres/ross/ctl1014/Patton1990.pdf

Observation: There are no, high, high, easy respondents

Prioritized

											Facebook	
Brittany	Bodily	britbodily@gmail.com	W13	2 5 4	X		X			X	sent	denied
Shelby	Wood	shelbyjwood@gmail.com	F13	7 1 4		X	X		X		no response	
Lindsey	Rogers	lindseymrogers@gmail.com	W14	6 1 2		X		X	X			
Dalen	Howard	dalenhoward@msn.com	Sp14	1 1 4		X	X			X		

FINAL RESPONDENTS

Lindsey	Rogers	lindseymrogers@gmail.com	W14	6 1 2		X		X	X		W13	1.16
Dalen	Howard	dalenhoward@msn.com	Sp14	1 1 4		X	X			X	F13	1.17
JoAnna	Brown	joanna_williams2010@hotmail.com	F13	3 5 5	X		X			X	Sp14	1.11
Jessica	Madson	madson.jessica@gmail.com	F13	2 1 2		X		X		X	Total SD	1.1467

Appendix 3. Interview Participant Selector

Appendix 4. Participant Invitation to Interview Letter

Subject: **BYU's IP&T Program Has Selected You!**

Hi _____,

My name is _____, one of the researchers for IP&T 286 under the direction of Dr. Rick West. In ___ 201_, you participated in an IP&T 286 "end-of-course survey" in the which you shared some thoughts on the usefulness of IP&T Ed Tec badges. Of all the students who took the survey, we are now purposefully reaching out to you and a few other students to follow up.

In a continued effort to improve the course experience for future pre-service teachers, we are now conducting interviews to collect your additional insights, now that some time has passed. In order to participate in this interview, you don't have to be currently enrolled at BYU. Participation is voluntary (i.e., you don't have to talk with us.) But you will be given a $10 Visa gift card in exchange for your time. (Interviews will take less than an hour.) In addition, you will have the satisfaction of knowing that you have significantly impacted future students, earth, and science. :)

Are you available to meet with me, for less than an hour, sometime in the next two weeks? If so, what is the best way to contact you?

Sincerely,

_____

Appendix 5. Case Study Profiles

Quick Portrait of Participants:
Post-Course Survey Responses
& Other Indicators

	Jessica	Lindsey	Dalen	JoAnna
Easy?				
Useful?				
Motivated?				
+Responses	0	1	2	3
Semester	F13	W14	Sp14	F13
Instruction Mode	f2f	Online	f2f	Blended
Instructor	Dan	Bryan	[Grad]	Rick

Lindsey Rogers-Self

"The Practical One"

Basic Survey Info

- Interview date: March 20, 2015
- Conducted by Bryan Tanner, assisted by Christina Catron
- Took IPT 286: Winter 2014
- Instructor: Bryan Tanner and Nicole (TA)
- Mode: Online
- Grade: [Missing]
- Badges earned: [No Response]
- Major:
- Student Teaching: Currently teaching high school in the Nebo school district
- Portfolio: https://sites.google.com/site/englishwithmrsself/
- Follow up: lindseymrogers@gmail.com

Participant Description and Background (from Interview)

- Lindsey is the type of student who takes the time to understand what is expected of her, and then she works hard to meet those expectations. But she will not put in any additional work that is unnecessary. (Therefore, badges failed to incentivize her to achieve more.)

- She is a highly self-regulated learner and thrived in an online environment. Very little instructor attention was necessary to help her succeed.
- Lindsey was single at the time she took IPT 286, but married soon thereafter.
- She seems like a do-it-yourself kind of person.
- She felt more comfortable communicating with the TA online because of a previous relationship with her in another class. Also, the class was almost always online so it was nice to already have known the TA since it would have been harder to get answers.
- Lindsey was able to figure things out on her own in the online class. However, f2f would have been helpful for asking questions, and seeing demos to figure out specific requirements.

Review of Badge Items on Survey

- Badge difficulty on a 7-point scale; 7 = very difficult to earn.
    - 6 = "Hard!"
- Badge motivation on a 5-point scale; 5 = definitely motivated to earn badges.
    - 1 = "Hard, but absolutely worth it!
- Badge employment on a 5-point scale; 5 = definitely useful to for getting a job.
    - 2 = "I'm skeptical if they'll ask me about badges or even know what badging is."

Interview Comments of Worth

- While Lindsey wasn't particularly motivated to earn badges, nor does she think they will help her get a job, she does see badging potentially becoming a bigger deal in the future.
    -
- Administrators aren't currently asking for competence in technology, and even if they did, they wouldn't ask for proof.
    - If they did ask for proof, Lindsey would feel most natural telling them about it, then offering to email a specific file or link later that day.
    - According to Jessica, it is typically not expected to need to bring a portfolio to a job interview. The burden is on the interviewer to ask the interviewee to bring specific evidences with them, if that was wanted.

Additional Comments

- Wishes she had more contextual learning experiences applying these technologies while teaching.
- Lindsey contradicted herself a couple of times.
- Would have liked to learn more about Google Apps/Classroom, which is what Nebo district is currently using.
- Lindsey wants to have a paperless classroom, yet she doesn't know what do about the 5% of students can't submit wirelessly.

JoAnne Brown
"The Lifelong Learner"

Basic Survey Info

- Interview date: April 10, 2015
- Conducted by Bryan Tanner, assisted by Christina Catron
- Took IPT 286: Fall 2013
- Instructor: Rick West
- Mode: Online
- Grade: [Missing]
- Badges earned: Prezi, Creative Commons, and more…
- Major: Chemistry
- Student Teaching: Will be teaching at Spanish Fork High School, Fall 2015.
- Portfolio: https://sites.google.com/site/brownscied/ipt-portfolio
- Follow up: joanna_williams2010@hotmail.com

Participant Description and Background (from Interview)

- JoAnna was single when she took IPT 286, but has since married.
- She took an interest in teaching when she moved to VA for college and took a liking to her chemistry classes.
    - Later, she became a Chem E major and TA'd for a different Chem class.
    - After that exposure, decided that's what she wanted to do for the rest of her life.
- JoAnna is bubbly in her interview responses.
- She seems to love teaching and wants to become better as indicated by her animate and excited responses to questions and focus on giving us feedback on ideas on how to improve the course.
- I imagine she displays a lot of charisma when teaching her students.
- When she teaches, I feel like it is important to her that she understands the material fully beforehand.

Review of Badge Items on Survey

- Badge difficulty item on a 7-point scale; 7 = very difficult to earn.
    - 3 = "I'm glad they're not too easy."
- Badge motivation item on a 5-point scale; 5 = definitely motivated to earn badges.
    - 5 = "Badges definitely motivate me!"
- Badge employment item on a 5-point scale; 5 = definitely useful to for getting a job.
    - 5 = "I am a Badge Evangelist!"

Additional Comments

- If it hadn't of been online, I would have said that it I wished it was online. I liked that class was optional so you could go and ask questions.

Dalen Howard
"The Methodical Skeptic"

Basic Survey Info

- Interview date: April 14, 2015
- Conducted by Bryan Tanner, assisted by Christina Catron
- Took IPT 286: Spring 2014
- Instructor: [Grad instructor]
- Mode: Blended
- Badges Earned: [Missing]
- Major: English
- Student teaching: Currently teaching at Spanish Fork High.
- Portfolio: [Missing]
- Follow up: dalenhoward@msn.com

Participant Description and Background (from Interview)

- Dalen is a highly empathetic individual. Relationships are important to him, especially in teaching and learning. He decided to get into teaching professionally after teaching at the MTC and falling in love with the mentoring process. Dalen is especially interesting in understand fast and slow learners and how to help the slower ones close the gap.
- Dalen is single and living in Provo, UT.
- He became a teacher because wanted to help people and liked creating curricula.
- He wants to to inspire his students to imagine new possibilities by helping them see things in new ways.
- Dalen caught the teaching bug when he became fascinated with the question, "what makes someone a fast learner and what makes someone a slow learner."
    - Dalan loves to bridge the gap between those two learners.
    - "I love demystifying the idea that there's someone who is smart and there's someone who isn't."
- After graduating, Dalen is considering a career in curriculum development, designing text books.

Review of Badge Items from Survey

- Badge difficulty item on a 7-point scale; 7 = very difficult to earn.
    - 1 = "I think badges are EASY!"
- Badge motivation item on a 5-point scale; 5 = definitely motivated to earn badges.
    - 1 = "No Thanks! Not interested."

- Badge employment item on a 5-point scale; 5 = definitely useful to for getting a job.
    - 4 = "I could see how badges could be used to sell yourself."

Interview Quotes

- B: What advice do you have for future 286 students? D: Make sure you have a viable device that is compatible with the programs being used.

Additional Comments

- Although Dalen could see the value of badges and would make a terrific badge evangelist, he remained unmotivated to earn them because it wasn't worth the effort of explaining when he felt confident he could get a job he wanted without them.
    - Dalen mentioned in his interview that he perceives the standard to which principals hold their prospective new hires isn't very high. Dalen feels teachers don't need to distinguish themselves in this area of the state because principals will hire the first person that they get along with.
- One idea the Dalen referred back to numerous times in his interview was his wish for IPT 286 to teach technologies by presenting them in context, instead of abstractly—outside of the classroom.

Jessica Madson-Kelemen
"The High-Achieving Disbeliever"

Basic Survey Info

- Interview date: April 18, 2015
- Conducted by Christina Catron, facilitated by Bryan Tanner (via Google Hangout)
- Took IPT 286: Fall 2013
- Instructor: Dan Randall
- Mode: f2f
- Grade: A
- Badges earned: None
- Major: Geography
- Student teaching: Currently teaching at Cheyenne Middle School
- Portfolio: https://sites.google.com/site/socialscienceseekers/
- Follow up: madson.jessica@gmail.com

Participant Description and Background (from Interview)

- Similar to Lindsey, Jessica is another high achiever. She rarely felt lost throughout the semester. She only required minimal assistance from her instructor on assignments. But that scaffolding was still necessary for her to feel confident in her ability to achieve.
- Jessica is married and student teaching just outside of Oklahoma City, OK.
- She worked hard in school and got great grades.

- Her interview responses were honest and thoughtful.
- She observed and believed here instructor that badges weren't a thing yet, so she immediately dismissed them as something she would not spend her time on.
- The nail in the coffin was when she understood that she didn't need to earn badges in order to earn an A in the course.
- She was practical in the solutions she offered. It seemed she was genuinely interested in improving the use of the badging program and the course in general.

Review of Badge Items on Survey

- Badge difficulty item on a 7-point scale; 7 = very difficult to earn.
    - 2 = "I got an A in the class! So I could do them if I saw the point."
- Badge motivation item on a 5-point scale; 5 = definitely motivated to earn badges.
    - 1 = "Why should I?"
- Badge employment item on a 5-point scale; 5 = definitely useful to for getting a job.
    - 2 = "You've got to prove it to me first."

Cut and Paste of Quotes from Interview

- My instructor was very helpful. He made himself available during open labs for much needed instruction.
- I haven't used any of the technologies we learned to interact with students or parents.
- Once I have my own classroom, I probably would use a website to update weekly for parents to check at home and for students to see what they missed.
- I don't think anyone that I interact with, or apply for a job with will be aware of these badges, which is kind of why I wasn't motivated…
- I didn't really understand badging, so I didn't think anyone else would either.
- On the first day, I remember our instructor saying that we're hoping that this becomes something in the future. So since it wasn't really established yet, I was like, I don't really care.
- Did you have to do extra stuff to get a badge, or was it just the course work and you get a badge? Cause it required extra work, then I was not motivated.
- I think the expectations were too high for me (who wasn't

motivated to get a badge). I was like, oh, I can get an A without having to earn a badge. I didn't think it was possible (to earn badges).

- "I didn't feel like I got very much instruction on how to do it. I didn't feel like video would ever be useful in a classroom setting."
- I often went to Dan for questions. I never quite got the hang of it on my own, initially. I would get it, but I needed instruction first. It would have been cool if I had been able to get something totally on my own; I think that would have given me confidence…I didn't really feel like I could do something initially by myself. I needed instruction at first.
- The one time I didn't need help was when Dan did a screencast.
- After the class, I was like, 'Wow, I learned so many new things—enough for a lifetime!' …Until the need arises, I don't think I'll be going out of my way to learn new technologies.
- Traditional professional development is just a bunch of people chatting and no one actually learns anything. So if I had a choice to earn a badge or attend a professional development meeting, I'd much rather earn a badge, because I might be able to actually use [what I learned] in my classroom.
- My employer would have to bring it up, in order for me to be motivated to earn badges. Because that would prove to me that they are aware of it.
- I was never motivated by the idea of earning a badge. I chose to learn a technology because I could see myself using it in the classroom.
- I never earned any badges, so I never saw myself bringing it up to anyone.

Appendix 6A. Field Notes - Lindsey Rogers

Student Evaluation Protocol
For Lindsey Rogers-Self
Mail $10 Visa Card to:
Lindsey: 190 S 500 W #2, Provo, UT 84601

lindseymrogers@gmail.com

***Background*:**

- Student teaching in Nebo school district
- Winter 2014 IPT 286 student
- Instructor - Bryan Tanner and Nicole (TA)
- Major: English
- Felt more comfortable communicating with the TA online because of a previous relationship with her in another class. Also, the class was almost always online so it was nice to already have known the TA since it would have been harder to get answers.
- Why online? just happened to be that way. Online is convenient schedule-wise. Lindsey was able to figure things out on her own. However, f2f would have been helpful for asking questions, and seeing demos to figure out specific requirements.

Survey Validation:

- Q #26 - badge difficulty = 6 (7-point scale)
- Q #28 - badge motivation = 1 (5-point scale)
- Q #29 - badge employment = 2 (5-point scale)

Survey Response Validation:

- Difficulty—No (easy)
- Useful—No
- Motivated—No

Ricks's Key Research Questions:

1. Have badges effectively supported the IPT 286 curriculum/objectives? (Describe your experience with badges in IP&T 286.)
    a. Were they helpful (insert learning outcome)? How?
    b. Were they unhelpful (insert learning outcome)? How?
2. [Review 4 objectives] How can we, as instructors, improve your experience in meeting this course's objectives?
    a. Lindsey's Ideas for improvement:

i. It would have been more helpful to learn things like *Cahoot* or *Master* in connect. Instead of just "can I use the skills," have it be "how can I use these skills to help the kids use them."
    1. Christina's thought: "It would have been more helpful to know what the demands of teaching"
ii. Please offer more Ideas on how technology can be used in the classroom (E.g., here are several examples of lessons when you might want to implementing this tool.)
iii. Help student teachers know how to search for helpful media to add to their lesson plans.
    1. E.g., Teach the children "professionalism," a typically boring topic. Wanted to find a video to liven things up. Used the 3 stooges. Thanks to another teacher, she was able to show something funny for "puns," but if not, maybe she wouldn't have known where to find one.
iv. Teach future teachers how to find PLCs and find resources that have already been found/ used.
v. Emphasize Diigo.
    1. [My thoughts:] Having a community of learning outside of our 3-5 teacher group could be helpful in giving new teachers a creative outlet to ask questions and gather unit resources.
vi. Talk about the point of having a website. Explain the vision better. What do parents really want/ what do students really want from a website?

b. Sometimes there are connectivity problems so that becomes a time problem.

What are your overall impressions about badges?
Lindsey saw badges "as another hoop to jump through." (Check recording towards end.) She would have preferred to have Canvas, *OR* the IPTEDTEC website; both seemed "unnecessary" to her.

Questions about how badges serve to meet our 4 learning outcomes for IP&T 286 students.

1. How have badges aided in the teaching of and communication with students, parents, and other teachers?
    a. it is helpful to refer students to the website when they have questions, and it allows her to be transparent with the parents.
2. Was it helpful to see all of the various badge options on IPTEDTEC.ORG when deciding with project to do? How did you decide?
3. Would you ever show off the badges you've earned now that you've graduated? Why? How?

4. Would you go back to IPTEDTEC.ORG as a resource to continue to learn new technologies after this course is over? Why?
    a. No, not motivated at all.

5. How has your involvement with the badging system affected your confidence in your ability to use technology?

Didn't affect her confidence since she didn't really learn anything new and it was more of a hoop that she had to jump through in order to graduate.

Questions about how much students know about iptedtec badges.

1. Did you realize that the outline of IP&T 286 aligned with earning the 4 badges on http://iptedtec.org/secondaryed/ ?
2. Were the rubrics clear to understand? How could they be better?
3. Do you feel like certain badges are more valuable than others? Why?
4. Were you aware of the existence of the "Granddaddy" badge (insert official name here)? Know how to earn it?
5. After earning a badge, do you feel like a "master?" Competent in being able to apply that tool/skill?
6. Once you learned the skill did you feel more marketable? Put the skill on a resume? Was it worth it to you to share your badge backpack?
    a. Hasn't seen the need for badges. Partly because of the subject (English). The class was confusing because there was both badges and the other coursework. Even if it were organized by course subject, it still wouldn't be motivating. Administrators would want to know basic things about how much technology to use, and aren't expecting teachers to be professionally trained for that [technology literacy]. Ex. Saying you can use weebly is good enough- you don't have to prove it.

Questions about "Badges are not extremely difficult to do." mean=4/7, SD=1.7

1. Did the difficulty level of earning the badge affect your motivation?
    a. Would you find earning badges more attractive if they were more/less challenging to earn?
2. What is difficult about earning the badges?
3. What is easy about earning the badges?
4. Multiple resubmission process? How many did you do?

Questions about "Students don't think they'll use badges in gaining employment." mean=3.15/5, SD=1.35

1. If you knew that principals valued seeing what badges you've earned, would that change your motivation for earning/sharing badges?

If she were asked "Do you have any evidence of a way that you can teach this unit?"
She would just show them what she has done- more of a [physical] portfolio.

One problem is that you get lots of great ideas in the IPT 286 classroom, but you're not actually teaching so it's hard to apply them later. Therefore, her motivation may not have changed very much if she had known that administrators valued badges. Maybe show future teachers other teachers using technologies. - that maybe would have been motivating

   a. Would you continue earning badges after the course had finished?
2. Did *technology use* or an opportunity to talk about *badging* specifically come up in your hiring experience?
   a. What did the interviewer/s want to know?
   b. What topics came up?
      - classroom management,
      - collaboration with other teachers
      - PLCs, not badges or technology
      - Technology is not something that employers are asking about so far, but it is becoming a bigger deal.
        - Went to a conference and about 50% of the things were technology oriented. But it was more for ease for evaluation and grading as opposed to things like making movies (hasn't been helpful in preparing for teaching).
          - TECHNOLOGY TO EASE EVALUATION/GRADING is a hot topic at conferences. This means teachers are interested in that specifically. We could emphasize those more as well.
        - Have PLCs every Wednesday after school where they can share ideas. This way they share helpful technology with one another (trusted peers)
          - E.g., YouTube playlists of unit videos
   c. If you did mention badges, how did he/she/they react?
3. How else might you possibly use badges, in addition to gaining employment?

Questions about "Students have low motivation for earning badges." Mean=2.44/5

1. Were you motivated to earn badges, beyond getting a grade for IPT 286? Why or why not?

    a. not really.
2. What would have added value for you?
3. Teachers are required to do significant professional development throughout their teaching—would you choose to earn a badge for professional development credit, rather than attending a class or seminar?

What technology I have used:

- everyone has a gmail account [name]@nebo.com
- She uses a powerpoint every day in her classroom. Learning the google apps would be useful. Google classroom. She is considering going paperless next year through google classroom.
    - Debating about whether or not to make a classroom paperless because she thinks it just kind of sits there and no one uses it.
    - It took her an hour or two to make a 5 minute video so she doesn't want to spend all that time making a video. However, it would be cool to have the students make their own.
    - 95% have internet access at home, but for the 5% that don't, she doesn't want them to have to submit all the assignments online.
        - Even with a 95% access rate, Lindsey is hesitant to offer class work online.

Post-interview Thoughts and Feelings:

Summary:

- She wasn't motivated earn badges because she didn't see their value.
- Administrators aren't currently asking for competence in technology, and even if they did, they wouldn't ask for proof.
    - If they did ask for proof, Lindsey would feel most comfortable telling the story, then offering to email a specific file or link later that day.
        - Apparently, the burden is on the interviewer to ask the interviewee to bring specific evidences with them, if that was wanted.
- Lindsey contradicted herself a couple of times.
    - When she said she would have liked to learn more about Google Apps/Classroom (at the beginning), but then said at the end, she wanted to learn apps that she was unfamiliar with (not like Google products). She may have meant the district-wide version.
    - Lindsey wants to have a paperless classroom, yet 5% of students can't submit wirelessly.
- A disconnect exists between in IP&T 286 between learning ideas outside of context vs. in-context. She would have liked to have spent more time seeing actual applications of tools instead of focusing on rubrics and tool features.

- Did I make myself seem like I was currently an instructor and would be teaching again in the future? Remember, ti's okay to influence
    - "Reactivity" occurs when the researcher influences the setting or individuals studied. It's not considered as threatening as bias. An interesting note about interview reactivity, which is called "reflexivity" occurs when the interviewee is influenced by the interviewer - and it always happens. It's unavoidable (Hammersley and Atkinson, 1995). Instead of magic charming it away, explore HOW you are influencing the interview.

Meta-analysis:

As an interviewer there were a few moments that stood out.

- 20 min "Riff with me" We explored a tangent together and, through our discussion, came up with new knowledge together.
- 30 min "
- 40 min "Thank you. As you've been talking, I realized that for the past two years I've been doing this wrong in my teaching."
- 45 min I could resist teaching Lindsey what a the purpose of a badge is. She did understand.
- 47 min "I don't mean to put words into your mouth here." I found myself repeating this often when I was restating what I thought the interviewee was saying. Turns out I was only right about 40% of the time. Interviewees were very forthcoming in correcting me, or saying, "no, what I really mean is [this]." If they'd just say "yes" and leave it at that, I would ask them to restate that idea using their own words.
- 49 min I asked Christina to take notes following a specific format, but then I didn't sequentially follow it at all.

Appendix 6B. Field Notes - JoAnna Brown

Student Evaluation Protocol
For JoAnna Brown
Mail $10 Visa Card to:
445 N 400 E #104, Provo, UT 84606
joanna_williams2010@hotmail.com
Email her in a couple weeks to see where she is living.

Key Research questions to ask:

1. Is badging good?
    a. How are badges good or bad?
2. Are they meeting the course objectives?
3. Are they adding value to your life?
4. How can the course / badging be improved?

Survey Validation:

- Q #26 - badge difficulty = 3 on a 7-point scale. 7 = very difficult [to earn]
- Q #28 - badge motivation = 5 on a 5-point scale. 5 = definitely, yes [motivated to earn badges]
- Q #29 - badge employment = 5 on a 5-point scale. 5 = definitely, yes [useful to employment)

Background:

- When took IPT 286: ?
- Portfolio: https://sites.google.com/site/brownscied/ipt-portfolio
- Mode: Blended
    - If it hadn't of been online, I would have said that it I wished it was online. I liked that class was optional so you could go and ask questions.
- Interest in teaching:
    - Went to VA for school and started to like her chemistry classes.
    - Later became a Chem E major and TA'd for a different Chem class.
    - After that exposure, decided that's what she wanted to do for the rest of her life.
- Student teaching in Fall 2015 teaching Chemistry at Spanish Fork High School.

Summary:

- Enthusiastic but still hesitant around some technology
- Most useful badges:
    - Prezzi
    - Copyright
    - Creative Commons

        - "That one was helpful. I liked that one. I like knowing that there are some things on the internet that I can actually use without going to jail. I had no idea what it was before this class.
- I want badges to be a thing. When I tell someone about it, I want them to know what I'm talking about.
- JoAnna is a hopeful post class/pre teacher who still feels like having earned badges sets her apart in the eyes of employers. She is motivated by difficulty and reward. She is studious in regard to resubmission who wants to understand concepts. She wants principals in Utah to understand the value of the badge. Motivated by the difficulty.

Ricks's Key Research Questions:

1. Have badges effectively supported the IPT 286 curriculum/objectives? (Describe your experience with badges in IP&T 286.)
    a. Were they helpful (insert learning outcome)? How?
    b. Were they unhelpful (insert learning outcome)? How?
2. [Review 4 objectives] How can we, as instructors, improve your experience in meeting this course's objectives?

What are your overall impressions about badges?

Questions about how badges serve to meet our 4 learning outcomes for IP&T 286 students.

1. How have badges aided in the teaching of and communication with students, parents, and other teachers?
    a. The website is a good place for parents to know what is going on in the semester. Students can go and see what they missed in class. Links if they don't know about a certain thing- like Khan academy
2. Was it helpful to see all of the various badge options on IPTEDTEC.ORG when deciding with project to do? How did you decide?
    a. How did you decide? It depends on how much homework I had. None of them were easy, so eventually it came to what I would actually ever use in my classroom. Like, iMovie, "If I know iMovie, I can teach it to them."
3. Would you ever show off the badges or IPTEDTEC.ORG you've earned now that you've graduated? Why? How?
    a. Not to people besides employers. "I would feel arrogant." I asked my dad if they knew what they were (he works in IT) and he didn't know what they were. It has come up, because I think they're cool and give credibility, but I don't specifically remember it.

4. Would you go back to IPTEDTEC.ORG as a resource to continue to learn new technologies after this course is over? Why?

5. How has your involvement with the badging system affected your confidence in your ability to use technology?
    a. Yes. How so? "Not scared to try anything." I don't like change, but in this class, they were like, "here, try prezzi, and we'll show you how to use it"
    b. Now I'm super excited to have kids pull out their cell phones and take a poll in class.

Questions about how much students know about iptedtec badges.

1. Did you realize that the outline of IP&T 286 aligned with earning the 4 badges on http://iptedtec.org/secondaryed/ ?
    a. Maaaybe. I don't remember if I had any of the main badges that you're talking about?
2. Were the rubrics clear to understand? How could they be better?
    a. I honestly don't remember them well enough. If she had a question about the rubric, she felt that she was able to
    b. Doesn't feel like it was the difficulty was due to the wording of the rubrics.
3. Do you feel like certain badges are more valuable than others? Why?
4. Were you aware of the existence of the "Granddaddy" badge (insert official name here)? Know how to earn it?
    a. Yes. Wants to go back to increase depth.
    b. If bbadges were more well known, the rarity of the granddaddy badge might have motivated her.
5. After earning a badge, do you feel like a "master?" Competent in being able to apply that tool/skill?
    a. Yes. iMovie, I feel competent to teach it. I feel like the level of difficulty did a good job of helping to make sure you are competent enough to teach it.
6. Once you learned the skill did you feel more marketable? Put the skill on a resume? Was it worth it to you to share your badge backpack?

Being constantly reminded that it would last beyond just the class helped. Go back and listen (47 minutes). I was emailing Rick after the semester ended asking if I could still go back through.

Questions about "Badges are not extremely difficult to do." mean=4/7, SD=1.7

1. Did the difficulty level of earning the badge affect your motivation?

    a. Would you find earning badges more attractive if they were more/less challenging to earn?
    b. Speaking as a college student, yes, make them easier, but as a future employee or employer, don't make them easier, but they would lose credibility. I appreciated the credibility of the IPTEdTech badges.
2. What is difficult about earning the badges?
    a. They were time consuming. "I would do something, and then I would look at the rubric and realize I hadn't done it exactly like they wanted." (not exact quote 38 minutes)
3. What is easy about earning the badges?
    a. I could do them on my time. Having someone there to ask questions was helpful
4. Multiple resubmission process? How many did you do?
    a. I loved that it was available. It was a clean slate. It doesn't matter that you didn;t get it the first time, you can get it the second time. You didn't get docked for having to redo it.

thinking about the iMovie one- it was really hard and I didn't get the badge. That was one that I really wanted, and I worked really hard on it. But I didn't get it and I didn't want to redo it. Still feels competent using iMovie.

Questions about "Students don't think they'll use badges in gaining employment." mean=3.15/5, SD=1.35

1. If you knew that principals valued seeing what badges you've earned, would that change your motivation for earning/sharing badges?

That would definitely increase my motivation. If they knew about this, I would be more motivated to redo them to get the badge.

    a. Would you continue earning badges after the course had finished?
2. Did *technology use* or an opportunity to talk about *badging* specifically come up in your hiring experience?

Conversation about badges with employer:
through email.
He was skeptical about badges and wanted to know if it was easy. When I told him they were difficult and that I didn't get every single one that I tried for, he told me to leave it on my resume.
"Rick talked like it was going to be a thing and I hope that it is."
How did you put it on your resume?

In the skills portion- "I have badges in these things" "I felt that it was worth it to mention it separately instead of just saying 'I know Word'".

    a. What did the interviewer/s want to know?

b. What topics came up?

c. If you did mention badges, how did he/she/they react?

3. How else might you possibly use badges, in addition to gaining employment?

It will be more well known when her school professor knows what it is when she turns in a rubric.

Looking at the list of badges:
"I look at this and I think, I wish principals knew about them"
-google sites, copyright, google earth, logger pro ("I didn't get the badge, but I wish I did!")

Questions about "Students have low motivation for earning badges." Mean=2.44/5

1. Were you motivated to earn badges, beyond getting a grade for IPT 286? Why or why not?

   What was it that made you want to earn badges? Maybe just a psychological thing of wanting to earn something. Now you have something that you can put on your website. It's a reward. "If I hadn't of had the badges, I wouldn't have redone the assignment…" (at 22 minutes)
2. What would have added value for you?
3. Teachers are required to do significant professional development throughout their teaching—would you choose to earn a badge for professional development credit, rather than attending a class or seminar?
   a. Yes. I can do it on my own time. It would teach me something useful, and not always listening to someone speak is very useful. If they counted toward my professional development hours, I would definitely be more motivated to earn them.
   b. Ability to choose several different badges to earn instead of being assigned one for professional development: "I like choice." explore.

- Have your opinions changed? I actually still put on my resume that I have earned badges from IPTEdtec, and employers have asked questions about that.
  - Badges are like having "somebody else back me on my resume"
- How many badges did you get? "There were some badges I didn't get, and I felt that that was something even better. 'That wasn't easy to get, and I still got it'"
  - I think what she's saying is that when she didn't earn a badge, it made the ones that she did earn have even more value.
- I want to know how I can update it [badges she's earned], because I've used it in my career. I am motivated to upgrade my badges.

Looking for both breadth and depth.

- "Once they're more a big thing, like more people actually know about them, I would feel more motivated"
- How was your experience on IPTEDTEC? Also helped to know what learning resources were available. "Not only do this and this to get the badge, but also instruction"
- "It was an online class but I still felt like I learned those things."

Role play - Hiring principal to student-teacher: What do these badges mean?

- "I took this class and you are given assignments and told to do different things, and if you do really well at it, you get a badge. By getting a badge, it means you are proficient at it. The rubric is online so you can look at it and it shows exactly what I had to do to get it. I have links to the things that I did."

Post-interview thoughts:

- Maybe what we need to be doing is working with school districts so that we are offering things that they are actually interested in. Our main audience is high school teachers. Professional development.

Appendix 6C. Field Notes - Dalen Howard

Student Evaluation Protocol
For Dalen Howard
Mail $10 Visa Card to:
Dallin: (760) 554-8938
Address:
dalenhoward@msn.com

Key Research questions to ask:

1. How was the badging experience for you?
    a. How are badges good or bad?
2. Are they meeting the course objectives?
3. Are they adding value to your life?
4. How can the course / badging be improved?

Survey Validation (5-point Likert):

- Q #26 - badge difficulty = 1
- Q #28 - badge motivation = 1
- Q #29 - badge employment = 4

Dalen's Background:

- English Student Teacher at Spanish Fork High.
- Became a teacher because wanted to help people and liked creating curriculum. "New ways of seeing things."
- Became fascinated with "What makes someone a fast learner and what makes someone a slow learner."
    - Loves to bridge the gap between those two learners.
    - "It's possible. I love demystifying the idea that there's someone who is smart and there's someone who isn't."
- Wants to make text books.
- Dalen took IP&T 286 (blended ver.) Sp14
- Hoped IPT 286 would have to taught technologies more in context, instead of abstractly—outside of the classroom.

Rick's (Key Stakeholder) Questions:

EVALUATION

1. Have badges effectively supported the IPT 286 curriculum/objectives? (Describe your experience with badges in IP&T 286.)
    a. Were they helpful (insert learning outcome)? How?

b. Were they unhelpful (insert learning outcome)? How?

Review 4 Objectives with Participant

1. How can we, as instructors, improve your experience in meeting this course's objectives?

What are your overall impressions about badges?

Questions about how badges serve to meet our 4 learning outcomes for IP&T 286 students.

1. How have badges aided in the teaching of and communication with students, parents, and other teachers?
2. Was it helpful to see all of the various badge options on IPTEDTEC.ORG when deciding with project to do? How did you decide?
3. Would you ever show off the badges you've earned now that you've graduated? Why? How?
4. Would you go back to IPTEDTEC.ORG as a resource to continue to learn new technologies after this course is over? Why?
5. How has your involvement with the badging system affected your confidence in your ability to use technology?

Questions about how much students know about iptedtec badges.

1. Did you realize that the outline of IP&T 286 aligned with earning the 4 badges on http://iptedtec.org/secondaryed/ ?
    a.
2. Were the rubrics clear to understand? How could they be better?
    a. "The instructions don't really tell you how to do it, so that was annoying."
    b. [They only provide an assessment rubric online. And the instructors clarify what is online, but don't actually teach the content.]
    c. "You just have to mess with it for like 5 hours and if you didn't get it, you were screwed."
3. Do you feel like certain badges are more valuable than others? Why?
4. Were you aware of the existence of the "Granddaddy" badge (insert official name here)? Know how to earn it?
    a. didn't care. But hypothetically, if he had earned it and realized that it was super rare, he would present it to employer.
5. After earning a badge, do you feel like a "master?" Competent in being able to apply that tool/skill?
    a.

6. Once you learned the skill did you feel more marketable? Put the skill on a resume? Was it worth it to you to share your badge backpack?

What do you have to sell yourself?
Letters of Rec, experience (was teacher in MTC), special requirements from BYU (ex. reading)--- upon request. "Technically having a badge might help."
Job positions are filled with people who can just fill it. Badges might have it so that you have an edge. Right now its more like (47ish minutes)

Role play at 50 minutes
Why should principals be interested in badges?
They *are* looking for qualified teachers. How can they tell a bad teacher from a good teacher? If we had a badge system, you could differentiated between the candidates. You know exactly what skill sets you are hiring.

Questions about "Badges are not extremely difficult to do." mean=4/7, SD=1.7

1. Did the difficulty level of earning the badge affect your motivation?
    a. Some of the programs were super hard. If you don't know the program, it's going to be difficult. In the class, there wasn't enough step by step instruction. The class should be set up within a computer lab.
    b. Would you find earning badges more attractive if they were more/less challenging to earn?
    c.
2. What is difficult about earning the badges?
    a. Wasn't enough step by step instruction. A lot of people were getting lost.
3. What is easy about earning the badges?
    a. For the programs I already knew, they were easy.
4. Multiple resubmission process? How many did you do?
    a.

    How did you pick badges? The ones that I thought were interesting and could be useful.

Questions about "Students don't think they'll use badges in gaining employment." mean=3.15/5, SD=1.35

1. If you knew that principals valued seeing what badges you've earned, would that change your motivation for earning/sharing badges?
    a. answer: yes. If they had on the application to tell what badges you had earned.
    a. " quote at 26 minutes. Until someone tells me that they want badges … i'm not going to do it"

    b. It doesn't seem like the principals are picking the best applicants. It's competitive in the sense that there are a limited number of spots that needed to be filled, but as soon as they find someone good enough, the position is filled."
    c. If all classes had tons of access with technology, I could see badges being more useful.
    b. Would you continue earning badges after the course had finished?
2. Did *technology use* or an opportunity to talk about *badging* specifically come up in your hiring experience?

    a. What did the interviewer/s want to know?
    b. What topics came up?

    c. If you did mention badges, how did he/she/they react?
3. How else might you possibly use badges, in addition to gaining employment?
    a. It could be used as a selling point. You could use that as proof.
    b. There was really no need to have badges. You can still be a teacher without badges.

Questions about "Students have low motivation for earning badges." Mean=2.44/5

1. Were you motivated to earn badges, beyond getting a grade for IPT 286? Why or why not?
    a. before the class had never heard of them. Rick had said that they were kind of a certification type thing. Had never heard of them in other classes. I guess I didn't really believe it.
2. What would have added value for you?
    a.
3. Teachers are required to do significant professional development throughout their teaching—would you choose to earn a badge for professional development credit, rather than attending a class or seminar?
    a.

Regular check ins are important. How else can we make learning work for IPT 286. "regular checkins- that's a huge one." Not having the class just be about learning the material, but there needs to be some sort of argument of WHY to use it, even through the obstacles. IPT does not address the opposite argument.
Most teachers don't apply what they learned in college about HOW to teach, so they end up just reverting back to how they were taught when they were in school.

Making the website was useful. He will use it when he has a classroom. The assessment is more do you know how to use it instead of creating something you would actually use in the classroom.
"If you're not creating something, it probably won't stick in your long term memory."
Quote at 42:30 minutes.

There is no application in the teaching program, besides student teaching. There is no application in the moment. Without it, you are missing a piece of the pie.

Professional development:
Would you rather earn a badge than attend an hour lecture?
"That would be great. Because some teachers just don't even know how to use computers… etc (54 minutes)

Anything else??
The idea of selling yourself needs to be more strongly influenced. Everything needs to be addressed as how it will be a selling point and how it can be on a resume. Talk about badges as a way of selling yourself.

For future students: get something where you can sell yourself. Make sure you have a computer in the class that works. If you want to learn something, ask.
Afterthoughts:

Christina's handwritten notes:

- IP&T 286 was required and was very excited to take it.
    - "Technology is the new thing…Can be extremely helpful."
- Once out in the field as a student teacher, Dalen lost his enthusiasm for using new tech in the classroom.
    - "Can't just say, 'pull out your phones'." Not every student has a smartphone. Only ⅓ have phones. "There are obstacles to using Poll Everywhere."
    - PowerPoint and other stuff learned in IP&T 286 was "very helpful".
    - Everything currently use, I learned before IP&T 286.
- Somethings were helpful
    - Movie maker is "extremely helpful"
- Suggestion for improving teaching: the thing missing in IP&T lectures is discussion on why a technology would be useful despite the obvious challenges. At least make us aware of the real-life challenges to using this in the classroom.
- Dalen didn't feel like he had an opportunity to apply what doing badges taught him. Due to this alleged failure to apply/practice, it didn't "sink in" and lead to him and other

teachers reverting back to how their teachers taught them; it's what they are familiar and comfortable with.

Post-listening Summary:

- Badges didn't do much for Dalen. The whole point of badges it to credit students with skill mastery, and unfortunately, Dalen didn't feel like he mastered any of the skills taught in IP&T 286. As a teacher himself, Dalen is driven to attend to the needs of slower learners in the group—a skill which requires a high level of learner empathy and care. Due to the omission of this attention to slow learners during IP&T class time, when content is being learned for the first time, and also not having a computer that allowed him to easily follow along, Dalen felt that his IP&T class experience was rushed, and he was just there to submit assignments, not learn.
- To give him higher motivation to do badges he suggested three things:
    - CORRECT TOOLS. Have compatible equipment (lab rental).
    - SLOW DOWN INSTRUCTION. Work step-by-step through new content as a class so no one is left behind. Maybe teach less, over more time?
    - CONTEXTUAL LEARNING. Be more explicit about how tools can be used inside the classroom, offering alternative ideas for classrooms with limited technology.
    - EDUCATE PRINCIPALS. If principals knew what badges were and, more importantly asked for them on a resume or when interviewing.
    - INSTRUCTORS IMPART VIS|ON. Pre-service teachers need to do things now that will set them apart from other job applicants. IP&T instructors need to make a bigger deal at the beginning of the semester that showing badges to principals is a great way to show initiative and introduce a higher-level of tech literacy to their faculty. Principals don't ask for tech qualifications because they don't expect it from their current or incoming faculty. That's why earning IP&T EDTEC badges is such a great opportunity—pre-service teachers can go above and beyond what is expected and prove to your principal that you can bring a new level of tech literacy to the school. Badges are on the cutting edge of education technology.
    - MORE PERSONAL ATTENTION. Unspoken, but inherent in his tone throughout the interview, was the idea that if he had felt personally cared about, he would have had greater confidence that he could complete various badges. (This is important because it ties in with one of the course objectives—for learners to have the confidence to seek out and pick up new technologies on their own as teachers.)

Appendix 6D. Field Notes - Jessica Kelemen

Student Evaluation Protocol
For Jessica Madson-Kelemen
11633 North Meridian Place Apt. B
Oklahoma City, OK 73162
Mail $10 Visa Card to:

madson.jessica@gmail.com

Our research questions are:
How did badges work for you? For each of the IP&T 286 course objectives?

Google Hangout: https://plus.google.com/u/0/events/cksdg64uo3kijrl8vbbgo11da4k

Background:

- Took IPT 286: Fall 2013 from Dan
- Website: https://sites.google.com/site/socialscienceseekers/
    - ARTIFACT!
- Student teaching: Cheyenne Middle School. Geography Class, just outside of OK City.
- Description: Jessica is married and living outside of Utah. Her responses were very thoughtful. She wanted to clearly understand each of the questions asked. In response her opinions were shared with conviction. She was practical in the solutions she offered. It seemed she was genuinely interested in improving the use of the badging program and the course in general.

Survey Responses:
Difficulty— 2/7, badges are difficult
Motivation—1/5, not at all motivated
Help with employment—2/5, didn't think they would help

What effect did **badges** have one each of these 4 objectives? Thoughts before, during, after class…

Recommended Questions:

- What are badges?
    - There are a certain number of badges you can earn to prove your proficiency.
- Motivation
    - No one will use this. (Bad)
    - I didn't earn any badges.
- Employment

- (approx. 10:27am) – Didn't believe that employers are interested because they haven't asked for it.
- (10:53) She would believe, only If they brought it up.

- Difficulty
  - (10:28am) – You had to earn 100% on the rubric and perform up to Dan's higher than normal standards to prove proficiency.
    - *Unknown/unclear (subjective) expectations made it less motivating to attempt an A+.
    - No motivation for Jessica to go above and beyond.
    - (10:42) Although this section of the course was offered online, Jessica went to Dan regularly for questions during open lab times. There was alway something she didn't feel like she could do initially by herself. She needed help learning/being shown the tool. (10:44) "Couldn't quite finalize it without his [Dan's] help."

4 Learning Outcomes (What we expect you will get out of this class?)

1. Students will learn to use technology to aid in the teaching of and communication with of students, parents, and other teachers.
   a. Good:
      i. Mentor teacher had a classroom website, hosted by the district.
      ii. Jessica would host a site for parents to see what their students had learned and students who may have missed class. Update weekly.
      iii. Does she still have her website url?
   b. Bad:
      i. (10:26am) Why not? People will be impressed by badges. Jessica didn't think anyone would know what they are outside of BYU. We're hoping people will catch on.
         1. Interesting use of "we're" here. It's as if she's on the inside of the badging movement and ready to actively promote it. She's a badging patriot.
      ii. Good idea, but too much work.
2. Students will design technology-enhanced lesson plans, activities, and resources that not only cut down on teacher-prep and learning time, but support learning more effectively than past technologies could.

a. 10% students don't have smart devices. School policy not to have your phones out. Exceptions were made.
b. (Quote towards the end) too much work.

3. Students will become familiar with resources that will help them continue to stay up-to-date with emerging technologies after the course is over. (Diigo, Badges, PLCs (Personal Learning Community), future students, etc.)
   a. Good: She enjoyed exposure to what was available. (E.g., Polleverywhere.) Bryan: No one is asking for tech use. I don't want to spend my valuable time doing something that's not required. (Too much work to actually apply in the classroom.) Christina: Didn't understand that there was a need for certain technologies in the classroom.
   b. Bad: She doesn't keep up on skills. (10:48) Until a need arises, she isn't going to learn something new.
4. Students will overcome technophobia. If learners enter this course as nervous/anxious *techno-phobes,* they will leave as confident **tech-ninjas*! Learners will be able to confidently bend new technology to your will!
   a. Good:
      i. Websites helped her feel confident.
      ii. (10:39) Most things already have resources and with a little searching, I can find classroom resources. *FAVORITE QUOTE
   b. (10:45) Dan doing a screencast was helpful.
      i. Christina: Didn't understand what the rubrics were asking for specifically, or where certain features were in the tool; so it would be helpful to get screenshots—to know where the buttons were.
   c. When she feels like she can do iterations of a task, she's more confident.
      i. E.g., make 5 pages, one page with the following 5 names…
   d. Bad:
      i. It was so difficult, it would be worth finding another person's video than make it yourself. The multi-media project showed her that she would not make her own videos for her students.
      ii. (10:44) "Couldn't quite finalize it without his [Dan] help."

Extra Finding:

(10:57) Please help student teachers learn how to teach technologies to students (2nd level badges).

Post-Interview Impressions:

- Unless the need arises, Jessica is not going to engage with new technology in the future.
- Currently, no need for tech in the classroom.
- She didn't believe that badges were useful, and until an employer actually tells her that badges are needed, she will not feel motivated to earn a badge. Not a technology native, and is pretty satisfied with the way things are going.

Much later, after re-watching the Google Hangout (Meta-analysis):

- I was a jerk. I kept distracting Christina from connecting with the interviewee by entering chat reminders, which drew her focus away from the interviewee.
- Maybe just have one person conduct the interview when doing them online.

Appendix 7. Interview Protocol

Interview Protocol

[Get them talking; ask questions about themselves. E.g., How'd you get into teaching?]

Survey Response validation

1. What motivation did you feel to earn badges?
2. Did you think they were hard to earn?
3. Do you think you'll use them now that the course is over?

*How did badges serve to meet **the 4 learning outcomes** for students taking IP&T 286?*
(Did we meet the objective? What role did badging play?)

1. How have badges aided in the teaching of and **communication** with students, parents, and other teachers?
2. Was your ability to **design** technology-enhanced lesson plans, activities, and resources enhanced or hindered by the course's badge infrastructure? How?
3. Do you feel like you know how to **stay up-to-date** with emerging technologies now that you've graduated from the class? What role do IPTEDTEC badges play in that?
4. How has your involvement with the badging system affected your **confidence** in your ability to learn and apply technology?

Bonus Questions
Students' general knowledge about iptedtec badges.

1. Did you realize that the outline of IP&T 286 aligned with earning the 4 badges on http://iptedtec.org/secondaryed/ ?
2. Were the rubrics clear to understand? How could they be better?
3. Do you feel like certain badges are more valuable than others? Why?
4. Were you aware of the existence of the "Granddaddy" badge (insert official name here)? Know how to earn it?
5. After earning a badge, do you feel like a "master?" Competent in being able to apply that tool/skill?
6. Once you learned the skill did you feel more marketable? Put the skill on a resume? Was it worth it to you to share your badge backpack?

Questions about "Badges are not extremely difficult to do." mean=4/7, SD=1.7

1. Did the difficulty level of earning the badge affect your motivation?

    a. Would you find earning badges more attractive if they were more/less challenging to earn?
2. What is difficult about earning the badges?
3. What is easy about earning the badges?
4. Multiple resubmission process? How many did you do?

Questions about "Students don't think they'll use badges in gaining employment." mean=3.15/5, SD=1.35

1. If you knew that principals valued seeing what badges you've earned, would that change your motivation for earning/sharing badges?
    a. Would you continue earning badges after the course had finished?
2. Did *technology use* or an opportunity to talk about *badging* specifically come up in your hiring experience?
    a. What did the interviewer/s want to know?
    b. What topics came up?
    c. If you did mention badges, how did he/she/they react?
3. How else might you possibly use badges, in addition to gaining employment?

Questions about "Students have low motivation for earning badges." Mean=2.44/5

1. Were you motivated to earn badges, beyond getting a grade for IPT 286? Why or why not?
2. What would have added value for you?
3. Teachers are required to do significant professional development throughout their teaching—would you choose to earn a badge for professional development credit, rather than attending a class or seminar?

Post-Interview Eval Team Summary:

Appendix 8. Inter-rater Reliability Testing

Inter-rater Reliability Testing

Christina and I both coded the first 20 minutes of JoAnna's recording for inter-rater reliability purposes. We had minor discrepancies, which we discussed and came to a consensus on. After this exercise we felt confident that we would be able to capture the same types of statements for each of our established code. Any emergent themes would also be recorded and brought back to the evaluation team for further analysis.

Christina's Coding of JoAnna

1a/1b -- badges communicate

2a/**2b** -- badges save time

3a/3b -- future resource

4a/4b -- confidence

PDa/PDb -- professional dev

MIATa/MIATb- Make it a thing

When we talk about badges.
1:30 review of Joanna's answers
3:15 3aquote still puts them on resumes
3:50 3aquote emailed Rick after the class to make sure that she would get the badges
4:45 even thought about emailing RIck to get the second level badge
5:40 what she talked about to her professor to explain badges
8:20 How she put them on her resume

11:00 Q- how will badges help in the future/ will you go back to look at other resources?
11:35 3aquote "once they're a big thing" she would go back to the website and go more indepth
12:10 3a "you're going to get a thing you can put on your resume"
12:38 "I feel like I'm proficient in those things"

13:10 Q. How did they meet the needs of the objectives
13:44 Communication question- "the website definitely" helped to communicate with parents and students if they missed classes. Could use links to help other teachers know where resources are.
15:35- PLCs

16:04- Q. Objective #2. Was it helpful to see the options on the website? How did you decide?

16:45- would choose depending on her schedule.
17:02- by the time she realized they were all hard, she chose based on what she thought would be the most helpful
17:52 wouldn't show off badges

18:35 Q. Objective #4 Confidence in technology
18:55 made me not scared to try new things

Bryan's Coding of JoAnna
1a/1b -- badges communicate
2a/2b -- badges save time
3a/3b -- future resource
4a/4b -- confidence
PDa/PDb -- professional dev
MIATa/MIATb -- Make it a thing

2:07 -- Opinions about badges during IP&T 286 haven't changed since she took the class last year (2014).

- Motivated by badges
- Would help with employment
- Difficult to achieve

3a -- 3:20 -- 3aquote "I use them [badges] on my resume..."

3a -- 4:40 -- "I've thought about going back and doing the second-level badges. Upgrade…"

3a -- 5:45 -- [Conversation with a professor who was giving resume feedback concerning badges."

3a -- 11:25 -- re: going back to do more badges.

1a -- 13:31-- The website will help me communicate with parents in the future. PLCs.

Appendix 9. 2015 AECT Slide Contribution Requirements and Link to 2015 AECT Badge Update (Bryan Slides)

What Does Rick Need for AECT 2015?

1. PowerPoint slide deck
    a. Basic findings: here's what's happened since last year (findings). learned about badging
        i. Good/Working
        ii. Bad/Not Working
    b. Additional findings, recommendations:
        i. Make it a thing
        ii. Professional Development

Requirements

- Include Quote & Data
- Send Rick 1st draft Monday 4th Mid-day. (No meta-evaluation)
- Also, 2-page dissertation idea

Appendix 10. Additional Findings

Additional Findings and Recommendations

Averages from Survey Data

Statistics from the post-course survey responses taken from three of the four semesters in our sample revealed general sentiments about how badges motivated them, the difficulty of the badge-earning process, and how likely they felt that having earned badges would help them get a teaching job. Of those that responded, they generally feel:

- *Badges are relatively **easy** to earn.*
- ***Badging doesn't really motivate** student achievement.*
- ***Skeptical** that badges will aid in gaining employment.*

The statistics supporting these statements and additional information regarding these summary findings are found in the Field Notes Appendices 6A - 6D. Many other findings, not specifically linked to the evaluand, but of potential interest to the stakeholder, follow.

Offer More Practical Badges

Lindsey hasn't uses any of the badge skills yet in her classroom. Her recommendation was to find out what teachers ARE using and form badges around those (Lindsey, 6 min). She suggested Cahoot, and Google Classroom among others.

"Just Pick the Badge You Love or Think You'll Use"

At the 17-minute mark of her interview, JoAnna made the observation that all the badges are hard, so there is no use in trying to beat the system. My recommendation is to instruct the instructors to warn their students more clearly about this and have them encourage their students to simply pick the one that they think might be of the most practical use in their future classrooms.

Some Students Feel Frustrated Because They Are Not Getting the Levels Of Desired Attention They Desire During Open Labs

Dalen desired a lot of attention in order to grasp concepts (26m10s). He said he would have preferred if his instructor would have walked him through the skill acquisition process step by step in order to feel confident. One the other hand, Jessica only wanted help with only one or two things before she felt confident (38m).

By placing a greater emphasis on the pre-course survey, section instructors and TAs can assess individual student needs earlier on. It is important not to leave any students behind. However, currently, it seems some students are feeling frustrated by not having their needs met in open labs and are suffering in silence.

While some high achieving students in IPT 286 seem to be appropriately self-regulating within the badging infrastructure, some learners seem to be falling through the cracks. Based on Dalen and Jessica's experiences, it may be worthwhile for instructors and TA to refocus on of the needs of the less-technologically proficient/unconfident learners in their sections. By following up on student pre-course survey responses, Instructors can better, and more quickly, identify how much attention at risk learners feel like they need in order to feel confident completing the assignments in the course.

If students self-identify as wanting more help in open labs, it will allow instructors and TAs to engage with them earlier in the semester. Once a student has fallen behind or underachieved on their assignments, it is historically leads to downward spiral of student disengagement with the course. By having that data point as a conversation starter early on, instructors and TAs can have a potentially large impact in the success of a student in this course, and set them on a path of confidence which can last a lifetime.

Making Badging More Social

Boy Scouting has a social component and objectives associated with earning merit badges that is currently missing in the general academic application of badging.

"It all begins with a Scout's initial interest and effort in a merit badge subject, followed by a discussion with the unit leader or designated assistant, continues through meetings with a counselor, and culminates in advancement and recognition. It is an uncomplicated process that gives a Scout the confidence achieved through overcoming obstacles. Social skills improve. Self-reliance develops. Examples are set and followed. And fields of study and interest are explored beyond the limits of the school classroom." (See http://www.scouting.org/Home/GuideToAdvancement/TheMeritBadgeProgram.aspx)

Survey Validity

The post-course survey has not been examined to measure internal consistency. While there is face validity because the interview data match the responses, it might be interesting to run a Crombach's alpha test on the three sets of item responses to determine a measure of scale reliability for the survey.

Problem: Students lack intrinsic motivation to accomplish badges.
Solution: Students having ownership over their own flexibility is key to another badge adopter on the Purdue faculty, Tim _____. Tim found that his students completed a greater number of assignment and earned much higher grades on them when they were free to work at their own pace, rather than be restricted to learning units in which they were to earn specific badges (Purdue Professor Tim, AECT presentation 2015).

Problem: The interviews revealed that some additional potential questions that could be asked in the pre and post-course surveys.
Solutions: Post— "How can you, as a badge earner, help to make badges a thing?"

Students Lack in Understanding
Need: Those students who are sold on badges don't have a solid understanding of how to utilize them? Interviews reveal that there was a lack of student understanding of the badge infrastructure. None of the interviewees knew that an Instructional Technologist "grand daddy" badge existed.
Solutions: As part of the website badge, walk students through uploading a badge. Perhaps make it part of the internet communications rubric. Consider using the pre-required TSA badge. Perhaps let students help one another in groups

Grading Slowdown
The is a hiccup regarding "ease of use" in the badging program. A hang-up exists in the timely grading. Especially of PTPs. Further research required.

1. Please include any additional information students have on how can the course could be improved?

Other General Perceptions from Interviews
Q: What **perceptions** do you—BYU Instructional Psychology and Technology 286 students—have about your experience with the ED TEC badging ecosystem?

Lindsey
- Lindsey saw badges "as another hoop to jump through." (Check recording towards end.) She would have preferred to have Canvas, OR the IPTEDTEC website; both seemed "unnecessary" to her.
- The class was confusing because there was both badges and the other coursework.
- More on what I actually use in the classroom. Gmail. PowerPoint, Google Apps. Google Classroom.

JoAnne
- Allow students the autonomy to customization of their own instruction.
    - The problem with lecturing in a traditional tech class: The traditional class lecture or workshop format left some technologically proficient students bored and unengaged while less proficient students were lost and frustrated. "Because of these challenges, we chose to create a blended model for the course prior to creating the badges, allowing some students to more efficiently learn on their own and freeing up class time for individual assistance with those who were struggling" (Randall, Harrison, & West, 2013, p.92).
    - One of the desired benefits of the implementation of badges in 286 was to overcome the issue of allow students to be able to select badges to custom

    - Being able to customize their own instruction. However, their motivations for badge selection was based primarily on which they felt they could complete fastest, instead of based on major or personal interest.
- Motivate higher achievement
- Useful source for professional development

Ease of Use - Did you find them easy to use?
Didn't affect her confidence since she didn't really learn anything new and it was more of a hoop that she had to jump through in order to graduate. (Lindsey)

Desire and Motivation - Did you have a desire (motivation) to earn badges?
"Maybe show future teachers other teachers using technologies. That maybe would have been motivating." (Lindsey)

Badge Utility - Did you perceive the badging opportunities as useful/valuable?
"Haven't seen the need for badges. Partly because of the subject (english). The class was confusing because there was both badges and the other coursework. Even if it were organized by course subject, it still wouldn't be motivating. Administrators would want to know basic things about how much technology to use, and aren't expecting teachers to be professionally trained for that. Ex. Saying you can use Weebly is good enough- you don't have to prove it. If she were asked "Do you have any evidence of a way that you can teach this unit?" She would just show them what she has done- more of a portfolio.

Does the Badging Program Support IPT 286 Course Objectives?

- It is helpful to refer students to the website when they have questions, and it allows her to be transparent with the parents. (Lindsey)
- Aid communication? The website is a good place for parents to know what is going on in the semester. Students can go and see what they missed in class. Links if they don't know about a certain thing- like Khan academy. (JoAnna)
- Did you find value in having badge options for assignments? How did you decide which badge to choose? It depends on how much homework I had. None of them were easy, so eventually it came to what I would actually ever use in my classroom. Like, iMovie, "If I know iMovie, I can teach it to them." (JoAnna)
- Mentor teacher had a classroom website, hosted by the district. (Jessica)
- Jessica would host a site for parents to see what their students had learned and students who may have missed class. Update weekly.

Students Are Requesting Instruction on How to Teach Technologies to Their Students
"Please help student teachers learn how to teach technologies to students. – (Jessica, 10:57)

Students Don't Understand Badges

Having said that, as a former instructor, I believe students never received adequate instruction regarding badges to motivate them to the degree that West would have liked. Past research indicates that even after earning badges throughout the semester, students didn't understand what benefits they offered or how to access them.

IPT 286 Student Exposure to the Ed Tec Badging System Was Cursory

We can't say for sure what percentage of the students were aware of badging at the beginning of the course. However, by the end of their time in the course, all students had countless informal and at least 3 mandatory opportunities to learn about them.

1. The value of badging was lectured on during class on the first day.
2. There is a mandatory module introducing badges assigned in the first week.
3. Students are asked to respond to items about badging in the post course survey.

Key Academic Benefits of Badging Systems as Micro-Credentials

Since badging is still a relatively new domain of research, the benefits have not yet been validated in peer-reviewed literature. However, unique benefits of adopting a badging ecosystem for assessment and credentialing are thought to exist. The literature failed to address a comprehensive list of benefits of badging in higher education. This is a possible article.

1. Earning a badge should be an easy, **uncomplicated process**.
2. Badges can allow learners to **investigate** new fields of interest without making intense commitments.
3. Badges are **micro-credentials**, which can acknowledge mastery over **small skills** or concepts.
4. Earning badges typically affords learners a greater sense of **self-reliance** and **confidence** to overcome obstacles as they continue education in that area.
5. Badges can motivate learning **beyond the required curriculum**.
6. Badges can be **modular** in that they can stand alone or be grouped in various combinations to recognize different levels of mastery.
7. Badges are **portable** by nature**.**
8. Badge redundancy (hosted by issuer and Mozilla) provides learners with an added measure of **security**.
9. Badges can increase **social visibility** of skill mastery.
10. Badging allows earners to experience valuable interactions the world of **online learning**, and thereby enhance their social and online IQs.

Students Want More Practical Teaching Experience Using with Badge Projects (2nd & 3rd-Level Badge Experience)

- "One problem is that you get lots of great ideas in the IPT 286 classroom, but you're not actually teaching so it's hard to apply them later." —Lindsey Self-Rogers
- I understand that Dr. West is aware of the importance of practical application. In fact, his ED TEC development team has already discussed the integration of 2nd-tier and 3rd-tier

mastery level badges of the same technology, representing the student's ability to appropriately include the technology in a lesson plan and then apply it in a live teaching setting. However, to all that in the same 1-credit class is infeasible.

- Here are three potential solutions:
    - Explore other departments and see if a "teaching applications" course already exists. If so, suggest that IPT 286 be a prerequisite for that course
    - Or more ideally (but less practically) have students take both courses simultaneously. Unfortunately, this would require a tremendous coordination effort across potentially multiple departments.
    - An alternative idea is have IPT offer additional technology courses (286, 386, and 486) where the emphasis of each is on mastery of the technology, lesson planning, and application, respectively.

Students Would Be More Motivated to Earn Badges If They Covered More Relevant Technologies

Lindsey said she didn't feel motivated to earn badges because administrators didn't expect English teachers to have any professional technology literacy credentials. Additionally, she knew all the content already and thus felt like the entire class was essentially a hoop her department made her jump through on her way to graduation.

Perhaps if Lindsey had been given the option to earn these four badges on her own, she would be allowed to opt out of the IPT 286 course entirely. Then she might have been more motivated to earn them.

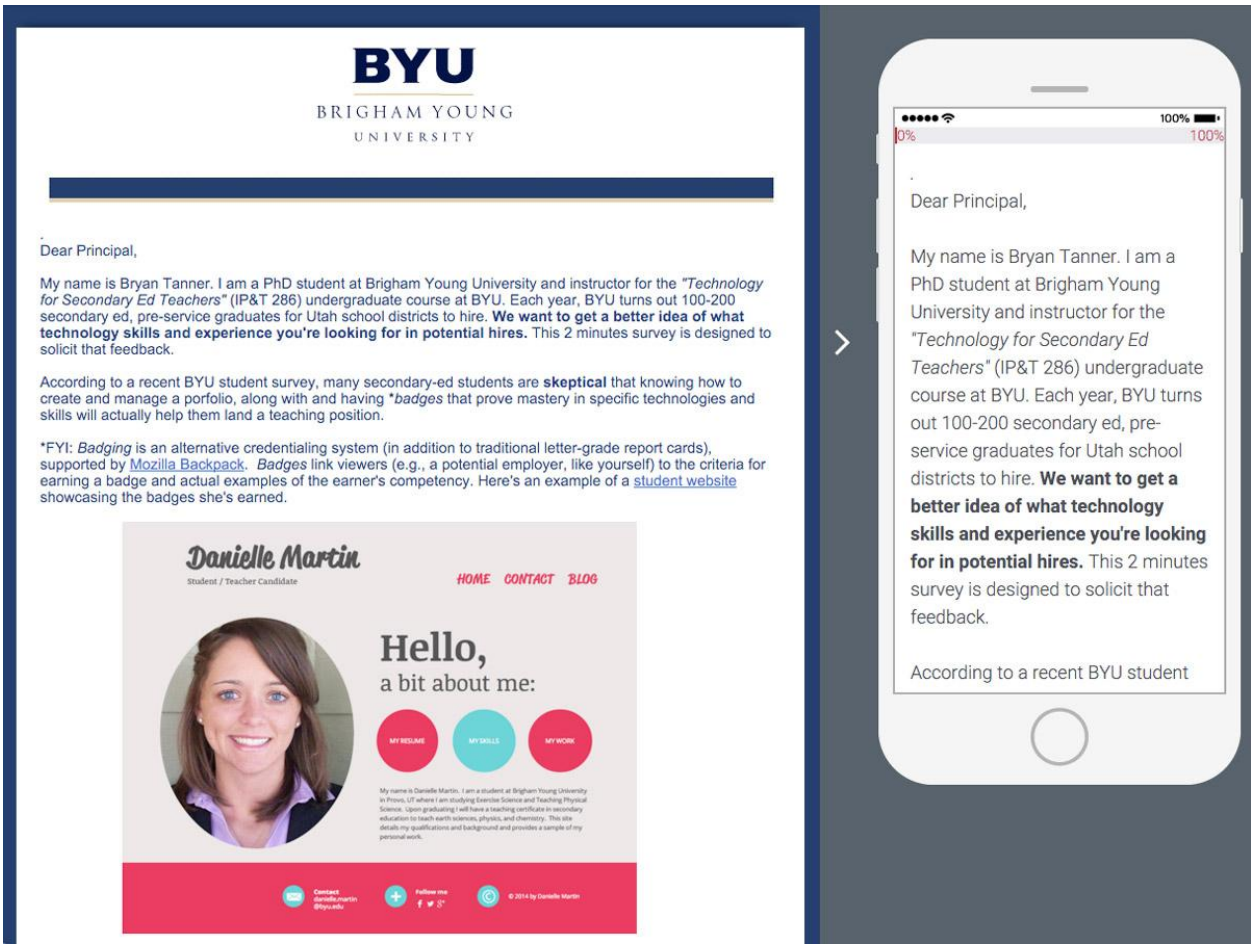
Lindsey uses a PowerPoint every day in her student-teaching classroom. Learning the google apps would be useful. Google classroom. She is considering going paperless next year through google classroom.

Appendix 11. Pilot Principal Survey

The purpose of this survey would be to inform principals of what badging is and how it could potentially benefit them, and then verify or refute student-teacher perceptions that badges are unnecessary, unwanted certifications in the eyes of administrators.

Link to Live Qualtrics Survey:
https://az1.qualtrics.com/SE/?SID=SV_daRxc9TkBBTZGXH&Preview=Survey&BrandID=byu

Figure 4. Qualtics Survey



Q1. We respect the anonymity of participants. All of the following information will be withheld from students. They would only need to know that a quote came from a principal in rural or urban high school in Utah. We are collecting the information below, just in case we wanted a quick way to contact you if we wanted to clarify something.

First Name	
Last Name	
State	
School District	
High School	
Email address	

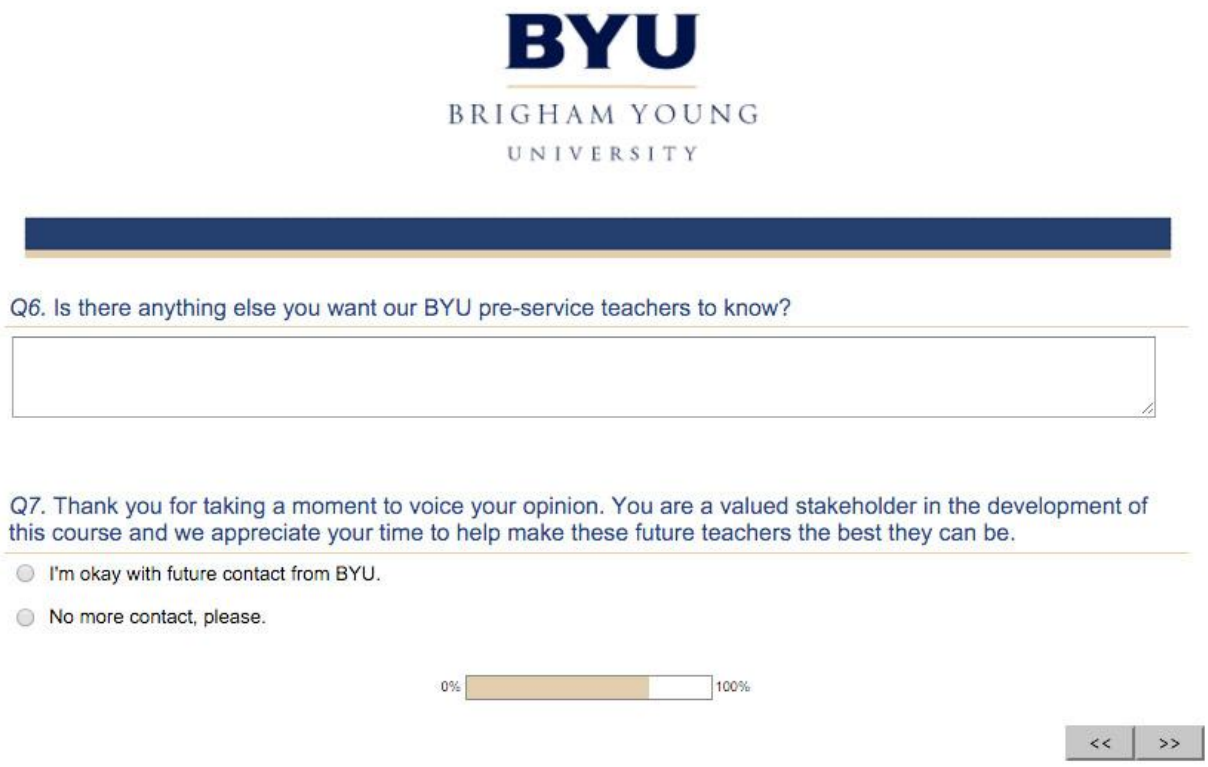
Q2. What technology-related skills or experience do you feel are important for your new teachers to possess? (Looking for 1-2 sentence open-ended response.)

Q3. What do you feel is the best way or ways to demonstrate competency/mastery in these skills? (Looking for 1-2 sentence open-ended response.)

Q4. If a potential hire sent you their online portfolio/website address, what are the first few things you'd look for/hope to see? (Looking for 1-2 sentence open-ended response.)

Q5.
Rank the following tools in order of your preference regarding their usefulness for helping you gauge a new teacher's *tech savviness*? (Most preferred item at the top.)

- **Class Website**—An example of a potential class website (e.g., site containing announcement pages, class calendars, document dropbox, online handouts, quizzes, etc.)
- **Portfolio**—Evidence of the teacher's ability to use various technologies on an online portfolio (i.e., tech competencies)
- **Grades**—A university transcript indicating the letter grade a tech course.
- **Letter of Recommendation**—Personal recommendation letter from someone qualified.
- **Interview**—"I can get all the info I need from a face-to-face interview."
- **A Website Including Everything in this List**—A website containing both, a tech competency portfolio, an example of a classroom website, badges, grades, recommendations, and a space to ask the website owner specific questions.
- **Other**—
- **Other**—
- ***I wouldn't use any of the tools below this line.***



Actual Response from a Principal in CA

Dear Principal,
I teach an educational technology course for pre-service teachers at BYU. Currently, our students are learning how to make websites. As a principle responsible for hiring, I want to know how seeing a potential job candidate's website might be helpful to you.

1. Would looking at a candidate's website be useful in making a hiring decision?
   YES
   1. [If yes] What might be the first few things you'd look for? (Looking for 1-2 sentence, open response.)

   I want to know that technology is being used as an effective tool and not as a center point. I want to see that they can use tech to reinforce good teaching practices. I want ot know that their skill set can benefit the rest of the campus (I.e. film club, website, teacher training, etc.)
   2. Anything else you want us to know?

   A good tech user knows how to design with restraint. It is not about quantity. It is about quality. There is a reason Jony Ives is so rich.
   3. [If no] Thank you! Anything else you want us to tell us?

Preliminary Conclusions

- Principals what to know if teachers are able to implement appropriate technologies effectively.

- Principals don’t want teachers to apply technology fadishly; with no pedagogical purpose aside from the concept that new-fangled technologies can temporarily increase learner engagement and motivation.
- Principals are actively looking for extra-departmental skills that can be applied at the school. (Eg., Movie-making for film club, Web conferencing skills for teacher training, etc.)

Appendix 12. Strengths, Weaknesses, and Lessons

Strengths

Consistent Field Notes

I faithfully kept field notes throughout the life of the project. They served as my memory for facts that happened and data collected way back at the beginning of the project. While writing the report, I review my field note in order to check dates and establish in what order I did certain things. I can image on even longer projects that field notes would be invaluable to establishing credibility for qualitative studies.

Dual Recordings

Good thing we had two recorders going. My recording was corrupted for Dalen's interview. (Perhaps mention this when discussing validity in the metaevaluation.)

Outlining

When formulating this report, it was helpful for me to write a section summary* at the top of each main heading. During the writing process, these descriptions of what ought to be included served as a clarifying reminder to me to know what information to include under each main heading. I would refine these generic descriptions to be replaced with more specific contextual detail as the paper developed. These reminders were removed in the final formatting of the paper, but they are included here:

1. **Evaluation Background —** Offers essential background information pertaining to the study on badges, the IPT 286 course, and the stakeholders invested in the findings along with their concerns.
2. **Evaluation Design —** Describes the process the evaluation team went through to address the stakeholders' specific concerns. The three main instruments used to gather data included interviews of IPT 286 students, post-course interview responses, and data collected from the course (student grades, and badges earned).
3. **Data Collection and Analysis —** Summarizes the actual student perceptions of the badging program.
4. **Findings —** This section reports findings to the key stakeholder. Specifically, it evaluates the worth of the ED TEC badging system in IPT 286, as perceived by students. Brief quantitative review of post-course survey responses (mean, SD). Interview themes (make it a thing, use it for professional development). Identify what is going well and how to improve the recognized weaknesses, gaps, or deficiencies in the badging program.
5. **Recommendations/Conclusions** — Based on the findings, what can the evaluation recommend to the stakeholders? What will be the potential outcome?

*Only later in the writing process did I realize that the department had supplied a PhD evaluation template on their website. The department template is so much better than mine, I wish I would have adopted it initially instead of just guessing what a logical format should be.

Weaknesses

Not Using My Faculty Resources Effectively

Unfortunately, I felt very alone throughout the course of this project. I got the same impression from everyone on the IPT faculty that in order to "qualify" for a professor's time, I had to pre-submit or have ready a 2-page summary of my idea for critique/guidance. Unfortunately for me, I can't write until I vocalize my ideas and draw them on white boards and brainstorm them in groups. (That's why I enjoy coursework so much.) I felt trapped in a catch-22 scenario. I needed a to talk my ideas out before I could write. But I felt I couldn't schedule a faculty member's time until I had something written for review. Now, underneath my psyche, I know this is nonsense. But it really did play a factor in preventing me from engaging more with the IPT program. Something I can do to overcome this is push back when asked for writing and simply request "talk time" or time to ideate. Once I do that, I can write.

Better Needs Analysis

One of the simplest—and most impactful—parts of the evaluation is the initial sit down with the key stakeholder to determine the evaluand. I knew this, and yet, I walked out of Dr. West's office with many assumptions. (Assumptions are bad for evaluation.) I wish I had prepared better for that meeting by doing a few things differently. First, I would have dressed up, possibly in a suit and tie. Dr. West may have laughed and questioned my appearance, but I would have explained to him that it was very important for me to clearly understand his needs as a stakeholder and dressing professionally helps me get into the right mindframe. I would have also prepared a "Key Stakeholder Worksheet" which outlined a series of questions to ask with spaces to fill in responses. This would serve to remind me to not conclude until we could both look at the written words and agree that we understood one another. (It may take more than one meeting.) Specifically, one of the items on the worksheet would be for the stakeholder to "clarify any unfamiliar or vague terms". This would have prevented me from walking out the door assuming I knew what the term "working" meant. Not knowing this caused me to go back to Dr. West a number of times to clarify and verify the evaluand.

While Dr. West had clear motivations for implementing badges in the course, he intentionally requested that the evaluation instrument questions remain somewhat nebulous in order to avoid biasing student responses. While in his mind, I'm sure this made perfect sense, it created confusion for me as an evaluator because I hadn't yet done the needs analysis leg work to discover his true motivations. Rather, I made assumptions based on my prior experience with the evaluation environment.

I did my best to be naturalistic and capture specific, yet comprehensive opinions surrounding the implementation of badging in 286, however, the interviews would have been much more guided had I nailed down Rick's specific interests regarding the evaluand up front. Next time, I will spend more time verifying my needs analysis and developing an effective interview instrument. I would also build in peer review into the analysis phase of my process to ensure my biases are not overshadowing the needs of the stakeholders. Unfortunately, I was so anxious to start the interviewing process I overlooked that this time, costing me time and focus.

I Wish I Would Have Spent More Time Refining My Interview Protocol

I should have included researched and adopted interview-specific standards while developing my interview protocol. Instead, Christina and I took our understanding of what Rick wanted and created interview questions based on our own set of standards. As the interviews progressed, the protocol was developmentally modified to reflect our growing understanding of the evaluand and the qualitative inquiry environment. The outcome was not a disaster; we collected the data we ultimately needed. However, having a set of accepted standards to guide us would have afforded us more confidence, and the report more credibility.

I Should Have Captured My Thoughts and Recorded Events More Immediately In My Field Notes

After returning to my notes a number of times during the write up for fact checking, and especially in my effort to reconstruct the methods for my design, I was disappointed to find that I had missed making an important entry. Christina and I had met once with Dr. Williams to verify that our coding system was accurate. Unfortunately, I didn't have my laptop out updating the codes or noting other important advice that was shared (and subsequently lost). A day later when I sat down to code, I thought I could remember what was told to me, but unfortunately, it was gone. That mishap could have been avoided had I immediately opened my field notes and recorded the information. So the lesson learned is, you can never have enough in your field notes when especially when conducting qualitative inquiry.

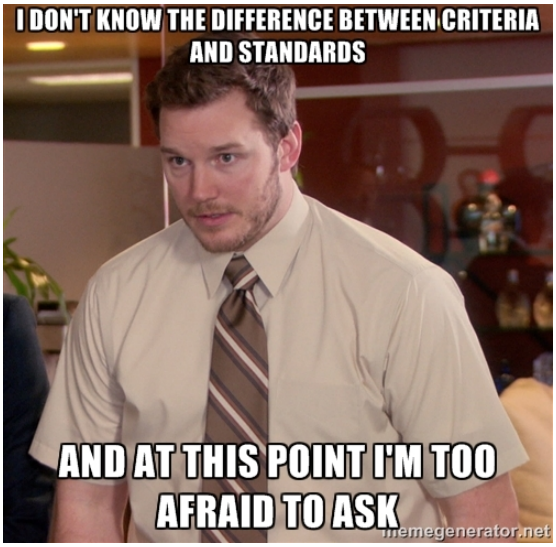
It's Never Too Late to Contact Your Participants

During our interview with Jessica, she offered to email us a copy of her resumé. Having a resumé would have been a great artifact to help triangulate my findings. Unfortunately, I forgot about the offer until I was halfway through the data analysis. By that time, I felt ashamed to go back and request it again. I made excuses like, "it would reflect poorly on my as a researcher to admit I had forgotten" and "I don't really need it anyway." I realize now that those excuses are bologna. We're all human and make mistakes—even supposedly methodical researchers.

Collecting Qual Data Is Slower and Messier (Less Predictable) Than Quant data

In collecting data, greater flexibility ought to be anticipated when working qualitatively with people and schedules, as opposed to collecting quantitative data. For example, initially, I planned

to have five participants instead of only four. However, due to scheduling conflicts and then unavailability, we decided that we had collected sufficient data to establish convincing conclusions after receiving data and conducting preliminary analysis from our first four participants' interviews. If we had more time, we would have contacted our fall back participant Brit Bodily because she was the only other student in our pared down selection that had positive motivation to do badges, skewing our findings negatively.



Reacquainting Myself with Evaluand Criteria & Standards

I had to work backwards to define my evaluation criteria and standards since I didn't have any formal ones going into the process. I had to think back to my time in Dr. Davies' Assessment class, and Dr. Williams' Evaluation class in order to even recall the relationship between criteria and standards. As I thought about the proper flow of an evaluation report, I concluded that for future evaluations, the first question I would be sure to ask the key stakeholder would be what his or her *vision of success* clearly looked like. Getting each stakeholder to articulate his or her idea of success is paramount because it helps the evaluator define the evaluand with its criteria and standards. And once those are established, everything else flows from it. The evaluand dictates what methods ought to be constructed to address the evaluand. The findings report back how well the criteria and standards were met. The conclusions and recommendations summarize those findings and discuss future research.

Too embarrassed to ask a professor at this point, I tried writing and rewriting out the relationship between evaluand criteria and standards until it sounded correct:

> *A set of evaluad standards are developed in order to know when the criteria are being accomplished to a satisfactory degree. Standards are guiding requirements that provide definition and meaning for each criteria.The criteria are successfully met when their corresponding standards are satisfied. For example, a criterion for a high jumper's success might be "to jump", and the standard would be "how high" to jump.*

Both Strength & Weakness

Developmental Approach To Interviewing

My interviewing methods were developmental in nature. While an interview protocol was used to ensure all the bases were covered, most of the conversations flowed around things each participants felt inclined to tell us about badging and it's effects (or lack thereof). Questions

tended to vary from participant to participant causing inconsistencies in what each one was asked.

All of the questions asked were valuable and worthwhile, however I occasionally doubted my semi-structured, naturalistic interview approach would ultimately get me data I could use consistently for my findings. (E.g., "Were the badging rubrics challenging?" "Was the badging experience easy to follow?" "Were the rubric items challenging?") Sometimes I moved on in my questioning without having felt confident that we had thoroughly addressed the evaluand. This could have been combated had more strictly followed a consistent interview protocol. But at the end of the project, I'm grateful I took the developmental approach.

It's Better to Be Slow and Correct, Than Fast and Confused

One lesson I learned while creating my analysis method was that efficiency isn't always better than clarity. I searched and searched for a data analysis strategy and tool that would allow me to do everything I wanted to be able to do on one screen, without changing tabs or anything like that. I finally settled on an Excel document, but for some reason, I just couldn't squeeze all the columns into one screen without having to scroll. So made a small compromise. I combined my "cleaned quotes" column and my "Notes" column since most of those were blank anyway. However, after most of the transcription was completed, I realized that I really could have used more room for both of those topics. Essentially every single quote needed to be cleaned up. And I had unique thoughts on how to use each quote that I needed space for. I ended up toughing it out, but I was in misery. I would have much rather scrolled. So for next time, don't be afraid to spread out! Take as much space as you need. It's better to be slow correct, than to be fast and confused.

Lessons

- I can't believe I didn't capture a clear set of evaluation criteria from the stakeholder. I pride myself on design analysis. In future initial stakeholder meetings, I will not leave until we have settled on a clear picture of what success looks like. [Which may not happen in one sitting.]
- My 4 vs. Rick's 5 course outcomes. I consolidated 2 into one. I used my adaptation of his course outcomes. It's not necessarily bad; I just feel like it is important to state somewhere.
- I struggled with the use of the term, "we" when describing the evaluation team made up me, myself, and I. I understood that it was taboo to refer to yourself as the research in the first person in a research paper, so I avoided it here when I could despite it being an evaluation report. If I were asked to defend the term "we" as a collaborator with a similar degree from Columbia and a professional editor.
- Didn't get key stakeholder's confirmation of formalized evaluation criteria and standards until late in the evaluation process.
- Research question: How can we tap into the phenomenon where gamers feel the need to accomplish all the possible achievements? What conditions need to exist?

- Research paper idea: Rick and Dan have already presented on the need to kick out lightweight badges. I could write a paper clearly defining lightweight badges as non-mastery credentials and given a separate space in the Mozilla backpack.