



Digital badges for teacher mastery: an exploratory study of a competency-based professional development badge system

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EXECUTIVE SUMMARY

Introduction

This study contributes knowledge about how a digital badge system integrated into an online, subject-matter-specific, and competency-based professional development (PD) program affected teachers' experiences with and perceptions of the program activities.

The report presents findings from a one-year exploratory study of an online PD program, and accompanying digital badge system, called *Who Built America Badges: Common Core Professional Development from the American Social History Project*. The American Social History Project (ASHP), a well-established history and social studies professional development provider in New York City, created the system to make its PD program available to a national audience of middle and high school teachers. The program's main goal is to help teachers develop new instructional routines that build students' reading and writing practices that are specific to the domain of history, as well as their historical reasoning skills.

What is unique to the WBA PD program—and significant to the broader enterprise of teacher professional development—is that each digital badge signifies an instance of PD activity that is linked to a larger, history education-focused system that builds teachers' mastery of content and instructional practices. As conceived, the badge system was intended to enable incremental, cohesive approaches to inservice professional development. Some badges are obtainable after a single activity, while others are “prerequisites” that constitute a more advanced badge when taken collectively. But each represents an element of a comprehensive concept of “mastery,” as defined by the teacher educators and social historians at ASHP.

Many questions about badges remain to be investigated in future studies, starting with whether badge systems can be accepted among professional educators as possible solutions to some of the longstanding shortcomings in teacher PD. Digital badge systems like this one (i.e., that include research-based features associated with effective PD), however, could enable professional learning programs to credential inservice teacher development systematically and over time, supporting gradual improvements to teaching practice in a specific subject area.

The *WBA* program accommodates teachers' immediate practical needs for classroom-ready materials, while promoting long-term development of instructional practices that align to ASHP's vision of a master history teacher's practices. Whether that vision accords with the priorities of teachers and schools depends on contextual factors well beyond the scope of this study, but knowing will be critical to determining whether badges become valued, or even acceptable, as PD credentials.

Implications of the study

A frequent criticism of inservice teacher professional development is that it is removed from genuine practices of teaching disciplinary knowledge to diverse groups of learners. It is unlikely that many programs can be legitimate sites for advancing teachers' pedagogical content knowledge when inservice PD exists primarily as standalone "workshops," rather than as ongoing programs of professional learning that enable teachers to grow through and with practice in their specific subjects. This deficiency is especially troubling when it coexists with the types of large-scale curriculum and state-level assessment realignments that occur due to the adoption of standards such as the Common Core. The scope of those changes and the level of expectations for student learning outcomes ensure that one or two day workshops that address "generic teaching practices" will not always suffice.

A digital badge system like *WBA* presents the possibility of offering a sustained program of online professional learning for history and social studies educators that signals teacher achievements in their area of specialization. Badges as PD credentials are essentially unheard of in every state, however, and the format of ongoing, competency-based professional development administered by external providers is not common. Not a single teacher whom we interviewed as part of this study received continuing education credit for their participation.

As this report should make clear, the innovation is not badges, but rather a badge system that supports and signals PD activities that many teachers, teacher educators, and historians value. Most teachers whom we interviewed valued the materials and the activities and intend to return to the site, perhaps even to work toward earning badges. Without external

authorities such as school or district administrators to recognize the badges, however, it will be very difficult to sustain a program that demands so much of teachers, given other demands on their time. Once ASHP secures commitments from external agencies to support and recognize this type of PD, it should consider a second, larger study to investigate the impact of the badge system on teacher and student learning outcomes.

Research questions

Our main question was, *“In what ways do the features of a digital badge system support or impede history and social studies teachers’ progress toward mastery of a new set of practices in a competency-based professional development program?”*

Two specific questions guided the data collection and analysis:

1. *What role does working toward and achieving WBA badges play in the following aspects of social studies teachers’ professional development: continuing participation in the project; peer perceptions of a teacher’s professional capabilities; school and district administrators’ willingness to treat badges as professional credentials; and teachers’ interests in developing new skills?*
2. *In what ways do badge-related activities (including unit design, peer collaboration, and assessment by master teachers) influence the development of an online community of practice?*

Methods

The study included 29 middle and high school history and social studies teachers in 13 states between September 2013 and September 2014. During the 2013–2014 school year, participating teachers agreed to download at least one of four “inquiry units” from the WBA web site; modify existing lesson plans in the unit; teach them; share reflections with teacher educators; and respond to comments and critiques from their peers and teacher educators. As they completed tasks, teachers received a badge from one of three categories, depending on the nature of the activity.

Data collection. We collected data between November 2013 and October 2014. Data included: (1) Baseline “literacy-focused” lesson plans that pre-

dated the study; (2) System-generated logs for all teachers who earned at least one badge beyond the *WBA Member* (users receive these automatically after registering); (3) Pre-participation surveys; (4) Surveys following badge awarding (6 surveys max.); (5) Communication logs from the teacher forum; (6) Communications with ASHP teacher educators via the submission forms; and (7) Follow-up phone interviews with nine teachers.

Data analysis. We used teachers' pre-participation surveys to describe their previous experiences with "generic" PD and Common Core-related PD; teaching Common Core-aligned lessons; and previous experience with badges/digital badges. The system-generated logs enabled us to count the types of badges teachers earned. To analyze teachers' comments from the badge surveys and follow-up interviews, we conducted a thematic analysis using the analysis framework summarized below. We also created a small set of "inductive" codes as we reviewed the data and learned more about teachers' perceptions of the badges.

Analytic framework. We coded teachers' interview comments and survey responses using an initial set of codes based on evidence-based "core features" of effective professional development.

PD feature	Description
1. Content focus	A sustained focus on a teacher's subject area , connected to standards, curriculum, instruction, assessment, and knowledge of how students learn in that content area
2. Active learning	Teachers should be actively involved in the PD activities, engaged in activities such as looking at student work, receiving feedback on teaching, giving feedback to peers, or participating in lesson studies
3. Duration	PD activities should be sustained over time and focused on content, curriculum, and student activities
4. Collective participation	Teachers from the same grade level, subject area, or school should engage in PD activities together
5. Coherence	PD activities should be consistent with other professional development, existing knowledge and beliefs, and with school, district, and state reforms and policies

Key findings

- 356 educators from 41 states and the District of Columbia registered for the WBA site between November 2013 and October 2014
- 29 teachers from 13 states participated in the study: 11 from NY; five from AZ; two each from KY and IA; and one each from CA, IL, IN, MN, MO, NH, UT, VA, and WA
- A very small number of teachers achieved badges during the study: 2 of 29 study participants (7%) achieved an Apprentice Builder badge, a core badge related to the program's PD objectives
- Similarly, a very small number of registered users achieved an Apprentice Builder badge: 5 of 327 (1.5%)
- Teachers were drawn to the WBA project primarily for access to what they perceived to be very high-quality teaching materials; only 2 of the 9 teachers whom we interviewed indicated an interest in badges as motivating them to explore the WBA site
- None of the teachers will receive continuing education credits for the work they did as part of the project
- 7 of the 9 teachers whom we interviewed commented that the ASHP-produced inquiry units effectively modeled practices that they would like to continue to develop and integrate into their routines over time. Each of these teachers said that they felt this type of work was important for students and teachers as a part of history and social studies education
- The WBA program placed significant demands on participants' time and energy: 7 of the 9 teachers said that they would be willing to continue to pursue this form of professional development, but only if there were changes to the pacing, the amount of material they needed to submit, and the quality and frequency of the feedback from ASHP
- Of the five features in the analytic framework, teachers' survey responses and interview comments suggest that the PD activities and the badges evidenced aspects of all five features, but to different degrees of success. Specifically:
 - *Content focus*: For the majority of participants, the activities

and the badges aligned to their content and pedagogical needs and interests and were the most influential factor in their decision to participate in the PD program. But most teachers referred to the quality of the historical content and the source documents, rather than the focus on Common Core-aligned skills. Additionally, all nine of the interviewees remarked that there was not enough content on the site for them to remain engaged over the school year.

- *Active learning:* The activities and badges are designed to support to active participation among teachers. Most of the teachers felt that the level of participation was too high, however. That is, earning badges generally required too much effort in terms of the amount of work they had to submit and the activities they had to document.
- *Duration:* The activities and the badges are designed to encourage iterative changes to teaching materials and practices over time. The majority of teachers said that they would be willing to persist over time, but for them to do so would require less work and more effective communication with peers and the teacher educators.
- *Collective participation:* Teachers generally responded negatively to the level of collective participation. While the badge system and teacher forum were designed to encourage collaboration, most teachers felt that the forum was poorly designed and that ASHP had not done enough to promote collaboration among teachers.
- *Coherence:* The majority of teachers thought that the PD activities and badges were “internally coherent”—that is, the progression logic of the badge system made sense and generally reflected their own understanding of what it could mean to become a master history teacher. Conversely, all teachers felt that the badge system was not coherent with local policies and priorities. None of the teachers with whom we spoke had principals or districts that encouraged

competency-based professional development, nor did they recognize digital badges as a form of credentialing. Further, because districts and states have different priorities with respect to the Common Core, the WBA program's focus on the standards was not necessarily compelling.

Recommendations for improving the WBA badge system

- Create “onboarding” badges to decrease the amount of time it takes to earn a “meaningful” badge
- Identify local AND state- or district-level partners to grant credit for badges (or provide teachers with other opportunities, such as release time, to participate)
- Improve mechanisms to support asynchronous *and* synchronous communications among teachers and teacher educators
- Increase the frequency of communication between the teacher educators and registered users
- Improve the web site layout and print material layout in order to make the program more approachable and useful for all users

Recommendations for future research

It is too soon to investigate questions about whether badge systems might be effective tools for promoting teacher professional development. Our experience during this study suggests that, before researchers focus on the qualities of any given badge system, we must first address questions about the broader sociotechnical contexts in which the badge systems will exist. Accordingly, we should investigate whether individual teachers and their schools, districts, and communities value the activities and objectives of any given badge system. Future work should use anthropological and sociological methods to investigate the sociocultural challenges associated with adopting this kind of innovation, as well as to identify the existing social and technical structures that will influence whether the innovation can be successful.

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I. INTRODUCTION AND STUDY CONTEXT

Introduction

In March 2012, the American Social History Project (ASHP), a K–12 history and social studies teacher professional development (PD) organization and social history research center at the Graduate Center of the City University of New York (CUNY), submitted a proposal to HASTAC’s^{*} Badges for Lifelong Learning Competition. ASHP is a well-established teacher PD provider to the New York City public school system. The organization was the sole recipient of an award in the “Teacher Mastery and Feedback Badge” category for its plan to create a unique, and free, online history and social studies teacher professional learning program called *Who Built America Badges: Common Core Professional Development from the American Social History Project (WBA)*.[†] The PD program would use digital badges to recognize teachers’ achievements during professional development.

The objective for the competition’s Teacher Mastery category was to support the development of a badging system to recognize online, inservice teacher professional learning activities using a competency-based approach to professional education. That approach contrasts with the traditional “seat time” model that grants continuing education units based solely on total hours of participation.^{*} The WBA team, led by teacher educators from ASHP and including two NYC-based development partners (Electric Funstuff and ThinkDesign[§]) and a learning assessment partner (EDC), received a development grant from the Bill and Melinda Gates Foundation to build and pilot the system. Development started in late 2012.

The 2012 Digital Media and Learning (DML) Competition sought to stimulate the creation of digital badging—or “micro-credential”—systems that recognized “anytime, anywhere” learning for youth and adults.

^{*} Humanities, Arts, Science and Technology Alliance and Collaboratory (<http://www.hastac.org>)

[†] The name *Who Built America* is taken from ASHP’s American history textbook of the same title

^{*} <http://dmlhub.net/newsroom/media-releases/hastac-announces-new-teacher-mastery-and-feedback-badge-competition>

[§] <http://electricfunstuff.com>; <http://www.thinkdesign.com>; a third development partner, SOSBrooklyn (<http://sosbrooklyn.com>), replaced ThinkDesign in summer 2013

Fostering the development of these systems was part of an ongoing initiative, funded by the MacArthur and Mozilla Foundations, to promote educational equity by expanding opportunities for learners to discover and build personalized college and career trajectories. By encouraging the spread of technologies that might enable learners to document, share, and receive recognition for personally meaningful activities that often go unrecognized by formal credentialing systems (but that might otherwise be valuable), the initiative's goal is to support "connected learning," a framework for "deploying new media to reach and enable youth who otherwise lack access to opportunity...[by building] communities and collective capacities for learning and opportunity" (Ito, et al., 2013, p. 8).

The Teacher Mastery category of the DML competition extended connected learning principles to teacher professional development. The competition supported the creation of an open-source technical infrastructure that enabled teachers to pursue personalized learning opportunities and display their achievements from those activities in publicly accessible digital spaces.

Following the initial badge development competition, HASTAC administered a Research Competition for Badging and Badge Systems Development later in 2012. With one of five winning proposals, Education Development Center, Inc.'s Center for Children and Technology received a research grant from the Bill and Melinda Gates Foundation. The grant was to lead a study about the efficacy of using the WBA badge system to support history and social studies teachers' PD goals.

EDC was the learning assessment partner on the preceding development grant and a long-time evaluation partner on ASHP's *Teaching American History* program-funded PD seminars.^{**} Hence, we were well-positioned to study the development process, design features, and "intended curriculum" (Porter & Smithson, 2001) of the badge system, as well as whether and how teachers who participated in the project used the badges to advance their professional development goals. Our report presents findings from a one-year exploratory study of the online PD program and WBA badge system. The study included 29 middle and high

^{**} <http://teachingamericanhistory.org/past-programs/tah/>

school history and social studies teachers in 13 states between September 2013 and September 2014. *The main research question was, “In what ways, if any, do the features of a digital badge system support or impede history and social studies teachers’ progress toward mastery of a new set of practices in a competency-based professional development program?”*

During the 2013–2014 school year, participants agreed to download at least one of four American history “inquiry units” (each from a different historical era) from the WBA web site;^{††} modify existing lesson plans in the unit; teach them; submit annotated student work (teachers were required to submit work from a lesson that included a writing product); share reflections with teacher educators; and respond to comments and critiques from their peers and teacher educators. As they completed these tasks, teachers received one of 12 badges from three categories (Builder, Specialist, and Community), depending on the nature of the activity (we describe the badge system in Section II, p. 20).

Following the data analysis, we discuss the relationship between the badge system and the format of these professional learning activities in the broader context of teacher professional development research and education reform. We also make recommendations for design features that might sustain and help scale-up the WBA badge system. Finally, we identify relevant factors for study in future investigations of this and other content-specific professional development badge systems.

Importance of the study

The adoption of the Common Core State Standards by 46 states and the District of Columbia since 2010 extends a near-continuous three decades of national education reform in the United States, with a narrowing focus on improving standards for learning and teaching. As reforms have proceeded at the national and local levels, advocates have regularly sought to improve teacher education and professional development programs in order to prepare teachers to address progressively ambitious student learning objectives (Wilson & Berne, 1999). In addition to other state mandates and local instructional expectations to which teachers might be

^{††} <http://badges.ashp.cuny.edu>

held accountable, the Common Core introduced an emphasis on literacy instruction across all areas of the curriculum, necessitating new competencies beyond many teachers' traditional content orientation.

The standards also required “shifts” in teachers' instructional practices to help students achieve the new learning objectives and to prepare them for the resultant state-level assessments (Student Achievement Partners, 2014). In New York City, for example, secondary science and social studies teachers were required to adapt content-area units to the Common Core to ensure students had opportunities to build reading and writing skills across the disciplines (NYC DOE, 2012). The standards did not exist when many of these teachers completed their preservice training, necessitating inservice PD to help them integrate a focus on the reading and writing skills into their existing routines.

Historically, a gap has existed between the types of expectations for higher-order student learning goals articulated in reform agendas such as the Common Core and the comprehensiveness of teacher professional development systems to help teachers and schools reach them. That gap has also extended to the allocation of resources to build those systems (Little, 1994). Significant challenges at the state policy and local implementation levels frequently prevent the kinds of systemic approaches to high-quality professional development that are necessary to reorient teaching and learning toward ambitious reform goals (Darling-Hammond, Wei, Richardson, Andree, & Orphanos, 2009; Knapp, 2003).

During an earlier phase of education reform, Deborah Meier (1992) argued that the new types of expertise required of teachers demanded not simply more training, but rather, “creating a different system to do a different job...[but] the will to thoroughly restructure the institutions themselves, with all this implies...for massively retraining the educational work force, has little public backing” (p. 598). Effective teacher development programs are essential to the successful implementation of education standards (Fishman, Marx, Best, & Revital, 2003; Smylie, 1997). There are few examples of successful systemic teacher PD reforms that are tied to standards implementation, however.

Well-designed online professional development programs can be valuable additions to “teacher learning communities” (Little, 2006) that

seek to improve teacher professional learning. The affordances of Web-based teacher PD programs—notably, the ability to offer a range of professional development services that teachers can access according to their own schedules, over time, and at a distance—generate opportunities to provide teachers with otherwise difficult-to-obtain high-quality PD materials repeatedly and as they need them (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009; Fishman, et al, 2013).

The specific features of online professional development programs that contribute to improvements in teacher learning and practice are understudied, however, particularly in the areas of history and social studies. Moon, Passmore, Reiser, and Michaels (2013) argued that, “the field needs to go beyond treating modality as a main effect that considers online and face-to-face as two discrete forms of PD, and needs to investigate how these conditions interact with design features of the PD” (p. 173). *This study responds to that challenge by contributing findings about whether and how a novel feature of online PD—namely, a digital badge system—affected teachers’ abilities to benefit from other affordances of an online professional development program.*

We report on a qualitative study of a hybrid, online history teacher credentialing system that includes evidence-based features of PD that have been associated with improvements in teacher practice. The WBA badge system integrates (in a virtual format) elements of traditional, face-to-face, inservice professional development programs with a credentialing process that emulates standards-based professional development systems, such as those used by the National Board for Professional Teaching Standards (NBPTS). The teacher educators at ASHP sought to design the WBA PD activities and the associated badge system to support a sustained program of incremental changes to instructional practice so as to help teachers incorporate a focus on literacy skills into their regular history and social studies instruction routines.

Many questions about badges remain to be investigated in future studies, among them whether badge systems can be acceptable to professional educators and school administrators as possible solutions to some of the longstanding shortcomings in teacher PD. Digital badge systems like this one (i.e., that include research-based features associated

with effective PD), however, could enable professional learning programs to credential inservice teacher development systematically and over time, focusing on gradual improvements to teaching practice in a specific subject area. The WBA program accommodates teachers' immediate practical needs for classroom-ready materials, while promoting long-term development toward instructional practices that align to ASHP's vision of a "master history teacher."

Whether that vision accords with the priorities of individual teachers and school districts depends on contextual factors well beyond the scope of this study, but knowing will be critical to determining whether badges become acceptable, or even valued, as PD credentials. For teachers, badges could generate opportunities to engage in multiple forms of high-quality professional development that allow for individual pursuits within a broader framework of standards-based professional learning. This study contributes knowledge about how a digital badge system integrated into a competency-based, content-specific PD program affected teachers' experiences with and perceptions of the activities.

Research questions

Digital badges serve different purposes depending on the setting in which they are used, as well as who is using them. Hence, an appropriate description of this work is, "a study of a digital badge system *as a set of tools to support teacher professional development*." As noted, our main question was, "In what ways do the features of a digital badge system support or impede history and social studies teachers' progress toward mastery of a new set of practices in a competency-based professional development program?" Two specific questions guided the data collection and analysis:

1. What role does working toward and achieving WBA badges play in the following aspects of social studies teachers' professional development: continuing participation in the project; peer perceptions of a teacher's professional capabilities; school and district administrators' willingness to treat badges as professional credentials; and teachers' interests in developing new skills?
2. In what ways do badge-related activities (including unit design,

peer collaboration, and assessment by master teachers) influence the development of an online community of practice?

Limitations. The *WBA* badge system was still in development when data collection began in fall 2013. Due to differences in the design vision for the badge system's functionality, ASHP terminated its agreement with the original developer, ThinkDesign, and contracted with a new team, SOSBrooklyn, in summer 2013. The situation led to delays in development and impeded ASHP's ability to recruit teachers and produce lessons. Further, the EDC research team was unable to conduct formative research with teachers beyond the initial phase of research during the original development grant, which precluded us from providing the developers with teacher-generated feedback on the site to inform design iterations.

The circumstances contributed to a lower number of study participants than the 40 (plus five master teachers we anticipated would contribute after completing the PD program) we had originally proposed. The limited availability of content (for much of the duration of the study only four units were available for download), site usability issues, and the challenge of doing the work to achieve badges (which we discuss below) prevented any of the study participants from submitting a lesson plan that they developed during the study. Thus, we were unable to answer our third question, which asked about the impact of *WBA* PD participation on teachers' ability to develop and teach lessons that integrated Common Core-aligned literacy skills into their routines.

Nor does our sample include a broad range of teachers with multiple badges from whom we would learned more about how school- and district-specific factors influenced the usefulness of the badge system as a professional development tool. Nevertheless, data from the surveys and interviews with teachers allow us to provide rich descriptions of how teachers perceived the usefulness of a digital badge system in the service of their professional development goals. Further, the data enable us—in a limited fashion—to discuss the implications of using a digital badge system such as this one to support program features that research has found to be effective in improving teaching practice.

Overview of the report

In the remainder of this section we discuss the context in which the study was situated and describe the analytical framework we used to analyze the findings. In Section II we summarize the development timeline of the WBA badge system; outline the badge system and review the PD activities; describe the participants and our data collection and analysis methods; and present findings from the data analysis. In Section III we discuss the findings in the context of existing research on the features of professional development programs that improve teacher knowledge and practice, as well as the implications for scaling up a competency-based badging system. Finally, in Section IV we make recommendations for improvements to the current version of the WBA badge system and identify factors for investigation in future studies.

Context: (New) digital badges as (new) credentials for a (new) form of online professional development in a climate of (new) standards reform

Writing about the general need for education researchers to use more comprehensive methods to study the impact of technologies in educational settings, Amiel and Reeves (2008) argued, “Technology is much more than hardware. It is a process that involves the complex interactions of human, social, and cultural factors as well as the technical aspects” (p. 31). Accordingly, to understand how the features of a digital badge system might contribute to teacher learning, it is necessary first to situate the innovation (including its affordances and the stated ends for which they were designed) in the social and technical contexts of specific school systems (Bennet, McMillan Culp, Honey, Tally, & Spielvogel, 2001). Similarly, whether teacher professional development programs of any kind are successful at contributing to changes in practice is informed, in part, by the specific contextual factors (e.g., district policy priorities, political investment of administrators, or availability of human and financial resources) of the school system(s) in which they are carried out.

Based on earlier research about organizational change by Bolman and Deal (1997), Wiske and Perkins (2005) identified five dimensions that are likely to influence whether innovations contribute to changes in teaching

practices: *human resources* (i.e., individual knowledge, skills, and beliefs); *structures* (i.e., organizational features of a school, such as schedules and planning time); *cultural-symbolic* (i.e., the norms, values, and symbols that influence meaning-making within the system); *political* (i.e., the locus of authority and decision making); and *technical* (i.e., the available resources and technologies). Wiske and Perkins further grouped the five dimensions into two broad categories specifically for educational settings: *craft variables*, which include human resources and relate to individuals' knowledge, practices, and beliefs; and *context variables*, which include all other structural factors and focus on the organization(s). Each of these dimensions had some influence on the activities in the present study.

That the technology innovation central to this research was a “digital badge system,” rather than individual “digital badges,” is meaningful.^{**} Mozilla’s *Open Badge Infrastructure* (OBI)^{§§}—the open-source technical standard underlying many, though not all, digital badge systems—is innovative in that it allows for credentials to be created and granted by nearly any organization with access to the Web and staff with the right technical abilities, and then displayed openly and across a range of digital environments (e.g., Facebook, LinkedIn, or Mozilla’s Backpack) by recipients. Indeed, “ease of transfer,” interoperability, and transparency are important features that help define digital badge systems and distinguish them from existing credentialing systems.

Recognizing individual instances of teacher professional development activity with a credential such as a completion certificate is common, however. All states require that teachers participate in some minimum amount of PD hours annually to maintain licensure, though whether a provider is recognized and the number of continuing education units a teacher receives for participation are both usually at the discretion of district and school administrators. Further, the focus and quality of non-

^{**} Rughinis (2013) proposed a very useful definition that encompasses both “badge” and “system”: “A ‘badge’ is a signaled route through an activity system, with an endpoint symbolically marked as a noteworthy achievement through a graphic sign, textual descriptions, and, optionally, rewards and entitlements. The route consists of a description of required actions, an assessment of completion, and a decision on the identity of the earner. A ‘digital badge’ links to online displays of the route and the activity system provided by the issuer.” (p. 4).

^{§§} <http://openbadges.org>

school-based PD activities vary considerably from teacher to teacher (Wei, Darling-Hammond, & Adamson, 2010). There would be little point in investigating the use of badges in professional development programs if they were simply a new, more efficient format for transmitting information about “business as usual” PD.

What is unique to the WBA PD program—and significant to the broader enterprise of teacher professional development—is that each badge signifies an individual instance of teacher PD activity that is linked to a larger, discipline-specific system created to build teacher mastery of content and instructional practices. The WBA badge system enables an incremental, cohesive approach to inservice professional development. Some badges are obtainable after a single activity, while others are “prerequisites” that constitute a more advanced badge when taken collectively. But each badge represents an element of a comprehensive conceptualization of “mastery,” as defined by ASHP.

As with any credential or award, badges might hold personal significance for an individual recipient, the importance of which as motivators we do not discount. More germane to the present discussion, however, is that WBA badges are designed to function as indicators of achievement for an external audience of professional peers. That is, in principle, the activities and accomplishments symbolized by the badges should be recognizable as components of a comprehensive professional learning system for history and social studies educators. The learning objectives for content knowledge and pedagogy are likely to be familiar to a broad range of teachers, as well as to schools and districts.

Consequently, to evaluate its usefulness as a tool to support professional development beyond the personal value to a teacher, a badge should be appraised primarily in relation to the other badges to which it is connected in the system, as well as to the badge system as a whole, rather than on its own. Additionally, the usefulness of the entire badge system, as a set of activities to support inservice professional learning, should be evaluated in relation to at least two other sets of factors: First, the priorities and policies of the schools and districts (i.e., “the school system”) in which badge holders and seekers work; and second, the broad set of competencies—identified formally or informally and locally or

nationally—associated with being a history or social studies teacher.

The badge system is unique among social studies and history teacher professional development programs. It is not the only innovation that influenced teachers' experiences during this study, however. In addition to the badges, four other features of the WBA program were novel for nearly all participants: (1) The idea of badges as “transparent teaching portfolios”; (2) The use of competency-based learning objectives; (3) A focus on Common Core literacy skills *specifically in the service of improving practices among history and social studies educators*; and (4) The asynchronous format of the online PD. We discuss each briefly below, before concluding this section with a description of the study's analytic framework.

Digital badge systems as teaching portfolios. Badges are electronic records that signify the accomplishment of an individually determined goal, or the completion of a task that has value to a specific group. Like their physical analogs used by institutions such as the military or the Boy Scouts of America, digital badges are usually intended to give viewers greater insight into the specific nature of the accomplishment that warranted earning the badge, unlike more comprehensive credentials such as degrees or certificates, which typically reveal little about an earner's specific skills or achievements. As previously noted, “open badges,” a particular type of digital badge based on Mozilla's Open Badge standard, enable additional access to a badge holder's accomplishments by providing links to the work products associated with the badge, along with the criteria by which the products were judged by the organization that granted the badge.

Badge systems are a novel and relatively unstudied (see Gamrat, Zimmerman, Dudek, & Peck, 2014 for a recent exception) method for credentialing inservice teacher professional development activities. Like the teaching portfolios (i.e., selections of artifacts that provide information about teacher practice) to which they are related, however, badges can give teachers a structure with which to document their professional development over time and enable them to present pedagogical artifacts, such as lesson plans or graphic organizers, that demonstrate their mastery of content, or that feature their abilities to design and implement lessons, or assess student work (Shulman, 1988; Wolf & Dietz, 1998). In school

districts or professional learning communities that value the ability to see teacher work when hiring or promoting, badges can permit administrators a more comprehensive view of a teacher's skill set (Strawhecker, Messersmith, & Balcom, 2007; Whitworth, Deering, Hardy, & Jones, 2011).

Beyond these “showcase” aspects, construction of a teaching portfolio can serve an educative function in professional development by providing opportunities to document and reflect on practice, especially as it changes over time (Borko, Michalec, Siddle, & Timmons, 1997; Zeichner & Wray, 2001). Researchers have found improvements in teachers' assessment practices following completion of the teaching portfolios (which include videos of classroom instruction, samples of student work, and extensive analyses of teaching practice) they are required to submit as part of National Board Certification (Lustick & Sykes, 2006). Large-scale teacher evaluation systems, such as the Danielson Framework for Teaching currently used by the New York City Department of Education, for example, allow teachers to use portfolios as part of their overall evaluation.

There typically is not a specific call to include artifacts from inservice professional development activities, however, and portfolios are generally associated with preservice teacher education. While evidence suggests that the transparency associated with portfolios and the ability to reflect on practice as part of creating them contribute to positive outcomes for teachers and administrators, using them does not appear to be a widespread practice for K–12 educators.

Competency-based professional development. Educators and researchers have long documented the poor quality of many inservice staff development activities, which frequently place teachers in the role of passive participants (Little, 1994). Ball and Cohen (1999) observed that most teacher PD is “intellectually superficial, disconnected from deep issues of curriculum and learning, fragmented, and noncumulative...Since professional development is rarely seen as a continuing enterprise for teachers, it is only occasionally truly developmental” (p. 4). There is empirical evidence for features of professional development programs that are associated with improvement in teachers' knowledge and practices, however. As we discuss in the Analytic Framework section below, examples of effective characteristics from traditional inservice PD models include a

focus on teachers' specific subject areas and how students learn that content, as well as the use of activities that are sustained and connected to teacher practice over the school year (Desimone, 2011; Desimone, Porter, Garet, Yoon, & Birman, 2002).

Inservice PD activities are often unrelated to the complex interactions that occur continually in classrooms among teachers, students, and content (Little, 2006). In contrast, standards-based professional development—exemplified by the previously discussed certification process undertaken by teachers who apply for National Board Certification—orients professional development objectives toward standards that benchmark demonstrable, high-quality teaching practices (Darling-Hammond, 1999; Ingvarson, 1998; Ingvarson & Hattie, 2008; Lustick & Sykes, 2006; NBPTS, 2014). Though they are not synonymous, standards-based PD models can incorporate competency-based targets because they are tied to widely recognized competencies.

Time (in terms of advancement based on demonstrated mastery) and regular rounds of differentiated, formative feedback in response to a learner's specific needs are two features of competency-based education programs. They are not typical of inservice teacher PD, however. Because "seat time" is replaced by "demonstrated competency," students and educators can devote significant amounts of time and effort to a learning program. Although PD providers and subject matter associations (e.g., the National Writing Project) can offer extended programs in summer institutes and yearlong seminar series, they are not the norm and they typically do not require the regular submission of materials by teachers for feedback from peers and teacher educators. Such a level of commitment for inservice teacher education is a significant change for many educators.

The Common Core Standards. Unlike the student assessment and teaching standards established by other professional associations such as the National Council for Teachers of Mathematics (NCTM),^{***} there currently are no equivalent standards in the fields of history and social studies education. Their absence is due, in part, to past controversies related to establishing U.S. history content objectives at the national level

^{***} <http://www.nctm.org/standards/default.aspx?id=58>

(Nash, Crabtree, & Dunn, 2000). The Common Core Standards and the National Council for the Social Studies' College, Career, and Civic Life (C3) Framework for Social Studies State Standards^{†††} skirt this controversy by making little or no reference to content objectives. Rather, they focus on disciplinary concepts and practices such as “arguing from evidence,” or “identifying an author’s point of view” in order to understand her or his motive for creating a document.

Implementation of the Common Core and the attendant state-level assessments, which will affect more educators than the C3 framework given their broader focus on math and ELA, is left to each state. States and districts are moving at their own pace with respect to aligning curricula to the standards and tests. Further, because the focus of the literacy practices articulated in the Common Core is in ELA (though there are specific reading and writing standards for history, as well), not all history and social studies educators will approach them with the same urgency.

Whereas some states began full implementation in the 2013–2014 school year, others are implementing in the current 2014–2015 school year. Differences in uptake, along with ongoing political tensions associated with the Common Core, will affect teachers’ and districts’ willingness to commit significant amounts of time to ongoing professional development. That many teachers throughout the country have already participated in some form of PD related to the new standards (though frequently not tied specifically to a teacher’s subject area) will also influence their motivation to persist in a time- and labor-intensive professional development programs that ostensibly addresses similar topics.

Online professional development. As we noted, there is comparatively little research on the effectiveness of specific features of online teacher professional development programs (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009). In a randomized study, Fishman, et al. (2013) found that online PD for a new science curriculum could produce the same impact on teacher practices and student learning outcomes as face-to-face PD. We noted that Moon, Passmore, Reiser, and Michaels (2013) responded to those findings with a challenge to ask more research questions about the

^{†††} <http://www.socialstudies.org/c3>

affordances of online PD that might contribute to improvement among teacher practice and student learning outcomes.

The difficulty of bringing teacher professional development to scale—that is, reaching large numbers of educators across wide geographical areas—is frequently cited as a reason to develop online PD platforms and online communities of practice, where teachers can engage with peers outside the school building. Other scholars have questioned the wisdom of investing in online communities that are isolated from the learning communities (when they exist) in which teachers work, however; namely, their schools and districts. Schlager and Fusco (2003) argued that, rather than focus solely on building virtual communities, online technology should first be used to strengthen teachers' local communities.

Given existing research that shows that professional development is likely to be more effective when it is aligned to local initiatives and priorities, that argument is compelling. The method of credentialing (badges) and the format of the online professional development (competency-based) are likely to influence whether teachers become interested in the program and whether they persist, as well as whether administrators are willing to support the work.

Analytic framework

Before presenting our findings in the next section, we describe the framework we used to analyze teachers' perceptions (via survey responses and interview comments) of whether and how the WBA digital badges supported their professional development goals. We used five research-based "core features" of effective learning in professional development. Desimone, Porter, Garet, Yoon, and Birman (2002) identified the features in a national study about PD programs that contributed to changes in practice for math and science teachers; each is described in Table 1 below. As summarized by Little (2006), the research about these features suggests, "that teaching to high academic standards requires subject knowledge *for teaching*. This pedagogical content knowledge is most effectively developed through professional development that combines a number of key features. Effective professional development is content-focused, active, collective, coherent, and sustained" (p. 8, emphasis in original).

The framework enabled us to analyze features of the *WBA* system—as represented by specific materials, activities, and technology affordances of the program—and their impact on teachers’ PD experiences during this study. Further, we used it to learn more about the connections, where they existed, among the five features and the digital badges for the nine teachers whom we interviewed. The badge system is both a feature (a sixth feature) *and* the infrastructure that structures the iterative nature of the competency-based professional development program.

While the lesson materials are freely available, teachers can only achieve PD badges by submitting materials, communicating with peers, reflecting on their work, and responding to feedback from the teacher educators at ASHP. Hence, the badges provide an organizing structure for progression through the competency-based system. Table 2 below summarizes the specific features of the PD activities, materials, and badges that align to each of the core features.

Table 1: Evidence-based “core features” of PD that contribute to improvements in teacher practice (adapted from Desimone, 2011; Desimone, Porter, Garet, Yoon, & Birman, 2002; Little, 2006)

PD feature	Description
1. Content focus	A sustained focus on a teacher’s subject area , connected to standards, curriculum, instruction, assessment, and knowledge of how students learn in that content area
2. Active learning	Teachers should be actively involved in the PD activities, engaged in activities such as looking at student work, receiving feedback on teaching, giving feedback to peers, or participating in lesson studies
3. Duration	PD activities should be sustained over time and focused on content, curriculum, and student activities
4. Collective participation	Teachers from the same grade level, subject area, or school should engage in PD activities together

PD feature	Description
5. Coherence	<p>PD activities should be consistent with other professional development, existing knowledge and beliefs, and with school, district, and state reforms and policies</p> <p>For our purposes, we distinguish between two types of coherence: “internal coherence,” which refers to (a) whether the activities for each badge are logically related to other badge activities in the system, and (b) whether the progression logic of the badge system comports with a teacher’s understanding of developing expertise in history and social studies education; and “external coherence,” or the extent to which the activities that the badge system represents are consistent with and recognized by the institutional norms and logics and priorities of schools, districts, and states</p>

Table 2: “Core features” of the WBA program

PD feature	WBA PD and badges
1. Content focus	Inquiry units that focus on U.S. history content and disciplinary literacy skills; activities that target improving teaching practices for history and social studies teachers; badges reflect a focus on instructional design and pedagogical content knowledge specific to history education and were generally recognizable to participants as important aspects of mastery
2. Active learning	Teachers teach and modify lessons; annotate student work; reflect on implementation; respond to feedback; and plan for future lesson implementations. Badges reflect achievements related to these activities
3. Duration	Inquiry units cover various periods of American history (though limited to four for most of the study). Badges reflect iterative nature of lesson design and changes in instructional routines
4. Collective participation	Online teacher forum allows teachers to ask and respond to questions
5. Coherence	PD activities address the need to improve teachers’ practices related to literacy instruction, via the Common Core (“external coherence”); as described in the Content focus feature above, teachers recognize WBA activities as related to the work of history and social studies education

II. METHODS AND FINDINGS

About the American Social History Project

ASHP's traditional PD model. The format of ASHP's longstanding professional development programs helps explain the evolution of the digital badge system. Many of the organization's programs are designed to promote a sustained focus on content and practice over time. ASHP convenes teachers regularly throughout the school year to address issues of classroom practice *together* that are specific to history and social studies educators. In face-to-face meetings, teachers work in teams (often in grade bands, though not exclusively) to review activities and primary and secondary sources and make adjustments to language and supports given what they know of their own students' needs.

The history educators, master teachers, and historians at ASHP have worked with K–12 and college instructors in face-to-face professional development seminars in the New York City area since 1989. ASHP leads in-person professional development workshops for grades 5–12 U.S. history and social studies teachers, each of which is between 90 minutes and six hours long. They also run weeklong summer institutes and monthly workshop series throughout the school year.

ASHP's workshop and summer institute activities emphasize peer-to-peer collaboration on the use of primary documents, social history, inquiry-based learning, and literacy building strategies in text and visual media. All of their workshop resources are freely available to classroom teachers through HERB,^{***} ASHP's online archive of primary and secondary sources and teaching materials. Finally, as digital media producers, ASHP integrates the thoughtful use of technologies such as digital games into its professional development workshops.

The format of ASHP's professional development activities integrate several elements that Desimone (2011) and Desimone, et al. (2002) identified as central to programs that contribute to improvements in teachers' knowledge and practices, including basing activities in a

^{***} <http://herb.ashp.cuny.edu>

teacher's subject area; a participatory role for teachers during PD activities; and a sustained focus on changing teaching practice over time. Because of their attentiveness to these features, as well as their emphasis on the use of high-quality, classroom-ready, subject-specific teaching materials and their longstanding relationship with the New York City Department of Education, ASHP has developed a "corps" of dozens of elementary, middle, and high school history teachers who return for ongoing professional development annually.

The WBA professional development model. In 2011, ASHP began aligning its teaching materials and professional development activities to the newly adopted Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects in New York State. Anticipating the changing Citywide Instructional Expectations—which set the NYC Department of Education's annual instructional priorities—the teacher educators worked with middle and high school history and social studies teachers during their workshops to create "instructional bundles" of primary and secondary sources, activities, and graphic organizers to address the new reading and writing standards.

One goal of these "mini curriculum design workshops" was to produce materials that history educators could use to satisfy the DOE's requirement that students experience Common Core-aligned instruction across subject areas beginning in the 2012–2013 academic year. Another goal was to help teachers maintain a focus on "disciplinary literacy" (Shanahan & Shanahan, 2012), or "an emphasis on the knowledge and abilities possessed by those who create, communicate, and use knowledge within the disciplines" (p. 8) as they integrated a focus on reading and writing instruction into their existing content-area teaching practices.

The purpose for creating the WBA badge system was twofold: (1) To enable history and social studies teachers beyond the NYC-area to participate in PD focused on improving instructional practices specific to those educators, using high quality materials; and, (2) To develop an online professional community for history teachers across the country to engage one another around instructional materials.

Similar to the face-to-face workshops, the activity focus of the online PD activities was in the *teaching materials*. The inquiry units (collections of

5–6 lessons, each of which has a content and a literacy skill focus) created by ASHP are examples of sequenced instructional activities that help students build and practice, over time, Common Core-aligned literacy skills to engage in historical thinking. To progress through the PD system, teachers follow a general routine: download existing lessons from the *WBA* web site and modify them based on students' needs; teach the lesson and share modifications and annotated student work with ASHP; reflect on lesson implementation in writing; and respond to feedback from ASHP by making additional adjustments to the lesson plan as needed and planning for future implementations of the lesson plan.

Because the PD objectives are competency-based, there are no time constraints placed on teachers for completing these activities. As the professional development model is conceived, reflecting on teaching and using feedback from ASHP and peers to make changes to practice and instructional materials are the essential activities that contribute to mastery. The badges are tied to specific skills, but they are also tied to the ideas of iterative design and continuous pedagogical development. Hence, the badge system comprises two main types of badges: those that recognize “one-time” achievements and those that require several iterations of lesson modification and teaching.

About the *Who Built America?* digital badge system

As pictured in Figure 1 below, the *WBA* badge system consists of 12 badges: 11 organized into three areas of mastery—Community, Specialist, and Builder—and one Master History Teacher badge. Together, the three categories represent ASHP's conception of excellent history teaching. Educators receive Community badges by contributing to the health of the online professional learning community, through actions such as sharing useful teaching materials, giving peers constructive feedback, or commenting and responding to others in the teacher forum. To earn three of the four Specialist badges, teachers must create and share a mini-lesson that integrates technology meaningfully or helps students focus on a specific Common Core reading or writing task (earning the fourth Specialist badge, History Geek, requires teachers to score 100% correct on four of the quizzes at the beginning of each inquiry unit). Teachers receive

Community badges based on positive feedback (e.g., pressing a “thumbs up!” button) from other teachers and teacher educators, while only teacher educators at ASHP can grant Specialist badges.



Figure 1: The WBA badge system

Unlike the previous two badge categories, *Builder* badges are incremental and hierarchical. That is, to receive an Apprentice Builder badge a teacher must complete four steps, as illustrated in Figure 2 below: (1) “Know your stuff”: Download an inquiry unit, study the materials, and take a quiz; (2) “Get ready to teach”—Share modifications to the unit materials, as well as instructional goals, with the teacher educators and teach at least two lessons from the unit (including a lesson with a student writing product); (3) “How did it go?”—Reflect on lesson implementation and share two pieces of annotated student work with the teacher educators; and (4) “For next time”—Share modified unit materials and “lessons learned” based on implementation reflections with the teacher educators. At each stage, teachers submit materials via a series of online forms (see Appendix C for an example). Only the teacher educators (and, in principle, master teachers, though there were none during the study) can

approve teachers' progress toward a Builder badge, as well as award the three Builder badges.

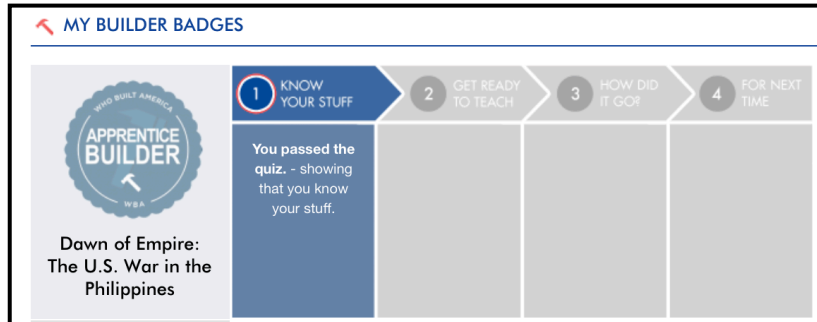


Figure 2: Builder badge progression

Finally, to receive a Master History Teacher badge, a teacher needs to earn at least two Specialist badges, two Community badges, and the Apprentice, Journeyman, and Master Builder badges (for each of those, they must have completed the four steps above). Teachers must also submit a new inquiry unit, of their own design, and have it approved by teacher educators or master teachers. ASHP originally expected that it would take teachers an average of 40 hours, above the time spent teaching materials, to achieve a Master History Teacher badge (see Appendix B for a sample teacher profile page).

Methods

Recruiting procedures. Following the site's soft launch in November 2013, we recruited U.S. history and social studies teachers using the following methods: (1) Posting the study announcement on teacher discussion forums on the web sites of Edmodo, the National Council for the Social Studies (NCSS), the American Historical Association (AHA), the American Educational Research Association (AERA), and Edutopia; (2) Contacting history and social studies teachers with whom we had communicated or collaborated on previous studies or development projects; (3) Speaking with history and social studies teachers, as well as school and district administrators, at the 2013 NCSS Conference in St. Louis, MO; (4) Distributing recruiting materials through the Learn NC online professional development site based at the University of North Carolina; and, (5) Generating an automatic message to all registered users of the

WBA site, inviting them to participate in the study. After a brief screening process (using an online survey) to determine that teachers would be able to complete the participation requirements in one academic year, we invited all teachers to participate. Teachers who completed the research tasks (submitting a baseline lesson plan; completing a pre-participation survey; completing a survey after receiving one Community badge, one Specialist badge, and one Builder badge; and participating in a follow-up telephone interview) received up to \$250.00 in gift cards.

All site users. Between November 2013 and the study completion in October 2014, 356 educators from 41 states and the District of Columbia registered for the WBA site. Eighty-one percent (n=290) of registrants identified as classroom teachers and the remaining 19% (n=66) included small numbers of curriculum and technology specialists and literacy coaches, as well as one principal, one assistant principal, and two student teachers. Nearly all registrants (n=337) were history, social studies, civics, economics, or humanities teachers. Forty-four percent of registered users (n=158) were from New York State (primarily the New York City public schools) and the remaining 56% taught throughout the other 39 states and DC, with proportionally larger numbers in California (n=24, 7%), Arizona (n=13, 3.7%), Massachusetts (n=13, 3.7%), Illinois, (n=11, 3%), and North Carolina (n=11, 3%). The majority of registered teachers were veterans: 57% (n=203) taught in their primary subject area for at least eight years and 36% (n=128) taught for at least 13 years. In contrast, 21% (n=74) taught for less than three years. Though it is an imprecise indicator of activity because it is impossible to know whether and how long visitors were active, the average number of visits for all users was four visits.

Study participants. Twenty-nine teachers from 13 states participated in the study: 11 were from New York State; five from Arizona; two each from Kentucky and Iowa; and one each from California, Illinois, Indiana, Minnesota, Missouri, New Hampshire, Utah, Virginia, and Washington State. All study participants identified themselves as history, social studies, civics, or economics classroom teachers, though one was also a grade leader and another a department chair. Similar to the larger number of site registrants, the majority of study participants were veteran teachers: 72%

(n=21) taught for more than eight years and 45% (n=13) taught for more than 13 years; only 14% (n=4) taught less than three years. Participants taught at the elementary, middle, and high school levels. The average number of visits for all study participants was eight. The average number of visits for badge earners was 25. Finally, the majority of the study participants had at least a Masters degree (n=26, 90%) and half of those (n=13) had concentrated in history education.

We invited all study participants to participate in individual follow-up interviews at the end of the study and interviewed nine (the rest declined or did not respond to our invitation): five teachers who did not earn any badges and four who earned either a Builder or Specialist badge.

Data collection. We collected data between November 2013 and October 2014. Data included: (1) Baseline “literacy-focused” lesson plans that predated the study; (2) System-generated logs for all teachers who earned at least one badge beyond the *WBA Member* (users receive these automatically after registering); (3) Pre-participation surveys; (4) Surveys following badge awarding (6 surveys max.); (5) Communication logs from the teacher forum; (6) Communications with ASHP teacher educators via the submission forms; and, (7) Follow-up phone interviews with nine teachers.

Data analysis. We used teachers’ pre-participation surveys to describe their previous experiences with “generic” PD and Common Core-related PD; teaching Common Core-aligned lessons; and previous experience with badges/digital badges. The system-generated logs enabled us to quantify the types of badges teachers earned. To analyze teachers’ comments from the badge surveys and follow-up interviews, we conducted a thematic analysis using five “prior-research-driven” codes (Boyatzis, 1998) based on the aforementioned core features identified by Desimone, Porter, Garet, Yoon, and Birman (2002). We also created a small set of “inductive” codes (Boyatzis, 1998) as we reviewed the data and learned more about teachers’ perceptions about the badges.

Findings

The findings are organized into four sections. First, we summarize background information about the study participants based on their pre-participation surveys, including information about their previous PD

experiences, the Common Core (teaching and PD), and badges. Second, we summarize the badging activities for all site users and study participants. Third, we analyze findings related to the two research questions using four of the “core features” from the analytical framework: content focus; active learning; duration; and collective participation. Finally, we analyze teachers’ comments that related specifically to the feature of coherence in professional development activities.

I. Participating teachers’ previous experiences with PD, Common Core, and badges

Nearly all of the study participants (n=26) had previous professional development of some form related to the Common Core; only 3 (10%) had no previous PD on the Common Core. Half (n=15) had participated in at least eight hours of professional development in the past 2–3 years and 28% (n=8) participated in 36 hours or more of Common Core PD in the past 2–3 years; all of those were from New York State or Arizona. Staff from the school or district typically led the trainings (n=15), though external professional development providers (n=7) and trainers from state or city education departments (n=5) also led sessions.

Among the *most useful aspects* of any training they received before participating in the study, teachers reported the following:

- *The most useful aspect was strategies on how to use close reading strategies in the Social Studies classroom;*
- *Learning how to apply the CCSS in the Social Studies classroom. As a non-ELA teacher I was struggling with how to still focus on student understanding of the content and not just on student's ability to write;*
- *Getting to see how the Common Core applies to materials and activities so I know what is expected in the classroom; and*
- *The dialogue that was created when we met to discuss the language associated with the common core.*

Among the *least useful aspects*, teachers included the following:

- *[We haven't converted] over to CC totally as of yet, so having to double dip at this point makes it difficult;*
- *Professional developments that center around content specific strategies and can't be used in multiple classroom scenarios; and*

- *When the trainer overviews them all and says to do the work yourself from multiple sources.*

The teachers had mixed feelings and understandings about the challenges associated with integrating the Common Core into their existing practices, as well as what they thought the relationship between the Common Core Standards and history and social studies education was. On the former, eight teachers (28%) felt that “My students don’t have the basic literacy skills” to engage meaningfully in the level of work the Common Core seemed to expect. Six teachers reported a “Lack of support from my administration” as the primary challenge; six indicated, “Not enough resources for me to use”; and six noted, “There are too many other demands on my time.” Several teachers added clarifying comments to those statements:

- *My lower level students find the work too challenging.*
- *At times I feel that content takes a backseat to literacy. It takes a long time to find materials and grading lengthy writings with complicated rubrics is time-consuming.*
- *The curricular demands are quite large based on the amount of content and skills that compose the curriculum.*

Of the 16 teachers who chose to respond to a survey prompt that asked them to, “Please describe your understanding of how the CCSS relate to history and social studies instruction,” only one reflected a negative perception. That teacher commented, “Seems that history will be on a back burner and we will really be teaching reading but basing things on history content.” Other teachers had a more favorable response to the Standards and generally saw them as a valuable addition to history and social studies education. Three example statements that reflect that outlook are:

- *The Common Core identifies a standard of writing, reading, presentation and interpretation skills, which absolutely goes hand in hand with the study of history. History is a wonderful, authentic place for students to use and practice these skills.*
- *When I think about CCSS and social studies I think about Sam Wineburg and his book, Reading Like a Historian. We are tasking students to find evidence to support the way that they think. In addition to finding*

evidence, students should be able to view the source and make a determination as to what the perspective of the source could be. The CCSS is looking for students to drill deeper into the material, so that a stronger basis for opinion, argument, point of view can emerge.

- *No longer are students going to be memorizing discrete historical facts. The "end game" is for students to be able to read, understand, analyze, synthesize, and write argumentatively using evidence regarding historical sources, both primary and secondary.*

Broadly, the teachers who participated in the study had positive associations to the Common Core Standards and their role in adding to history and social studies education. Most had previous PD related to the Standards and found it useful, though approximately one third felt that their students were not prepared to engage in the complex literacy practices targeted by them and others felt they did not have time, administrative support, or resources to focus on them. In general, the teachers did not see the Common Core as replacing history content, but rather providing students with means to engage in the complexities of historical reasoning and supporting explanations and arguments with evidence.

Finally, the majority of teachers (n=19, 66%) had no previous experience with badges of any kind before the study. Of the 10 who did, most suggested that badges were significant because they symbolized a personal achievement, but that they did not necessarily hold value for others. For example, one teacher commented, "Personally, the badges have not had any real significance for me; however, once earned, it is nice to be able to speak of the achievement." Another noted that badges "help check things off a to-do list." Another wrote that her badges were, "Significant because they represent commitment to and completion of a task." Only two teachers described badges as a means to communicate achievements with others: one who liked that others in her Weight Watchers program could monitor her weight loss with her and another who found a badge useful as a way for creditors to track his credit rating.

II. Summary of badging activities for all participants

Table 3 below displays the number of badges awarded by ASHP for each

type. A very small number of users achieved a badge during the study. All educators received a *WBA* Member badge once they registered for the site, so we do not count those toward badges earned. Only seven percent ($n=2$) and one-and-a-half percent ($n=5$) of study participants and non-study participants, respectively, earned an Apprentice Builder badge.

The total number of badges acquired by an individual means comparatively little, as there are qualitative differences between the efforts associated with achieving different badge types. For example, the two study participants who achieved Apprentice Builder badges committed significant amounts of time beyond classroom teaching time to complete the work for the badge: 8 hours and 25 hours, respectively. In contrast, another teacher took a total of two hours to earn two Specialist badges: a Reading Specialist and a Writing Specialist badge. Like quantity, time spent on a specific badge is also an imperfect indicator of its value as a professional development activity, particularly in a competency-based system that eschews a “time on task” orientation for mastery. Nonetheless, some badges do require more effort than others.

The percentage of educators who earned a badge of any type is low. In the following sections, we use the analytical framework to explain why this might be so, discussing positive and negative experiences teachers had with each feature. In the final analysis section on “coherence,” we return to participants’ comments about specific badges in order to analyze the “internal and external” coherences between the features of badge activities and teachers’ goals and districts’ policies.

Table 3: Number of recipients by badge title

Badge title	Study participants/ Average n° of hours to achieve badge (n=29)	Non-study participants (n=327)
Apprentice Builder*	2 (7%): 16 hours	5 (1.5%)
Journeyman Builder	0	0
Master Builder	0	0
Master History Teacher	0	0
History Geek	5 (17%): N/A	5 (1.5%)
I Love Sharing	4 (14%): 1 hour	3 (.9%)

Badge title	Study participants/ Average n° of hours to achieve badge (n=29)	Non-study participants (n=327)
I Love Community	3 (10%): 1 hour	2 (.6%)
Common Core Reading Specialist	1 (3.5%): 1 hour	1 (.3%)
Common Core Writing Specialist	1 (3.5%): 1 hour	0
Constructive Critic	0	2 (.6%)
Tech Guru	0	1 (.3%)

* **Builder badges consist of four “sub-badges,” or “stars”** (See Appendix A and the section on the WBA badge system on page 20 for a fuller description.)

IIIa. Question 1: What role does working toward and achieving WBA badges play in the following aspects of social studies teachers’ professional development: continuing participation in the project; peer perceptions of a teacher’s professional capabilities; school and district administrators’ willingness to treat badges as professional credentials; and teachers’ interests in developing new skills?

We discuss positive and negative comments from teachers about three of the core features that help answer this question: content focus, duration, and active learning. In general, the teachers with whom we spoke appreciated the content focus but found the level of effort required to achieve badges to be too much, even if the effort could be extended over time. We address teachers’ comments that related to “badges as professional credentials” and peer perceptions in a separate section on “coherence” below.

Content focus +. The teaching materials were the most compelling feature of the WBA site for all of the teachers whom we interviewed. Nearly all of them commented on the quality of the primary and secondary sources (in terms of their usefulness in the classroom), as well as the lesson plans in the inquiry units. As one teacher put it, “Like all teachers, I’m always looking for stuff I can use in the classroom, either tomorrow or next week. And this was really good stuff that I could use right away.” Seven of the nine teachers said that they were very likely to use lessons from the WBA site again next year.

Five of the nine teachers mentioned that the materials would help them address the need to integrate a focus on literacy practices into their

teaching. One teacher in Washington State commented, “We’re trying to have our students here use primary source materials more. I liked how on the WBA site they had the units built up on different topics, and that it included the Common Core standards. It was killing two birds with one stone: content and Common Core.” Another teacher, in Kentucky, noted that, “I am slowly adopting my lessons to resemble the Common Core. It’s been adopted in every other subject area, so I’m adopting my lessons to meet that. With your materials, I’ll be prepared, so there will be less of a transition for me.” And a teacher in New York City said that,

I definitely liked the fact that there was a lot of Common Core alignment here. That’s a big movement in the city and the state. I find that the most useful professional development does one of two things for me. It has to be focused directly on what I’m teaching at the time, as opposed to something I’m teaching in the future or the past. Otherwise, it gives me time during the PD to connect to my own materials and to share it with other people so that I could get feedback. This PD seems to be doing both those things.

Four of the teachers made little or no reference to the Common Core when we asked them what drew them to the site. A teacher who was most drawn to the historical content said, “The quality of the materials is great—it’s what drew me to the site. I love to teach with images, being smacked in the face with that wonderful image of the women. I’m in my 8th year of teaching and I use a lot of primary sources. I knew that you would give me access to primary sources lessons.”

None of the teachers referenced a connection between badges and the historical content, though as we noted, five did connect learning about the Standards to the badges. The two participants who earned an Apprentice Builder badge mentioned reasons that had nothing to do with content when we asked why they persisted to earn the badge, though both valued the content. One teacher persisted because “I wanted the stipend, but I would have done this anyway. I do a lot of PD.” Another said, “That’s just me. I have to finish what I started. It’s an internal motivation thing.”

Content focus -/Duration -. Two aspects of the WBA program’s in-depth focus on historical content were a hindrance for all of the teachers with whom we spoke, however: the relative lack of content to cover the entire

U.S. history survey and the scope of the existing inquiry units. For much of the year there were only four units from which teachers could choose, which left several participants in the position of having passed points when they could use the content with their students. Being unable to teach those units also left them in the position of being unable to pursue Builder badges. For example, one teacher commented,

Here is the difficulty—your timeline is not the best timing for me. The badge that had to do with the American Revolution...once I visited the site, got familiar with it, I was already halfway through the Revolution, so I wasn't going to be able to use that to work on the Builder badge. At that point I thought my best approach to this was to go on to a content area that I had time for and that's when I chose the Lowell girls unit. But as we were going to that, that's when we hit inclement weather. If there was a way that I could have received materials ahead of time, I would've worked on them. But when things were available, I had already passed it.

Another teacher faced a similar situation, saying “I only found out about the site after I had already taught the things that were there. I couldn't submit any student work because I couldn't teach it. A lot of those units didn't apply to me because I couldn't teach them. So, I couldn't get any badges.”

The scope of the inquiry units was also off-putting for several teachers. One teacher in Utah commented that, “There's too much. These units are gigantic. I have two days to teach the Industrial Revolution, but this thing could take two weeks. The mill girl thing, I didn't even know how to start to pull that apart to use it in my classroom. I would like to see smaller units, smaller chunks. Eventually, I hope that you will continue to have more units, but shorter, that will fit into my work.”

The challenge of the time it took to teach a WBA unit concerned several of the teachers. One of the Apprentice Badge earners said, “I didn't really have any grand schemes for this. You just had to start early and then keep going with the reflections afterwards. In the War on the Philippines [unit], I thought ‘I'd like to do this,’ but I also thought I wouldn't have time to do everything. It just didn't fit into the time I had in the scope and sequence.” Another teacher also felt that the units would take too much time, but that he would be in a better position to use them next year,

After my second time around with this...If I could have compacted the content or the activities into a smaller time span to use in my classes that would have worked out this year. For next year...I would take a week, assuming there are no unusual delays...I'm familiar with our state tests, so I know what I can compact, that way I could have larger units on other content areas.

Active learning +. Six of the nine teachers told us that they felt the activities they had engaged in during their participation were valuable to their professional growth. Further, several felt that the level of activity expected of teachers in WBA was unique, and positive, among their experiences. Three of those teachers—one of whom earned an Apprentice Builder badge—commented specifically on the cycles of reflection and feedback that were built into the submission processes to earn badges. The badge earner commented that,

The reflection piece is awesome. You know, we learn from reflecting. It's a really positive thing. It [the PD program] actually makes you use the strategies and do the activity that you learned about. In a lot of inservices you tell yourself, 'that's a great idea,' but you don't do it. But in this one, you actually had to do the lesson in order to advance, in order to move on. I really like that about this.

Another teacher in California said that,

I earned a couple of badges, the reading, writing, and tech specialist ones. There's so much for me to learn right now—last year we started implementing it [the Common Core]. Right now we're being inundated with stuff. But this project actually gave me feedback. That is so valuable. There's no other PD I've been given that gets me the kind of feedback I got here. You know, in other training that I got, it didn't emphasize counterarguments. But that was emphasized with badges. When I got feedback from them, I realized that I skipped over that, that my kids weren't getting it—that feedback got us right back on track to hit all those standards.

A third teacher commented, “The supplemental enhancement activities that those [Specialist] badges gave, that was what generated the most interest for me. I'm not going to say that an old dog can't learn new tricks, because I think I learned some new stuff thinking about those badges.”

Lastly, a teacher in New York City said, “If it’s specific and accurate feedback, then it’s extraordinarily helpful. The advantage that this PD has over college classes is that the learning stops in college classes when you get a grade. But here, you’re getting feedback on your work from the classroom. It’s extremely helpful.”

Active learning -. The level of teacher activity was also a drawback for some teachers, however. Several teachers spoke at length about how much time this project seemed to demand, even among those who felt positively about being required to submit material and respond to feedback. As one teacher put it, “Look, for this thing to be successful, the main thing that needs to be taken into consideration is that teachers are so extraordinarily busy. You have to take their time into consideration for it to be meaningful. This work is good and important for development, but there’s so much other stuff to do.” Another said, “But this is really time consuming. You have to pre-plan, pass the badge, make sure you have that many days in the schedule, and then remember to go back to it to submit whatever else you have to submit. You only have 24 hours in the day. It’s a lot of work, this PD. And I’ve already got a lot of work.”

One of the teachers who earned an Apprentice Builder badge said that, “It took me 25 hours to get that Apprentice badge. I always have to do a lot of extra work anyway because I have to translate things back and forth between English and ASL. But I wasn’t going in to this planning to do a unit. It was a lot of unexpected work. I’ve put that much work into a weeklong unit before, but I wasn’t expecting to do it with this.” Another teacher, who taught for more than 20 years, remarked, “Whatever else this badges project does, it has to accelerate something you’re already involved with. We have so much on our plates and this felt like a lot of busywork. I didn’t see where this was going for the badge people or for me. Why is this a big deal for you? Sometimes it felt a little like a black hole of nothingness.”

The teacher’s question about “Why is this a big deal for you?” extended to several others, as well. While many enjoyed the opportunity to receive feedback on their work, they also felt that it was not always timely or clear. For example, one teacher who had submitted work for a Specialist badge said, “The feedback was, ‘You kind of missed the mark here.’ I wrote her

back and said, ‘you’re right.’ But it took like two and half weeks to get a response. It was too late. I couldn’t submit it because I’d already taught it. I was very frustrated.” Another teacher who had submitted material for a Specialist badge commented, “I couldn’t understand the feedback. I didn’t see how I was off the mark and I couldn’t get why this wasn’t good enough for a badge. A rubric would’ve helped.”

IIIb. Question 2: In what ways do badge-related activities (including unit design, peer collaboration, and assessment by master teachers) influence the development of an online community of practice?

All of the teachers with whom we spoke felt that the online teacher forum, in its current form, was not useful as a place to support professional growth. Most felt that there was not enough useful conversation for them to attend to, or that the teachers who had posted there had done so strictly to achieve a badge. Two of the four teachers who earned Community badges indicated that the badges were “much less valuable” than other badges they had earned because of the minimal effort they had required.

Collective participation -. All nine of the teachers whom we interviewed responded relatively unfavorably to our questions about the value of the teacher forum and the Community badges during their WBA PD experience. Several teachers disliked these features because they valued what they represented in their day-to-day professional lives, while others felt that there was no meaningful connection between the Community features and other parts of the WBA PD program. Some teachers also recognized that the site was new and that it would take time for a teacher community to develop, however. As one teacher remarked, “Working with a team would have been more motivating than doing it by myself. But that’s not their fault. They have community forums, but there’s not much posting going on.”

Another teacher said, “I’m not interested in the message boards. I have enough online sites that I go on and this doesn’t add anything.” Another commented, “The Community forums? I looked at them but it did not seem like a lot of action was going on, so I didn’t participate. It looked like people were posting just to earn badges. I might post or read if it was more active.” Similarly, another teacher remarked that, “It felt like people who were posting were only posting the bare minimum to get the badge.”

One of the teachers who had earned an Apprentice Builder badge also felt that working with colleagues would have made some of the requirements for earning badges less burdensome. He said,

I don't know how to improve the inquiry units—they're great. But I did make one comment in the Internet surveys about the Common Core Writing and Reading badges, where you have to make up your own units. I thought it'd be good to do professionally. It's a ton of work, which is good, but if you could team up with other people, you could propose a topic and get a group of people to do it together with you.

The same teacher reflected on what he thought was lost in not having colleagues with whom he could work on materials. He remarked,

As opposed to sitting down together at the end of the inservice and looking at the teaching strategies together, in this one [WBA] I think that it can come across as just printing off activities and then just doing them, which doesn't necessarily bring any change to teaching practice. In the more interactive PDs, I can think about how to apply this [the strategies] to my own practice. I mean, in face-to-face, usually there's a scaffolded writing assignment. The coaches have you and the people at your table do something together. The difference there is that it has this sense of, 'You struggle with it yourself,' as opposed to 'Do it yourself.' There's an advantage to doing it with other teachers.

IV. Coherence with other professional development, existing knowledge and beliefs, and with school, district, and state reforms and policies

We distinguish between “internal coherence” and “external coherence” in the analysis, but both relate to the degree to which activities in the badge system align to perceptions, norms, priorities, and values associated with history and social studies teaching, either for an individual teacher or an external agency such as a school or district.

Internal coherence +. Internal coherence is the degree to which PD activities in the badge system seemed logically connected to each other, as well as the extent to which the progression logic (i.e., how teachers advance by achieving badges) reflected teachers' personal understanding of what it meant to develop expertise as a history teacher. External factors are likely to inform the latter and so the differences between “internal” and

“external” coherence are guidelines, rather than rules. The distinctions are useful for analysis, however.

Six of the nine interviewees indicated that the badge system “made sense as professional development credentials,” even if they were not personally interested in using the badges as such. For example, one teacher said, “Yes, they made sense to me, but their importance to me was...and what I’m doing...and what I’m required to do in my school...did not really jive together.” Another remarked, “The idea of earning a digital badge, it seemed kind of odd. But I talked with co-workers who said “Oh yeah, you can earn badges for different things you do on the Web, like in games. So, I get how you can use them to show that you accomplished something.” Comments by the other two teachers suggested that, while several activities related to specific badges made sense and appealed to them, they did not see how the badges connected meaningfully as a professional development sequence.

An important theme related to internal coherence was “sequence and progression.” Five of the seven teachers for whom badges seemed viable as professional credentials made comments that suggested an appreciation for how the badge system “chunked” (though not always well, as comments above suggest) PD activities and portrayed professional development as a progression. For example, one teacher said, “I like how you had to get a certain percentage to get the [History Geek} badge. I had to take a few quizzes more than once...I thought that was great...To move on to the next step, it doesn’t allow you. You have to unlock a certain level, it’s sequenced.” Another remarked that, “I could see a gradual progression through them. It seemed very doable. I got excited. I thought that I wanted to take the time to do it.” Another said that,

I did like the concept because it felt like, particularly when teachers attend PD, they throw the whole buffet at you at one time. But you all [ASHP] present it in steps. You give us breakfast, then a snack, then lunch, then dinner. It’s helpful by breaking it up, there’s a feeling of success. By the time you’ve come to the last batch, you feel like you’ve achieved something. I felt like, ‘Even if you didn’t make Eagle Scout, you’re still a Boy Scout.’ I like that concept.

Internal coherence -. Comments from three teachers suggested that the WBA badge program lacked internal coherence for them. One, a veteran teacher of more than twenty years, commented that, “I’m an older educator, I’ve been around the block...Not that I’m afraid of incorporating new things, technology, or new ideas. I have no problem with adding, changing, or keeping up...but there’s not enough time in my life. I’m not one who’s into accolades.” Remarks from the other two teachers indicated that the level of work required for earning a Builder badge was not in line with their own priorities for PD.

External coherence. External coherence refers to the degree to which the PD activities align to school and district priorities for teacher training and growth. Three of the four factors identified by Wiske and Perkins (2005) as determinant of whether innovations are successful at contributing to changes in teacher practice applied to this study: *structures* (i.e., organizational features of a school, such as schedules and planning time); *cultural-symbolic* (i.e., the norms, values, and symbols that influence meaning-making within the system); and *political* (i.e., the locus of authority and decision making). *Technical* was not a factor we addressed directly.

Two issues related most to external coherence: (1) whether schools and districts granted credit for badges (they did not); and (2) whether peers or school or district administrators valued the finer-grained distinctions among professional development activities that badges might permit (they did not). Both of these issues had implications for whether teachers thought they—and others—would be willing to perform the level of work required a competency-based system such as this one.

One teacher commented, “I think another thing that would incline me to do more is that if the badges turned into something useful. If you could turn them into PD hours, that would make a difference. They’re fun for the pat on the back, but it would be better to have in-service pay or professional development credit, that would increase my incentive to do this.” Another said, “I like the badge system, it could be fun; but I remember going on there and it wasn’t that much fun. It was a lot of reading and I remember it being a lot of difficult work. It became an extension of my job, rather than something I could do for my own

professional development. That much work without getting credit isn't realistic." He added, "Even if there were an opportunity for continuing education credit, people might choose other things over this because there is so much work. You have to put a lot of work into this." A teacher from Utah said, "I told my principal about them. He was like, 'Okay, great.' I was like, 'Where am I going to post these? My personal web site? No. My school site? No.' He was like, 'Whatever.' A professional development badge, as a term, has no meaning in Utah." Finally, one teacher addressed the challenge of finding value in badges among other competing factors:

There has be a value in it. If people don't see a value in it, forget it...This isn't of value to me because no one has talked to my district about badges. I could show them my certificate, and they would say, "Great, what did you do? Fine, put it in there." But badges aren't understood. It would have to be understood by those people I report to. I would have to go through WBA badges, contact the curriculum director, and talk about the value of badges...There's so much expected of us: Common Core, report cards, assessments, trying to get your Masters, or recertified. Where does badges fall on there in terms of level of importance in our lives?"

A second issue related to external coherence is that most teachers do not receive personalized recognition for different forms of professional development. Because the norm for most states is seat time, most teachers in this study saw little value in presenting credentials that might distinguish them from other educators, though some are in schools that recognize and value different forms of activity. As a teacher in Minnesota remarked,

It's more about attitudes toward teaching and learning. Some schools have great PLC (professional learning community) networks. Some schools have great teams of teacher that reflect on their approaches to teaching. They like to try out new ideas. My attitude is that I always have something to learn. Big school districts probably only look at your hours, they don't know you personally and they're unlikely to look at the specific types of PD you do.

A teacher in New York had a similar comment: "I think it depends on the school. In some schools, if you went through a particularly useful PD, then some principals will require you to turnkey it for other teachers. In

my school there's a desire to do that, but it doesn't happen often. You hear about people having PD, but it never gets celebrated in any way. It isn't seen as this wonderful thing." Another teacher expressed the general sentiment about most PD succinctly: "For PD, you just get your certificate. You register online, do a 5-question evaluation and rate it. You say what you got out of it. Then you submit and print certificate. It's just a set thing everyone does, there's no recognition. We have to do what everyone does, which isn't very rewarding."

III. DISCUSSION

In this report we investigated how the features of a digital badge system supported or impeded history and social studies teachers' progress toward mastery of a new set of practices in a competency-based professional development program. We used a framework that included five "core features" of professional development programs identified in previous research as being effective for helping teachers learn and change practices.

We learned that it is too early to investigate research questions about whether badge systems might be effective tools for promoting teacher professional development. In the case of this specific badge system, development issues slowed the production of nearly all features that might have the most impact on teacher development and left the researchers with a site that had not benefited from formative research. In the broader context of K–12 teacher education, however, there are no external authorities, such as city or state departments of education, that are currently granting continuing education units in exchange for badges. Given the level of commitment expected of teachers by a competency-based professional development program, the lack of formal methods with which to recognize that work is likely to inhibit the uptake of this type of professional development beyond the adventuresome few who are typically "early adopters," or who engage in many hours of PD above and beyond their required hours for recertification.

The analytical framework of five core PD features was useful for helping us to identify the affordances of a badge system that teachers might value, should professional development programs like *WBA* become acceptable forms of credentialing. Below, we revisit the features briefly and discuss their implications for the ongoing use of a competency-based PD system among history and social studies educators.

Content focus, active learning, collective participation, and duration.

The majority of the teachers whom we interviewed valued the teaching materials above all other aspects of the *WBA* site. Indeed, searches for teaching materials were often "the way in" to finding the project and becoming aware of the professional development program. A smaller number of teachers commented directly on the value of these materials for helping them to learn about integrating the Common Core, however, and

we are unable to report on how well teachers did so because none progressed to a point where they could submit new lesson plans.

The ability to reflect, plan, and receive feedback was very attractive for several of the teachers, as most have few opportunities to do it if they are not part of a team of teachers in a school that look at student *and* teacher work together. Further, the chance to have useful, timely feedback on teaching materials from qualified teacher educators was exciting for more than half of the teachers whom we interviewed. Though we had little feedback about teachers' experiences with integrating Common Core-aligned skills during this study, it was a place where two teachers felt the feedback from ASHP was extremely valuable. Both felt that their practices had improved based on that exchange.

All of the teachers commented on how challenging it was to complete all of the requirements for the WBA program, especially as there was not enough material on the site for them to use in order to work toward obtaining Builder badges over the school year. While several teachers appreciated the repeated rounds of feedback from ASHP on their materials, the payoff typically did not match the effort, especially when there was no formal recognition for the badges forthcoming.

Our experiences during this study have several implications for future projects that might use a badge system to support competency-based teacher professional development:

1. *Content focus:* Social studies and history teachers value classroom-ready material they can use immediately, which the WBA site includes. The units are very large, however, and there currently are not enough of them for teachers to use throughout the school year. If badges are to be tied to teaching the content, then the content should be presented to teachers in smaller lessons that they can teach more quickly and, possibly, more frequently.
2. *Active learning and duration:* PD activities that include submitting new lesson plans and student work, receiving and responding to feedback, and creating new teaching tools are intriguing for many teachers. Several teachers in this study saw the potential for growth as educators through rounds of these

activities and liked that the structure of the badge system supported an incremental approach. But they are time consuming and require a level of activity that is not the norm among current PD programs. To make the rigor and level of effort more acceptable, feedback on teacher work should be timely and varied (in that it comes from teacher educators *and* peers). Further, as we discuss next, teachers should have opportunities to do the work with peers.

3. *Collective participation.* Teachers benefit from peers' comments, but there are few opportunities to do this on the WBA site. The Community badges were the least appealing to all teachers with whom we spoke and several found the inability to engage with others while doing so much work to be an inhibiting factor.

Coherence. For most of the teachers whom we interviewed, the WBA badge system aligned to their understanding of what social studies and history teachers needed from inservice PD in order to keep growing, though specific features—as we have discussed—raised questions for them as to whether they could persist in the work. The amount of work in the program is considerable. But the matter is exacerbated by the fact that there are no school systems (or schools) that accept the badges as continuing education units. The lack of external validation has important implications for whether a competency-based badge system can survive and scale when “seat time” is the norm and, in fact, what is generally approved by most state systems.

Earlier we noted the success of standards-based PD programs such as the application process for National Board Certification. One way that a badge system such as WBA—and others—might become sustainable is if it is able to secure for teachers benefits such as extra pay or extra privileges. For that to happen, of course, these badge systems will need to demonstrate impact on teaching practice and student learning outcomes. Hence, once ASHP secures commitments from external agencies to support and recognize this type of PD, it should consider other studies to investigate the impact of the badge system on teacher and student learning outcomes, especially with respect to the new Common Core-aligned assessments that states will begin implementing.

IV. RECOMMENDATIONS

1. ***Create “onboarding” badges to decrease the amount of time it takes to earn a “meaningful” badge***

Seven of the nine teachers whom we interviewed remarked on the amount of work it required to achieve a “meaningful” badge, though only two of those completed the requirements to achieve an Apprentice Builder badge. Those two teachers committed between 6 or 7 hours each to completing the work for the badge, beyond the time it took them to teach the lesson.

Other than the WBA Member and History Geek badges, there currently are no other “minor” badges that teachers can achieve; all other badges in the system require teachers to submit materials for feedback or engage in a repeated number of activities, such as posting in the forum. One of the nine interviewees (one of the Apprentice Builder participants) commented that he liked “racking up badges quickly,” though he did not see any advantage in doing so professionally. Rather, it appealed to his desire to “get things done, once I get going with something.” Given the very low number of badges earned among all participants, it is evident that it is very difficult to achieve many badges as the system is currently configured.

None of the teachers with whom we spoke was interested in achieving badges for the sake of achieving badges, other than the one teacher we discussed above, none of the teachers with whom we spoke was interested in achieving badges for the sake of achieving badges. Rather, it was the opposite. Two teachers found the History Geek badges “insulting” or “a waste of my time.” Those teachers, and others, would have preferred opportunities to receive “smaller badges that still relate to something I can do with my kids and that I feel good about getting, like I put something into it...without breaking my back,” as one teacher remarked.

One possibility might be to “chunk” the Builder badges such that each of the four required steps becomes “badgeable.” It would require altering the activities such that teachers might be able to perform a smaller task, yet still one that has pedagogical value. Another possibility is to create “minor” versions of the current Specialist badges such that

teachers, again, can submit smaller pieces of work but that are still deemed to have instructional value.

2. *Identify local AND state- or district-level partners to grant credit for badges (or provide teachers with other opportunities, such as release time, to participate)*

None of the teachers who participated in this study had confirmation from a school or district administrator that they would receive continuing education credits for the participation in the WBA project. As we noted, five of the nine whom we interviewed did not share information about the badges with colleagues, in part because they assumed the badges would have little or no cachet.

This is a larger challenge to confront than our previous point because the contextual factors are mostly beyond ASHP's control. We recommend partnering with a very small school district—or an experimental PD program in a larger district—that could help ASHP negotiate the administrative issues related to granting credit. The opportunity to receive credit would make the program more attractive to many teachers, and it would provide them with additional motivation to persist in the challenging work of a competency-based program. Testimonials and demonstrations of changes in practice or improvements in student outcomes (if they exist) from this type of collaboration between ASHP and a school district would provide other districts with evidence for the merits of this type of PD.

Further, local partners could be in a position to promote other types of systematic approaches to teacher education (such as supporting school-based policies that promote the development of teacher learning communities) that accommodate and encourage the competency-based PD objectives the WBA badge system targets.

3. *Improve mechanisms to support asynchronous and synchronous communications among teachers and teacher educators*

One study participant commented that he found the work of this project “to be a little lonely” and several others remarked that they felt the communications in the teacher forums were “artificial,” “forced because people want the badge,” or “not all that helpful.” Three of the nine teachers whom we interviewed suggested that ASHP should

dedicate time, either semi-monthly or monthly, to bring teachers together on the site at the same time. One teacher suggested “monthly lectures” that all WBA teachers could attend and have opportunities to ask questions of the teacher educators and each other. Another suggested that the teacher educators (or a teacher that had achieved Master History Teacher status) should convene small groups of teachers that were working on the same unit for an hour every other week in order to discuss their progress.

None of the teachers we interviewed thought the teacher forum was helpful. One way to improve the forum might be to restructure the discussion boards based on specific units, such that teachers who are all working with the same material in different places can ask questions about the same materials. At best, these discussion boards might be ancillary to lesson studies or the live discussions that we mentioned above.

4. *Increase the frequency of communications between the teacher educators and registered users*

Several teachers commented that they forgot about the WBA site because of the lack of communication from ASHP and only remembered when EDC researchers contacted them at points throughout the year. Emailing teachers at least monthly with updates about new lesson plans or site features would be very helpful. Several teachers commented that they would like updates from the teacher educators about their specific progress, even if that progress were somehow visible on their profile page. Specific instructions about “what to do next” would help teachers have clearer ideas about upcoming requirements.

5. *Improve the web site layout and print material layout in order to make the program more approachable and useful for all users*

Many teachers commented that the web site and print materials for lessons felt “cluttered.” One teacher remarked that, “It felt like you were trying to get everything under the sun into some of those web pages and the lesson plans. It got really overwhelming.” If lessons are chunked, as we suggested above, then the print materials will become

less overwhelming. Several focus groups with groups of teachers, along with think-aloud exercises with individual teachers, would be helpful for determining how to structure the site such that teachers can find teaching materials easily, locate general information about badges (as well as information about their own specific badges), and respond to feedback from the teacher educators more quickly.

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APPENDIX A: BUILDER BADGE CRITERIA

The Apprentice Builder has started on the path toward becoming a Master History Teacher who creates effective Common Core aligned lessons in U.S. history. To earn this badge, the teacher:

- Studied the [unit title] *Who Built America* inquiry unit and passed a multiple choice quiz with a score of [quiz score], demonstrating understanding of its historical content and aligned Common Core standards.
- Prepared to teach the inquiry unit by revising lessons and materials to meet students' needs.
- Reflected on the experience of teaching the unit with an ASHP History Educator; selected and annotated student work to identify student struggles and strengths.
- Revised lessons and materials based on reflection.
- Why? Teaching model lessons, then reflecting on the resulting classroom experience and student work with expert mentors, gives teachers the guidance and practice necessary to design their own Common Core aligned history curriculum.
- Earning this badge allows the teacher to proceed to Journeyman Builder.
- Work for this badge represents 8-10 professional development hours.

The Journeyman Builder has continued on the path toward becoming a Master History Teacher who creates effective Common Core aligned lessons in U.S. history. To earn the Journeyman Builder badge, the teacher has:

- Studied the [unit title] *Who Built America* inquiry unit and passed a multiple-choice quiz with a score of [quiz score] to demonstrate understanding of its historical content and Common Core standards.
- Prepared to teach the inquiry unit by revising lessons and materials to meet students' needs.
- Reflected on the experience of teaching the unit with an ASHP History Educator; selected and annotated student work to identify student struggles and strengths.
- Revised lessons and materials based on reflection.
- Why? Teaching model lessons, then reflecting on the resulting classroom experience and student work with expert mentors, gives teachers the

guidance and practice necessary to design their own Common Core aligned history curriculum.

- Earning this badge allows the teacher to proceed to Master Builder.
- Work for this badge represents 8-10 professional development hours.

The Master Builder has reached the final stage on the path toward becoming a Master History Teacher who creates effective Common Core aligned lessons in U.S. history. To earn the Master Builder badge, the teacher has:

- Planned a unit by choosing one of WBA's essential questions
- Created an inquiry unit
- Reflected on the experience of teaching the unit with an ASHP History Educator
- Selected and annotated student work to identify student struggles and strengths.
- Revised lessons and materials based on reflection.
- Work for this badge represents 8-10 professional development hours.

APPENDIX B: TEACHER PROFILE PAGE SCREENSHOT

[MY PROFILE](#)
[INQUIRY UNITS](#)
[COMMUNITY](#)
[HOW DO I...?](#)
[ABOUT](#)
[LOGOUT](#)

JIM DIAMOND

[OVERVIEW](#)
[ALL SUBMISSIONS](#)
[MANAGE DISPLAY](#)
[MY SUBMISSIONS](#)
[MY SETTINGS](#)

[TRACK PAGE VISITS](#)
[COMMUNITY SUBSCRIPTIONS](#)
[FILE BROWSER](#)
[DEVEL](#)

[Start the tour!](#)

Jim Diamond
Center for Children & Technology
New York

SUBMISSION CHAT

You don't currently have any form submissions to review, but after you've created a submission toward earning a badge, the latest feedback from ASHP staff will appear here.

RECENT COMMUNITY

Developing Common Core Lessons
10 posts, most recently from [redacted] on 6/27 at 12:29am: *Accessible history texts*
[Read More »](#)

Materials For Implementation
9 posts, most recently from [redacted] on 5/16 at 1:10pm: *Education Portal*
[Read More »](#)

Elementary Instruction
4 posts, most recently from [redacted] on 4/28 at 8:00am: *nonimportation*
[Read More »](#)

MY BUILDER BADGES

1 KNOW YOUR STUFF	2 GET READY TO TEACH	3 HOW DID I DO?	4 FOR NEXT TIME
<p>Apprentice Builder Down of Empire: The U.S. War in the Philippines</p>	<p>You passed the quiz, - showing that you know your stuff.</p>		
<p>Journeyman Builder</p>			
<p>Master Builder</p>			

MY COMMUNITY BADGES

<p>WBA Member Create a WBA Badges Account</p>	<p>I Love Community Start topics, reply to posts, mark what's useful</p>	<p>Constructive Critic Add to the conversation in ways that others find useful</p>	<p>I Love Sharing Create 3 sharing posts</p>
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MY SPECIALIST BADGES

<p>Common Core Reading Specialist Upload your best Common Core Reading Lesson</p>	<p>Common Core Writing Specialist Upload your best Common Core Writing Lesson</p>	<p>History Geek Pass 4 Unit Quizzes</p>	<p>Tech Guru Upload your best technology or media lesson</p>
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MASTER HISTORY TEACHER


Master History Teacher

Be a Master Builder, Community Member, and Specialist.

Become a Master History Teacher by demonstrating:

- Effective Common Core teaching through reflection, analysis of student work, and revision.
- Active membership in a professional community where you share knowledge and resources.
- Expertise in key aspects of history education—the Common Core, historical content, and using technology.

APPENDIX C: SUBMISSION FORM EXAMPLE



[MY PROFILE](#)
[INQUIRY UNITS](#)
[COMMUNITY](#)
[HOW DO I...?](#)
[ABOUT](#)
[LOGOUT](#)

WHAT ARE FAIR WORKING CONDITIONS AND HOW HAVE WORKERS FOUGHT FOR THEM?

THE LOWELL MILL GIRLS AND AMERICA'S FIRST FACTORIES

1 KNOW YOUR STUFF

2 GET READY

3 HOW DID IT GO?

4 FOR NEXT TIME

SUBMISSION INSTRUCTIONS

Let us know which lessons you have changed and how; when applicable, upload the modified lesson.

You must describe changes to *at least one* lesson of the unit.

WHAT HAVE YOU CHANGED?

Lesson 1. Describe any changes you made to student activities, teacher activities, unit materials, and the writing task.

Choose File no file selected
Upload

Lesson 2. Describe any changes you made to student activities, teacher activities, unit materials, and the writing task.

Choose File no file selected
Upload

Lesson 3. Describe any changes you made to student activities, teacher activities, unit materials, and the writing task.


Choose File no file selected
Upload

Lesson 4. Describe any changes you made to student activities, teacher activities, unit materials, and the writing task.

Choose File no file selected
Upload

Lesson 5. Describe any changes you made to student activities, teacher activities, unit materials, and the writing task.

WHAT'S NEXT



To earn the **Apprentice Builder Badge**, you must first master the historical content and instructional goals of the unit. Study the unit, then [take the quiz](#) to earn your first star - showing that you know your stuff.

APPENDIX D: INTERVIEW PROTOCOL

1. What initially interested you about the *Who Built America* web site? (Probes: Were you specifically interested in professional development? The badges? Materials? Feedback on lessons? The study stipend?)
2. (If s/he comments on a specific interest in professional development): What kind of professional development were you interested in?
3. About how many times did you visit the *WBA* site? (Probe: Encourage them to be honest. Why did you visit the site? What did you look at? What were your impressions?)
4. Did you look at the digital badges on the site? What did you think about them? (Probes: Had you heard about digital badges before? Did they make sense in terms of being professional development credentials?)
5. What are your recollections about the professional development format? (Probe: Was it appealing? Why or why not?)
6. About when did you realize that you probably wouldn't continue using the site? (Probe: Were you busy with work or otherwise? Were their features or functionalities about the site that made it less useful to you for professional development?)
7. What would make the site better, given your professional development needs?
8. Did you discuss the site with anyone else? (Probe: Who? What did you discuss?)
9. About how often do you engage in professional development activities? (Probe: Why do you engage in professional development activities? What are better formats? What are worse formats?)
10. Do you receive recognition when you go through professional development? (Probe: If so, in what ways? Who recognizes it? Is it important to you that others recognize it?)
11. In your experience, do teachers and administrators make judgments about each other's skills based on their credentials? (Probe: By credentials, I mean college degree or professional development experience)
12. Is there anything else that you'd like to discuss about *Who Built America*? or professional development in general?