

Teachers as Learners in all Stages of Development:

*Creating a Virtual Community of Practice to Provide Support in the Teaching Profession*

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# TEACHERS AS LEARNERS IN ALL STAGES OF DEVELOPMENT

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### Abstract

Research suggests that greater initial preparation and mentoring for beginning teachers would substantially reduce attrition rates while increasing teacher competence, yet we continue to face nationwide problems with teachers feeling unsupported throughout all stages of their development (Darling-Hammond, 2009, 2010). Community of practice (Lave & Wenger, 1991) models with pre-service teachers provide known benefits for success in the teaching profession, including increased professional reflection, self-efficacy, and confidence in the classroom. Another important benefit is the development of collegial relationships with other educators, which allow novices to learn from experts in the community of practice (Feiman-Nemser, 2001; Grossman, Wineburg, & Woolworth, 2001; Jimenez-Silva & Olson, 2012; Lave & Wenger, 1991; Perry, Walton, & Calder, 1999). To promote further support and collaboration, the CalStateTEACH Teacher Preparation Program will develop a virtual community of practice that includes interactive forums and compiled podcasts, creating opportunities for candidates, new teachers, practicing teachers (especially those who are mentors), and university faculty to connect across geographic boundaries. Once the community is established, ideally it will extend outside of the CalStateTEACH program to support teachers through the induction period and beyond, addressing current issues with teacher retention and attrition rates. Furthermore, the community will promote continued professional development throughout all stages of the profession. This paper explores how a virtual community of practice will facilitate sharing ideas, questions, lessons, and links through the digital curation of open educational resources while providing an open forum for interaction about teaching.

*Keywords:* pre-service teachers, teacher preparation, virtual community of practice, geographic boundaries, digital curation

### Teachers as Learners in all Stages of Development:

#### *Creating a Virtual Community of Practice to Provide Support in the Teaching Profession*

We are facing serious issues with teacher recruitment and retention in the United States, leading to a revolving door of teachers leaving the profession at alarming rates. Studies have shown that 25% of beginning teachers stay in the profession less than two years (Feiman-Nemser, 2001; Gold, 1996) and nearly 50% leave within five years (Darling-Hammond, 2009, 2010; Quality Counts, 2000). Research suggests that greater initial preparation and mentoring for beginning teachers would substantially reduce attrition rates while increasing teacher competence, yet at a national level teachers continue to feel unsupported throughout all stages of their development (Darling-Hammond, 2009, 2010). To address widespread issues in teacher growth and retention in the United States due to our decentralized education system, lack of support leading to teacher isolation, and inconsistent professional development opportunities, I propose creating a virtual community of practice that instills a continued partnership between universities and school districts. This community can be developed on a small-scale within a teacher preparation program, CalStateTEACH, and beta tested with faculty, practicing teachers including those who are mentors, beginning teachers in the induction phase, and teacher candidates, in order to promote knowledge sharing and collaboration as a form of support in the teaching profession. Ideally, the community will continue to attract new and veteran teachers, providing a virtual space for educators to network and exchange expertise across geographic boundaries as they develop in their practice, thus eliminating further attrition rates. Furthermore, it will facilitate sharing ideas, questions, lessons, and links through the digital curation of open educational resources while providing an open forum for interaction about teaching.

#### **Background: Stages of Teacher Development**

Successful teachers are continuously learning and developing as professionals. The pathway to become a teacher includes pre-service preparation, induction into teaching, and ongoing mastery with sustained learning opportunities at every stage of the career (Feiman-Nemser, 2001; Fishman, Davis, & Chan, 2014). As Cochran-smith and Lytle (1999) specify, there are three conceptions of teacher learning

including: “knowledge-*for*-practice” (formal knowledge and theory), “knowledge-*in*-practice” (practical knowledge), and “knowledge-*of*-practice” (knowledge based on experience), which come throughout the stages of teacher development (p. 250). While pre-service preparation is seen as the “knowledge-*for*-practice” foundation that introduces teaching and learning theories, field experiences situated in actual classrooms are critical for bridging theory to practice, giving teacher candidates opportunities for observation, inquiry, and apprenticeship with *scaffolded* support before they are solely responsible (Brown, Collins & Duguid, 1989; Feiman-Nemser, 2001; Fishman et al., 2014; Lave & Wenger, 1991; Vygotsky, 1978; Windschitl, 2002). As teachers move from pre-service preparation into official teaching, they continue to receive professional development and in-service training opportunities, but arguably they learn the most from first hand experience in their own classrooms through reflective practice and from interactions with their colleagues (Bransford, Brown & Cocking, 2000; Cochran-Smith & Lytle, 1999; Darling-Hammond, 2010; Dewey, 1933; Feiman-Nemser, 2001; Fishman et al., 2014; Schön, 1983; Vygotsky, 1978; Zeichner & Liston, 1987, 1996).

Researchers have historically emphasized the importance of *reflective practice* in the teaching profession as a fundamental skill for continued learning and advancement from novice to expert practitioners (Cochran-Smith & Lytle, 1999; Dewey, 1933; Jones & Jones, 2013; Pedro, 2005; Schön, 1983; Zeichner & Liston, 1987, 1996). Teacher expertise encompasses being able to easily identify and make sense of classroom interactions by recognizing patterns and using knowledge in the domain to monitor students’ learning progression (Bransford, Brown & Cocking, 2000). Through reflection, teachers can look back and think about their teaching in context while considering alternate instructional methods to meet students’ needs when they feel improvement is necessary (Bransford, Brown & Cocking, 2000; Cochran-Smith & Lytle, 1999; Diana, 2013). As teachers are *metacognitive* or monitoring, controlling and organizing their cognitive processes (Flavell, 1987), they can further reflect on their communication, content knowledge, and pedagogy in the classroom. This continuum allows expert teachers to best evaluate if they are providing a positive learning environment (Cochran-Smith & Lytle, 1999; Diana, 2013). Novice teachers especially need opportunities to build on self-reflective practice

while looking closely at how their assumptions, decisions, and actions directly impact their teaching (Cochran-Smith & Lytle, 1999; Schön, 1983; Zeichner & Liston, 1987, 1996). Consequently, teacher learning progresses through a continuum of professional development that leads to changes in teachers' beliefs and knowledge, changes in what teachers do in the classroom and as a result, these changed behaviors contribute to improved student learning (Feiman-Nemser, 2001; Fishman et. al., 2014).

In addition to learning from reflective practice, social interactions and the school environment play an active role in teachers' development, especially through peer mentoring and apprenticeship learning opportunities (Bransford, Brown & Cocking, 2000; Cochran-Smith & Lytle, 1999; Darling-Hammond, 2009, 2010; Dewey, 1933; Feiman-Nemser, 2001; Fishman et al., 2014; Lave & Wenger, 1991, 1998; Mclaughlin & Talbert, 2006; Vygotsky, 1978; Warford, 2011). As teachers progress through the stages of development, they move from *legitimate peripheral participants* to central participants and eventually gain knowledge in and from the practice, moving into mentor roles while sharing their professional expertise in collaboration with others (Cochran-Smith & Lytle, 1999; Feiman-Nemser, 2001; Fishman et al., 2014; Lave & Wenger, 1991). Mentor teachers are *more knowledgeable others* who scaffold learning for teacher candidates and novice teachers by meeting them at their *zone of proximal development* as they are gaining a better understanding of the practice (Feiman-Nemser, 2001; Fishman et al., 2014; Vygotsky, 1978). Warford (2011) describes a *zone of proximal teacher development (ZPTD)* as “the distance between what teaching candidates can do on their own without assistance and a proximal level they might attain through strategically mediated assistance from more capable others” (p. 253). In other words, teacher candidates need mentors to monitor their progress and support them throughout their pedagogical development until they are ready to teach independently.

In teacher preparation and induction, administrators identify mentor teachers based on their experience levels, instructional methods, and communication skills. They are then selected to model effective teaching practices for teacher candidates to observe while situated in real world classrooms (Cochran-Smith & Lytle, 1999; Darling-Hammond, 2010; Feiman-Nemser, 2001). Serving in a coaching role, mentor teachers also provide support as they help newcomers participate alongside them while

providing feedback during initial clinical experiences (Cochran-Smith & Lytle, 1999; Darling-Hammond, 2010; Feiman-Nemser, 2001; Fishman et al., 2014; Grossman et al., 2009). Through sustained supervision, teacher candidates and beginning teachers are able to test management and pedagogical strategies with a safety net until they feel more confident (Darling-Hammond, 2010; Feiman-Nemser, 2001). Mentor teachers are often selected to receive additional in-service training, to guide committees, and to work specifically with brand new teachers through the induction process as part of their leadership role (Cochran-Smith & Lytle, 1999; Feiman-Nemser, 2001; Fishman et al., 2014). Similarly, teacher preparation program faculty also observe teacher candidates and provide feedback as mentors, ensuring theories studied in curriculum are applied within the clinical experience context.

Bruner (1990) refers to schools as “communities of learning or thinking” where the environment and procedures play a major role in the overall learning process (p. 106). In the social context of schools, cultural norms, language, collaboration, and other elements of a community directly impact teachers’ understanding of how the practice works (Dewey, 1938; Bruner, 1990; Mclaughlin & Talbert, 2006; Vygotsky, 1978). Therefore, it is imperative for teachers to recognize that they are continuous learners who need to see beyond their own reflective experiences by interacting and collaborating with other teachers in the school community (Fishman et al., 2014; Jimenez-Silva & Olson, 2012; Mclaughlin & Talbert, 2006).

### **Defining the Problem: Developing & Retaining Teachers**

There are three specific factors impacting teacher growth and retention in the United States: the decentralized education system that causes discrepancies in how teachers are prepared and monitored, isolation as many new teachers lack support from mentors, and stagnation in the profession due to inconsistent continued professional development opportunities. For these reasons, there are increasing attrition rates and it is estimated that at least one-third of beginning teachers leave the profession within their first five years of teaching because they feel unsupported (Bransford et al., 2000; Darling-Hammond, 2009, 2010; Gopinathan et al., 2008; Herrington, A., Herrington, J., & Ferry, 2006; Ingersoll, 2007; Quality Counts, 2000; Stewart, 2012; Wang, 2003). According to Darling-Hammond (2009),

“beginners stay in teaching at much higher rates when they have had strong initial preparation and when they have a mentor in the same subject area and/ or grade level, common planning time with teachers in the same subject, and regularly scheduled collaboration with other teachers” (p. 218). This reinforces the need for a uniform education system that provides mentors to support beginning teachers and continued professional development opportunities for all teachers (Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Stewart, 2012).

### **Decentralized Education System**

Teacher preparation in the United States has a long and complicated history shaped by how the educational system is organized in a decentralized manner with individual states governing their education laws (Angus, 2001; Bales, 2006; Ingersoll, 2007; Quality Counts, 2000; Tobin, 2012). In contrast to other nations that have centralized systems of teacher education and certification, the United States Constitution delegates responsibility to each of the 50 states while the federal government takes limited control, occasionally constructing educational policies and distributing aid, but otherwise leaving decisions to individual states (Bales, 2006; Ingersoll, 2007; Tobin, 2012; Wang, 2003). As a result of this disjointed system, teacher training routes, standards, and certification requirements have varied extensively from the traditional programs that offer four-year undergraduate or five-year graduate pathways with foundational coursework and clinical experiences, to *alternate certification* programs which allow people to enter the profession without completing a traditional college or university teacher-education program (Bales, 2006; Darling-Hammond, 2010; Ingersoll, 2007; Morey, Bezuk, & Chiero, 1997; Tobin, 2012; Wang, Coleman, Coley & Phelps, 2003).

In response to rapid teacher turnover and critical shortages, alternative certification programs (also referred to as “emergency” certification) immediately place candidates in teaching jobs with coursework to complete on evenings, weekends, or throughout the summers (Darling-Hammond, 2009; 2010; Morey, Bezuk, & Chiero, 1997; Wang, Coleman, Coley & Phelps, 2003). While alternative certification candidates typically have a bachelor’s degree in a subject other than education, they have not taken preparation courses or completed student teaching. This puts them at an immediate disadvantage,

often resulting in higher attrition rates than those who have completed traditional programs because alternate certification teachers feel underprepared (Darling-Hammond, 2010).

Due to the differing teacher preparation requirements and expectations, many new teachers generally face tensions as they enter the profession with inconsistent training and would therefore benefit from further support, especially through induction programs (Darling-Hammond, 2009; Engestrom, 2000; Feiman-Nemser, 2001; Ingersoll, 2007; Stewart, 2011). Researchers advocate that induction programs are crucial to addressing attrition/retention problems and promoting teacher success, however this initiative is not supported at a national level in the United States (Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Quality Counts, 2000). While many states (at least twenty-seven) have formally approved support systems in place, there are still several that do not, leaving the United States falling behind other high achieving countries on this priority (Feiman-Nemser, 2001; Wang, 2003). According to Wang (2003), “the overall support for new teachers in the United States is fragmented due to wide variation in legislation, policy, and type of support available” (p. 30).

### **Teacher Isolation**

New teachers often feel isolated and extremely overwhelmed with all of the aspects of teaching including: setting up a physical classroom, learning grade specific standards and curriculum, developing lesson plans, meeting diverse student needs, grading student work, interacting with parents, and becoming part of the school community (Bransford, Brown, & Cocking, 2000; Darling-Hammond, 2009, 2010; Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009; Feiman-Nemser, 2001; Fishman et al., 2014; Quality Counts, 2000; Stewart, 2012). As Herrington et al. (2006) describe, “the transition from learning to teach to teaching to learn, is a significant step for most novice teachers” and they often experience dissonance when they move from a supportive preparation program environment into school contexts that are “geographically, culturally, socially, and psychologically distant from their own school education” (p.120). Furthermore, curriculum and resources could be different from what teacher candidates learned about in their preparation programs and they may face further challenges with student populations they

are assigned, causing a major reality shock that scares them away (Bransford et al., 2000; Herrington et al., 2006).

Induction programs are recommended as a professional development strategy specifically for beginning teachers in order to provide guidance and support by assigning mentors (Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Gold, 1996; Herrington et al., 2006). The purpose of induction is to build on pre-service preparation by connecting theories learned with district, state, and national requirements, while helping new teachers to navigate through curricular materials and resources (Feiman-Nemser, 2001; Gold, 1996; Herrington et al., 2006). Mentor teachers may additionally help new teachers become familiar with grade level standards, outcomes, and expectations, which can include sharing lesson plans or collaborating to develop plans together, although this varies depending on the mentor assigned. Proven to have positive results, induction programs and continued opportunities for interaction through professional development are known to reduce attrition rates by removing feelings of isolation and encouraging collaboration among teachers (Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Gold, 1996; Herrington et al., 2006).

### **Stagnation in the Profession**

On a global scale, it remains a challenge to effectively prepare teacher candidates for classroom teaching until they are fully immersed as official teachers in the practice— and even then, a continuum of professional development is necessary for continued growth (Brown et al., 1989; Cochran-Smith & Lytle, 1999; Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Fishman et al., 2014; Gopinathan, Tan, Yanping, Devi, Ramos, & Chao, 2008; Ingersoll, 2007; Loewenberg Ball & Forzani, 2009; Stewart, 2012). While methods courses and other preparation curriculum can introduce learning theories and pedagogical methods for instruction, candidates often struggle with the development of *pedagogical content knowledge* and direct application from theory to practice without being in the context of their own classroom (Ball, Thames, & Phelps, 2008; Barab & Duffy, 2000; Cochran-Smith & Lytle, 1999; Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Hughes, 2006; Loewenberg Ball, 2000; Shulman, 1986). Shulman (1986) coined the term, *pedagogical content knowledge* by combining both knowledge about

teaching (pedagogy) and knowledge about disciplines (content or subject matter knowledge) to describe how teachers must know how to teach in particular disciplines in addition to possessing curricular knowledge of instructional materials available for each subject (pp. 6-7). Pedagogical content knowledge is gained through experience and cannot simply be taught in preparation programs, which reiterates the necessity of continued professional development to support teacher learning.

According to Cochran-Smith & Lytle (1999), “teachers learn by challenging their own assumptions; identifying salient issues of practice; posing problems; studying their own students, classrooms, and schools; constructing and reconstructing curriculum; and taking on roles of leadership and activism in efforts to transform classrooms, schools, and societies” (p. 278). Learning opportunities for teachers typically occur through in-service training, which is also commonly referred to as professional development (Darling-Hammond, 2009; Feiman-Nemser, 2001; Fishman et al., 2014; Stewart, 2012; Wang, 2003). Most professional development programs in the United States are organized by individual districts or schools and they are typically scattered throughout the year. In fact, to renew teaching credentials, many states verify that a specific number of professional development hours are met each school year (Wang, 2003). Since the requirements and types of training offered vary drastically, this creates further tension among teachers (Engestrom, 2000; Feiman-Nemser, 2001; Stewart, 2012; Wang, 2003). It can be extremely frustrating when teachers have limited time to connect with one another and participate in training, especially in some schools where being taken away from the classroom is considered a problem rather than an opportunity for growth (Feiman-Nemser, 2001).

Meanwhile in several high achieving countries, there is more dedication to professional development and consistency with implementation through education ministries (Ingersoll, 2007; Wang, 2003). For example, in many Asian school systems, teachers are given dedicated time throughout each week to develop lesson plans together and to observe one another in the classroom. Teachers in Japan participate in collaborative lesson studies and in Singapore teachers are guaranteed 100 hours of professional development each year for similar purposes. Many teachers also engage in action research and have opportunities to visit schools in other countries to enrich their teaching experience while gaining

new perspectives (Darling-Hammond, 2009; Stewart, 2012). These systematic approaches to professional development found in other countries allow teachers to spread best practices from pre-service preparation throughout their careers, which also promotes further retention (Stewart, 2012).

As Fishman, Marx, Best, and Tal (2003) advise, “professional development should fundamentally be about teacher learning: changes in the knowledge, beliefs, and attitudes of teachers that lead to the acquisition of new skills, new concepts, and new processes related to the work of teaching” (p. 645). Therefore, a continuum for professional learning and policies should be in place to enforce that teachers are given opportunities to interact frequently so they can share their expertise and helpful strategies about the practice in meaningful ways (Bransford et al., 2000; Cochran-Smith & Lytle, 1999; Darling-Hammond, 2009, 2010; Fishman et al., 2003; Stewart, 20012). Darling-Hammond (2009) argues that “a strong system of teacher learning must provide not only a solid foundation of knowledge for entering the profession but also ongoing opportunities for learning throughout the career” (p. 226). Overall, successful professional development programs should embrace university and school partnerships and promote collaboration through communities of practice (Cochran-Smith & Lytle, 1999; Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Lave & Wenger, 1991; Stewart, 2012).

### **Proposed Solution: Building a Community of Teacher-Learners**

To address these prevalent problems with teacher growth and retention, I propose that we establish a virtual community of practice through a university and school district partnership that begins within teacher preparation programs and expands into schools with practicing teachers. To encourage continued teacher professional development, promote collaboration, and foster mutual support in education, this multigenerational community will be open to teacher candidates, beginning, and practicing teachers including those who are mentors, and university faculty. Ultimately, this community will provide a virtual space for knowledge curation and preservation of reified resources in the teaching profession.

To pilot the virtual community of practice, I will implement an initial beta test within the CalStateTEACH Teacher Preparation Program where I am a member of the faculty. Offering a virtual community as an extension of the program will address relevant issues that CalStateTEACH faces with

lack of participation in discussion forums among teacher candidates. Furthermore, it will promote collaboration and build relationships between candidates and practicing teachers, thus supporting teacher candidates as they graduate from the program and enter the induction period of teaching. Ideally, this community model can then be implemented across other teacher preparation programs while extending into the school districts with practicing teachers.

**Focus: CalStateTEACH Teacher Preparation Program**

CalStateTEACH is a hybrid program established in 1999 as part of the California State University system that provides academic coursework through online modules while placing teacher candidates in school sites for their clinical experiences (CalStateTEACH, 1999). While the program was extremely innovative when it first started due to its' intentionally flexible learning environment via an online platform and their own learning management system (LMS), it is now competing with several other virtual teacher preparation programs that offer similar but modernized features. The CalStateTEACH LMS has been used since 1999, with little updates to the format. Moreover, the program has specifically observed a decline in discussion forum participation due to a separation of candidates/faculty by region and because it is often disjointed from the clinical experience. CalStateTEACH candidates communicate throughout their academic modules using online discussion forums that have generic prompts within the primitive LMS forum design. They are divided into regions and by terms of the program, leading candidates to only interact with a small percentage of overall participants. This limits the opportunity for conversation among newcomers in various phases of initial student teaching and provides no interaction with candidates who have graduated and started teaching or with old-timers in the profession. Furthermore, the discussion forum prompts have little connection to what candidates are actually experiencing in their classroom placements, resulting in decreased engagement. In response, CalStateTEACH has experimented with incorporating various elements of social media such as having students Tweet or post to Facebook, but struggles to keep candidates actively engaged while tying posts to both the theories taught in academic coursework and the practice as situated in clinical experiences.

To promote further support and collaboration, CalStateTEACH would benefit from developing a virtual community of practice that is multigenerational, with newcomers and old-timers exchanging knowledge while sharing responsibility for the continued development of the teaching practice in an innovative way that encourages participation through new technologies. Utilizing digitally archived artifacts such as interactive forums, audio or video podcasts, blog posts, and articles will preserve reified knowledge in the domain while allowing new members of the community to learn about the norms, values and culture of the teaching practice (Kraut et al., 2012; Polin, Pisa, Nardi, Noel & Sen, 2015; Riel & Polin, 2004; Schlager & Fusco, 2003; Wenger, White & Smith, 2012). In addition to addressing lack of participation issues, a virtual community would help to create opportunities for candidates, practicing teachers, mentors, and faculty to connect across the state and elsewhere. Furthermore it would facilitate sharing through the digital curation of tools, resources, and curriculum while providing an open forum for questions, stories, and interaction. Ideally, the community will continue to expand, attracting new participants while maintaining engagement from old-timers in order to keep it thriving and offer a place for teachers of all stages to reap the benefits of collaboration and mentoring. By providing an online community for new and experienced teachers from multiple stages of the practice, interactions can take place across schools and districts while ideas and resources are shared, thus promoting support and continued professional development.

### **Communities of Practice Framework**

A *community of practice* (CoP) is a social learning system grounded in sociocultural theories of learning and development (Wenger, 2000). According to Lave and Wenger (1991), “learning is an integral and inseparable aspect of social practice” (p. 319). In other words, learning is situated within the context of a domain or practice and occurs through authentic experiences among participants with varying levels of expertise, referred to as *newcomers* and *old-timers* (Brown, Collins & Duguid, 1989; Derry, S. J & Steinkuehler, C.A, 2003; Jimenez-Silva & Olson, 2012; Lave & Wenger, 1991; Riel & Polin, 2004; Wenger, 1998). Through engagement, collaboration, and *legitimate peripheral participation*, identities

are formed within the community, providing an understanding of the practice in relation to shared goals (Lave & Wenger, 1991; Wenger, 2000).

Teacher preparation programs develop pre-service teachers' identities as practitioners, shifting their roles from teacher candidates and into teachers, while guiding them through theory, practice, their academic studies, and clinical experiences (Darling-Hammond, L., 2009, 2010; Feiman-Nemser, 2001; Hughes, 2006). Although program formats and curriculum vary, they all typically include clinical experiences where teacher candidates have multiple placements in schools with mentor teachers to learn about the profession in the context of real world classrooms (Bransford et al., 2000; Darling-Hammond, 2009, 2010; Feiman-Nemser, 2001; Fishman et al., 2014; Hughes, 2006; Wang, Coleman, Coley, & Phelps, 2003). The circulation of knowledge among old-timers (in this case mentor teachers) and other members of the community allows newcomers to become more than just observers and instead they are directly absorbed within the culture of practice, transforming them into practitioners with a sense of belonging (Brown, Collins & Duguid, 1989; Lave & Wenger, 1991; Wenger 1998). Clinical experiences allow candidates opportunities to apply theories they learn about through methods coursework, especially as they move from observers to full participants (Fishman et al., 2014; Lave & Wenger, 1991; Wang et al., 2003).

As supported by literature, implementing a community of practice model with pre-service teachers provides known benefits including increased professional reflection, self-efficacy, and confidence in the classroom, in addition to the development of collegial relationships with other educators (Feiman-Nemser, 2001; Grossman, Wineburg, & Woolworth, 2001; Jimenez-Silva & Olson, 2012; Lave & Wenger, 1991; Perry, Walton, & Calder, 1999). According to Feiman-Nemser (2001), "if novices learn to talk about specific practices in specific terms, if they learn to ask for clarification, share uncertainties, and request help, they will be developing skills and dispositions that are critical in the ongoing improvement of teaching" (p. 1030). Pre-service teachers especially need to recognize that learning is integral to teaching and they will best build a repertoire for effective practice through continuous professional development opportunities and collaboration with colleagues at every stage in their career

(Cochran-Smith & Lytle, 1999; Darling–Hammond, 2009; Feiman-Nemser, 2001; Parr & Ward, 2006). As Fishman et al. (2014) state, “effective designs for teacher CoPs support teachers in the sharing of diverse expertise, support them as they collaboratively construct professional knowledge bases, and support newcomers as they are “apprenticed” into increasingly expert practice” (p. 711).

### **Communities in Online Spaces**

According to Wenger, White and Smith (2012), “technology has changed how we think about communities, and communities have changed our uses of technology” (Kindle Locations 741-742). Communities are expanding into online spaces and technology has revolutionized participation by mediating interactions while building capacity for immediate information exchange (Kraut et al., 2012; Polin, Pisa, Nardi, Noel & Sen, 2015; Riel & Polin, 2004; Schlager & Fusco, 2003; Wenger, White & Smith, 2012). Many teachers turn to online communities so they can overcome the isolation felt in the classroom and for further professional development opportunities that they may not be receiving in their schools (Bransford et al., 2000; Fishman et al., 2014; Herrington et al., 2006; Parr & Ward, 2006). As Dede et al. (2009) advocate, “online professional development offers an additional set of tools and poses a different set of research issues for how teachers become fluent in new technologies (many of them online interactive media) than face-to-face professional development has encountered” (p. 10). Additionally, online communities provide opportunities for connecting, collaborating, and supporting members without the constraints of time, space, and scale that limit offline interactions, which is especially beneficial for teacher candidates and busy classroom teachers (Booth, 2012; Kraut et al., 2012.). Wenger, White and Smith (2012) also discuss how, “technology contributes to both participation and reification,” by connecting people and by providing new ways to reify knowledge in order to “produce, store, share, and organize documents, media files, links, and other artifacts, whether they are collectively or individually created” (Kindle location, 1492). Therefore, our community will best utilize new technologies in a virtual setting that is time and place independent across geographic boundaries to connect teachers and schools globally. Through this repository of digital artifacts and other sources of information, teacher candidates, teachers, and faculty can access and shape knowledge from shared experiences, extending the boundaries

of a community to the larger world (Lave & Wenger, 1991; Riel & Polin, 2004; Wenger, 1998; 2000; Wenger, White & Smith, 2012, Kindle Locations 1492-1497).

### **Community Design Features**

In order to promote participation and cultivate knowledge sharing, members need to understand the goals, expectations, norms, and culture of the community in addition to their individual roles (Booth, 2012; Kraut et al., 2012; Schlager & Fusco, 2003; Wenger, 1998). Our site will provide many opportunities for members to be actively involved in the community as moderators, page curators, mentors, subject area or grade level experts, etc. There will be specific features included within the site design that allow members to easily navigate through forums and user profiles to find more knowledgeable others who can address questions and provide helpful information. Through the initial pilot of the website, we will test features, build up site content, and develop a core staff for the project before it goes live to a broader audience. These features will include: member profiles, professional development badges as incentives for members that frequently participate in the community, interactive forums with real time notifications, space for subgroups based on shared interests or subjects taught, live webinars following a *TeachMeet* model, a podcast repository, and other open educational resources to promote collaboration and sharing in the teaching practice (see Appendix A for examples of what the community design features will look like).

**Member Profiles.** According to Booth (2012), “participation in online communities can reduce feelings of disconnectedness or isolation, facilitate informal knowledge sharing across time and space, and support new knowledge creation” (p. 2). An important aspect of instilling connectedness and sustaining knowledge sharing among members is establishing trust (Booth, 2012; Kraut et al., 2012; Wenger, 1998; Wenger, White & Smith, 2012). When people gather in online communities, they are seeking a safe space to learn, interact, and build relationships while feeling a sense of belonging (Booth, 2012; Kraut et al., 2012; Wenger et al., 2002). As Wenger, White and Smith (2012) emphasize, “learning together depends on the quality of relationships of trust and mutual engagement that members develop

with each other, a productive management of community boundaries, and the ability of some to take leadership and to play various roles in moving the inquiry forward” (Kindle Locations 476-478).

In online communities, there are many strategies that can be implemented to build trust, promote participation, and cultivate knowledge sharing. For example, if members are able to create profiles, this allows them to establish credibility by listing their experiences or disclosing personal information, which also directly impacts social relationships developed in the community (Kraut et al., 2012; Wenger, White & Smith, 2012). Our community will provide a profile feature so members are able to share their geographic location, general biographical information, educational experience, and badges earned, with the ability to upload photos. Profiles will display all recent activity including forum posts, webinars joined, and resources shared so members can establish credibility and easily connect based common interests. It will also be important for profiles to have social elements where users can follow one another and join various subgroups formed within the community, depending on the subjects they teach or extracurricular school activities they are involved with. Furthermore, members should be able to connect their profiles with other social media pages including Facebook, Twitter, Google Plus, LinkedIn, and/or Pinterest to engage in conversation across multiple platforms while building relationships.

**Professional Development Badges.** Communities of practice are multigenerational, with newcomers and old-timers exchanging knowledge while sharing responsibility for the continued development of the practice (Lave & Wenger, 1991; Riel & Polin, 2004; Wenger, 1998; 2000). As Lave and Wenger (1991) state, “to become a full member of a community of practice requires access to a wide range of ongoing activity, old-timers, and other members of the community; and to information, resources, and opportunities for participation” (Kindle Locations 1118-1121). When newcomers join the community, they experiment with taking on roles through legitimate peripheral participation while old-timers act as mentors and apprentices (Lave & Wenger, 1991; Riel & Polin, 2004; Wenger, 1998).

In order to identify more knowledgeable others within our community, members will have opportunities to earn professional development badges that are displayed on their public profiles to demonstrate their participation and experience level. This will be used as a motivation tactic so members

want to stay involved and to build expertise. Badges can be earned from frequently posting to forums, joining webinar sessions, presenting in webinar sessions, moderating forums or webinar sessions, inviting several new members to join the community, uploading open educational resources, receiving positive reviews based on resources shared, writing articles, etc. Ideally, members will have a multitude of opportunities to gain knowledge and proficiency, which can then be displayed within their profiles via badges that showcase professional accomplishments. Moreover, if they are continuously participating in webinar sessions, they should be able to earn hours toward professional development that count toward their certification renewal requirements.

**Interactive Forums with Real-Time Notifications.** Learning occurs through conversations, reflections and other social activities (Barab & Duffy, 2000; Brown, Collins & Duguid, 1989; Wenger, 1998). While we are trying to move away from traditional discussion forums, especially those with scripted prompt formats found in a LMS, our community will offer interactive forums that provide real-time notifications when someone replies to a post or “likes” it to keep members engaged. The forums will have a general Q&A section for members seeking immediate answers and they will link to other categories or topics based on members’ search queries. Forums will also be accessible on mobile devices, providing notifications directly through a downloaded application, text message or email, which will allow members to instantly connect and share via social media pages with the simple click of the button. As Kraut et al. (2012) suggest, alert features can increase communication although, “the lower the per-item interruption cost is, the more attractive push notifications are” (Kindle Locations 4854-4855). Therefore, members will have options for the types of notifications they wish to receive in their profile settings based on what they deem as important. Additionally, when accessing the forums there will be detailed listing of the category, topic, author, number of posts written, number of replies received, and a timeframe for when the last replies were published, which can help to lead participants toward high traffic discussions. The community will automatically display popular topics for easy navigation and top contributors of the month as incentive to participate on the forums page. Forums will also include a search filter when members are looking for specific posts about an area of interest or from a particular mentor.

**Subgroup Spaces.** While it may be tempting to divide teachers by subject matter, our community needs critical mass in order to maintain strength and engagement. As the community grows organically, members will be permitted to create their own forums and spaces for subgroups based on common interests. According to Kraut et al. (2012), “One way to increase the volume of activity is to expand the scope, adding more topics and people with more diverse interests” (Kindle location 4869). The organization of discussion forums into subtopics or subgroups with fewer participants can promote trust and build connections because people may feel more committed to smaller groups than larger ones (Kraut et al., 2012). As our community matures, members can split further into subgroups based on grade levels or subjects taught, involvement in extracurricular school activities, school setting they teach in, and other areas of interest. For example, there can be groups formed for: K-6, middle school, high school, special education, technology, project based learning, STEM, public schools, charter schools, private schools, etc. Specific mentors will be assigned to each group so they can share knowledge and moderate subgroup forum spaces as needed. They can also facilitate discussion by posting questions, uploading resources, and prompting others to share their experiences. Members will have the option to join any subgroup(s) they wish, which will automatically display on their profiles. All of the separate subgroup spaces will allow members to connect more with those who have similar interests and feel comfortable in a less intimidating setting than the higher traffic forum areas ones (Kraut et al., 2012). Moreover, offering all users a “General Chat” forum will allow members to share personal stories and form bonds, which can further establish trust and knowledge sharing (Booth, 2012; Kraut et al., 2012; Wenger, 1998; Wenger, White & Smith, 2012).

**Webinars Following a *TeachMeet* Model.** To promote participation and collaboration, our community will utilize video-conferencing technologies by gathering candidates, practicing teachers, mentor teachers, and faculty in webinars following a *TeachMeet* model, where they can openly discuss learning theories and classroom experiences with both newcomers and experienced teachers. Originating from Scotland in 2006, a *TeachMeet* is an informal meeting or un-conference where teachers gather to discuss effective practice, innovations in education, and other insights related to teaching with technology

(O' Gallagher, 2009). Events are led by and for teachers based on themes they deem relevant to the practice and typically all participants are expected to come with something to share. Most meetings are conducted in person and often coincide with educational conferences or learning festivals, however more recently they have expanded to virtual spaces. Although format may vary depending on the number of participants and their preferences, one of the main features of a TeachMeet is that a set amount of time is allotted for each speaker to present, such as two minutes for a “nano-presentation” or seven minutes for a “micro-presentation,” which is similar to what others have referred to as a “lightning round” or “fire hose” presentation (Dodson, 2010).

This professional development model will be applied within our webinars, while candidates and teachers take leadership of selecting the topics of interest for collaboration and determining what structure best fits their needs. Faculty, mentor teachers, and alumni will be invited to attend as guest speakers, providing expertise on specific topics and facilitating conversations by prompting candidates with talking points, addressing concerns, and answering questions to support learning. This level of participation will involve both absorbing and being absorbed in the “culture of practice,” as all members are provided with a safe space to learn, interact, and build relationships so they feel a sense of belonging, (Booth, 2012; Kraut et al., 2012; Lave & Wenger, 1991, Wenger et al., 2002). Furthermore, groups of teacher candidates and mentor teachers can meet in person during the live webinars by sharing a mobile device to connect with other groups in various school sites, or they can attend individually from home via the video-conferencing technologies. Ideally these webinars will promote an increase in the number of teachers who are able to participate due to the flexibility and convenience, allowing connections to be made across geographical boundaries, while making it more engaging than the forum feature because it will include a synchronous “face-to-face component.”

**Podcast Repository.** Webinar sessions will be recorded and compiled within an online portal where participants can revisit them as podcasts and share other supplementary resources. Each session will be available in a full format, but the webinar team editors will also provide trimmed versions to highlight key points made. Members should be able to download the podcasts as video or audio files

based on their preference and add comments where they are posted within the community. Podcasts will additionally be meta-tagged and curated, making it easy to sort them based on dates recorded, presenters, or common themes discussed. Moreover, members can use the podcast library to provide links for related podcasts found through mediums such as iTunesU or other educational organizations and compile them based on education topics. These artifacts or reified material will provide an accessible knowledge repository that new and experienced members of the community can continuously build on.

**Open Educational Resources.** Considering the depth of knowledge within the teaching practice, our community will provide a digital library of website links, articles, lesson plans, videos, photos, or other resources that can be openly shared. We will connect to Pinterest boards or create our own similar format for members to compile classroom ideas they find or create themselves. If teachers or university faculty publish their own articles, this will be hyperlinked to their profile and to other works shared in the community in order to establish credibility. We will include a digital drop box for members to upload their own materials and comment sections below for collaboration. Moreover, there will be a search feature so members can find resources based on a query and filter out results depending upon what topic or specific format they are looking for. Within the community, page curators will be assigned to help organize resources shared, to meta-tag them, and to remove inappropriate content. The open educational resources feature will provide a database of information at the fingertips of members, allowing teachers to see best practices presented from a multitude of perspectives.

### **Implementation Plan**

As Lave and Wenger (1991) state, “to become a full member of a community of practice requires access to a wide range of ongoing activity, old-timers, and other members of the community; and to information, resources, and opportunities for participation” (Kindle Locations 1118-1121). It will therefore be important to invite all CalStateTEACH faculty, teacher candidates, practicing teachers, and mentor teachers with varying levels of experience. Moreover, there are many strategies that can be implemented to build trust, promote participation, and cultivate knowledge sharing such as sending out communication to reinforce the vision, goals and objectives, assigning moderators who can monitor

interactions, delegating member roles, and providing guidelines for participation (Booth, 2012; Kraut et al., 2012). In order to promote team leadership, I will gather a guiding coalition of more knowledgeable others that will include university faculty members, school district personnel, administrators, and practicing teachers in addition to teacher candidates who have recently graduated. The coalition will work together toward leading change in teacher preparation and induction, following several of Kotter's (2010) recommended steps (see Appendix B for the Implementation Timeline).

### **Promoting Leadership**

Leadership takes on many forms and can be implemented in a multitude of ways, often by motivating and inspiring others through a transformational process (Northouse, 2015). Throughout the project, I will be demonstrating leadership as I steward this idea into reality, although my ultimate goal is to instill leadership skills within teacher candidates, practicing teachers, and CalStateTEACH faculty members. As a leader, it is important to recognize challenges that may create difficulty with implementation, especially as tensions arise when I propose change to the traditional institutional culture of pre-service preparation programs and the narrative of schooling by convening a virtual community of practice (Bruner, 1990; Dewey, 1938; Engestrom, 2000; Heifetz, 2009). Promoting adaptive leadership will allow me to create a guiding coalition of early adopters who will help to pilot the idea in order to demonstrate potential benefits of creating this community so that we can continue to attract new faculty and teachers as participants (Cohen, 2005; Heath & Heath, 2010; Heifetz, 2009; Kotter, 2010; Rogers, 2003). According to Heifetz (2009), "adaptive leadership is the practice of mobilizing people to tackle tough challenges and thrive" (p. 14). Today's leaders (including myself) must be willing to build on the past while experimenting with changing culture gradually (Cohen, 2005; Heath & Heath, 2010; Heifetz, 2009; Kotter, 2010; Rogers, 2003).

One highly recommended strategy for addressing system-wide problems is bringing forth collective leadership (Cohen, 2005; Kotter, 2010; Senge, Hamilton & Kania, 2015) or team leadership (Northouse, 2015) to foster reflection, share in decision making, and build transformative relationships (Northouse, 2015; Senge, Hamilton & Kania, 2015). A system leader recognizes that an organization's

success relies on a bigger system and promotes a deeper understanding of systemic complexities, including the ability to see different perspectives (Senge, Hamilton & Kania, 2015) and to identify changes in attitudes, beliefs or habits through adaptive challenges (Heifetz, 2009). Adaptive challenges are addressed with team-based problem solving while the leader facilitates collaboration of proposed solutions (Heifetz, 2009; Northouse, 2015; Senge, Hamilton & Kania, 2015). Therefore, it will be essential to engage teacher candidates, teachers, faculty, and other participants in conversations about difficulties we may face in the process of developing our community and allow them to determine potential strategies for addressing these challenges because they should have complete ownership as the leaders of this community (Heath & Heath, 2010; Heifetz, 2009; Senge, Hamilton & Kania, 2015).

### **Leading Change in Teacher Preparation and Induction**

To promote innovation and adopt new ideas, a *change agent* or, “an individual who influences clients’ innovation-decisions” is crucial (Rogers, 2003, p. 366). The change agent must take on a leadership role to recognize existing problems, to listen carefully to the needs of others, to consider alternatives and to develop a plan that aims to change behaviors (Rogers, 2003). While I see myself as the change agent in this project, it remains my goal to empower teacher candidates, mentor teachers, and faculty as agents of change to promote further support in the profession. In order to successfully do this, I must present relevant reasons to develop a virtual community of practice, including the research proven benefits, so that we can create small waves of change in our education system beginning with teacher preparation and induction (Cohen, 2005; Heath & Heath, 2010; Kotter, 2010).

Moreover, it will be important to recognize that change can be extremely difficult, particularly when there is reluctance within an organization because it often involves adjusting deeply entrenched habits and processes which may have previously been successful (Cohen, 2005; Heath & Heath, 2010). As Kotter (2010) emphasizes, “the first step in a major transformation is to alter the norms and values” (Kindle Location 2142). By understanding the existing culture, a change agent can begin to seek support from others through peer networks, forming a guiding coalition in order to further influence others who may be resisting the desired change (Heath & Heath, 2010; Kotter, 2010; Rogers, 2003). The guiding

coalition will most likely experience resistance from other faculty in the CalStateTEACH program who are already comfortable with the traditional ways we have used discussion forums for curricular purposes. Additionally, there may be resistance from practicing teachers who are hesitant to join our community because they feel a division between the university and public school system that typically exists in our United States education culture (Cochran-Smith & Lytle, 1999; Darling-Hammond, 2009, 2010; Engestrom, 2000; Feiman-Nemser, 2001; Stewart, 2012). The diffusion process for developing our virtual community of practice will need to be highly social and rely heavily on individuals distributing information through interpersonal networks in order to gradually persuade others to adopt this innovation by joining the community until sustainable implementation is achieved (Rogers, 2003). Culture best adapts when members of an organization are involved as active participants in the decision-making; therefore, it will be up to our early adopters in the guiding coalition to promote further change in this process by sharing how the community brings benefits to education (Cohen, 2005; Heath & Heath 2010; Kotter, 2010; Northouse, 2015; Rogers, 2003).

Another important factor in the process of change is setting small, attainable goals that will build momentum over time through little victories (Cohen, 2005; Heath & Heath, 2010; Kotter, 2010). Heath and Heath (2010) emphasize that, “big changes come from a succession of small changes” (p. 147). Frequent short-term wins can motivate people by reminding them that their institutional sacrifices are worthwhile and are producing positive results (Cohen, 2005; Kotter, 2010). Therefore, I will need to focus on the initial development of our pilot community with the guiding coalition and bring in participants as our first small but attainable goal in this process. We will additionally focus on strategies for implementing this innovation (Rogers, 2003) through new interactive technologies that support asynchronous webinars, video and audio podcasts, and archived digital resources in various formats, which will be significantly more involved than the primitive discussion forums being utilized in the CalStateTEACH Teacher Preparation Program’s LMS.

### **Establishing a Sense of Urgency**

A change agent should begin by examining the market and other competition to identify potential

crises or opportunities for improvement during the first stage of implementing change (Kotter, 2010). Creating a sense of urgency helps with prioritizing goals and change initiatives so that others will be motivated to listen and contribute to the change effort (Cohen, 2005; Kotter, 2010). While an effective change agent should avoid creating panic, anxiety or fear, it is imperative to convince others of the need for change in order to receive community buy-in (Heath & Heath, 2010; Kotter, 2010). Leaders must be aware of where fear, anger, or complacency exists within the organization and address all emotion in the proposed change approach (Cohen, 2005). As part of adaptive leadership, patience and persistence are necessary to help people through times of disequilibrium. Change is seen as an iterative process of observation, interpretation, and designing interventions that address challenges presented (Heifetz, 2009).

In 2016, the *California Teaching Commission* revised the Teacher Performance Expectations that all teacher preparation programs in the state must adopt in order to strengthen and streamline the accreditation system (California Teaching Commission, 2016a, 2016b). As a result of this, CalStateTEACH faculty meetings have involved pertinent discussions on the importance of revamping our curriculum and bringing change to the program in order to better support our candidates throughout their clinical experiences and their transition into official teaching. While this has already created a sense of urgency, it remains important that we also consider new innovative designs to our curriculum format that will set it apart from other preparation programs in terms of the LMS and technology tools we use, in addition to how we promote candidate interaction throughout their learning. Our first priority is meeting the needs of candidates by recognizing their preferences and as CalStateTEACH faculty can directly observe, discussion forum participation is steadily declining, resulting in candidates' voices not being heard. Although our faculty may be aware of this, they often resist changing from the original format because they are comfortable with it.

To address these concerns, I met with both the regional and statewide director about the need to expand our university partnership with the school districts, sharing real examples from the perspectives of my assigned teacher candidates, mentor teachers, and alumni, in addition to other findings from relevant literature relating to the continued attrition rates in education. I specifically explained the need for

continued support and ongoing discussions between teacher candidates, beginning teachers, and their mentors. They encouraged me to share this with both the curriculum committee and my regional faculty as an initial step for getting further buy-in and input in order to develop a proposal based on my vision. I was added to the agenda for our next faculty meeting with the California State University, Los Angeles Region, and I led a discussion about how our organization is continuously competing with other teacher preparation programs. I emphasized that we must stay ahead by providing user-friendly, open spaces for candidates to collaborate, connect, and share ideas. Next, I presented my argument that if the program does not evolve and continue to offer new technology innovations that include social interaction as part of the academic curriculum, enrollment may decline and faculty positions will no longer be necessary. Furthermore, I advocated that the program will not be modeling the most effective and contemporary teaching practices or offering candidates the best opportunities for productive learning unless we make necessary updates. Our Los Angeles faculty was presented with the details of this urgency and I asked for their professional input on new solutions while documenting ideas mentioned. Following this opportunity, I then compiled the feedback given with my own vision and presented at our annual CalStateTEACH statewide meeting for input from faculty in other regions.

### **Creating the Guiding Coalition**

Recognizing that the diffusion process of adopting innovation is social and that individuals often learn to change through observing others' behavior, it is extremely important to utilize peer networks that will lead the transformation (Rogers, 2003). Cohen (2005) recommends communicating for buy-in to make your vision a reality in order to "capture the commitment of the workforce" (Kindle location, 2216). By "rallying the herd," a change agent gains the necessary support to influence more individuals toward cultural and behavioral shifts (Heath & Heath, 2010; Rogers, 2003). Creating a coalition or team will enforce power and credibility, allowing information to spread rapidly through an organization (Kotter, 2010; Rogers, 2003). The collective intelligence of stakeholders will help all involved to see the system better while determining solutions (Senge, Hamilton & Kania, 2015). Furthermore, a team-based structure keeps the organization competitive when they are prepared to respond rapidly and continuously to changes

(Northouse, 2015).

The CalStateTEACH community consists of directors, faculty, mentor teachers, and candidates working together. To form a coalition, members of the faculty who are typically early adopters (Rogers, 2003) and eager to explore new ideas in the program will need to be identified. Support from directors who are on board with the proposed change will also assist in spreading the vision. Additionally, current candidates, teachers, and alumni who would like to beta test the virtual community of practice should be invited to participate. Knowing that they will share their experiences with others, this will create further buy-in if the proposed change is a success. The team can also provide input and suggestions about areas for improvement to gain further traction. As Heath & Heath (2010) point out, “failing is often the best way to learn, and because of that, early failure is a kind of necessary investment” (p. 173). The coalition should be actively involved in the decision-making process while initial changes are implemented within a smaller sector of the organization and they will continue to recruit new members as momentum is built.

Following our CalStateTEACH statewide faculty meeting with all regions, several of the “early adopter” (Rogers, 2003) faculty members who are active on the curriculum committee approached me with an interest in forming a guiding coalition to pilot community. We discussed how together we would be responsible for determining the end goal and supplying specific recommendations for necessary steps to achieve this, while involving other interested stakeholders in the shared leadership process. The faculty who work on our LMS updates and other technology related decisions also agreed to be a part of the guiding coalition by providing input on how to bring our ideas to fruition with the various technology platforms we have to choose from. Additionally, we will be inviting teachers, including those who are mentors and those who are new to the profession, especially CalStateTEACH alumni, to become members of the guiding coalition based on their insight and direct experience in the practice. District personnel and school site administrators who assist with the placement process and are familiar with district policies will also be encouraged to join.

### **Developing a Vision and Strategy**

A *vision* provides a picture or “destination postcard” of what people should strive for in the future

(Cohen, 2005; Heath & Heath, 2010; Kotter, 2010). According to Cohen (2005), “the vision must describe the key behavior required in the future state so that strategies and key performance metrics can be created to support the vision” (Kindle location 189). Leaders must develop a clear vision to share goals, clarify the direction for change, and to motivate others (Cohen, 2005; Kotter, 2010; Rogers, 2003). Individuals should be aware of sacrifices that will be required, while understanding the benefits that will come from the change (Kotter, 2010). The vision should focus on a solution and must provide strategies or a “game-plan” for resolving current issues to align individuals toward an appealing cause (Cohen, 2005; Heath & Heath, 2010; Kotter, 2010). When the leader successfully creates the climate for change, all stakeholders should be involved in supporting the vision (Cohen, 2005).

The vision is that CalStateTEACH will utilize video-conferencing technologies in a virtual community of practice to gather candidates, teachers, and faculty in virtual webinar sessions where they can discuss clinical experiences and learning theories as they relate to teaching. This online community of practice will include school districts where candidates are placed and all regions of CalStateTEACH, extending to alumni who have graduated from the program. As it gains traction, hopefully other teachers will be eager to participate and share their knowledge in order to earn professional development badges and foster connections across school districts in collaboration toward improving their practice.

To accomplish this vision, candidates will have the option to participate as volunteers in monthly webinars utilizing the TeachMeet session format in conjunction with their mandatory discussion forums. While this may require more effort on the behalf of candidates and any faculty who choose to help in addition to their expected responsibilities, it will ultimately lead to increased engagement and involvement with a wider range of potential and practicing educators across the CalStateTEACH statewide program. Additionally, individual faculty (including myself) will offer incentives for participation such a free pass to skip a weekly discussion forum post. Throughout the process, the guiding coalition will experiment with various formats and strategies to best determine the most efficient methods to engage new participants. Once the innovation spreads over time and new members are openly joining the virtual community of practice, traditional discussion forums can be reduced or eliminated and replaced by the new mode of

communication that will extend beyond graduation from the teacher preparation program and into candidates' teaching careers. We will also continue to invite mentor teachers as moderators so they can share their wisdom, answer questions, and present professional development opportunities for the community with the ability to earn badges for their efforts.

### **Communicating the Change Vision**

In support of social learning theory, Rogers (2003) states that, "Individuals change their overt behavior as a result of communication with other individuals" (p. 342). For an idea to catch on, it is imperative that a *vision* is communicated clearly so that the information can be disseminated to large groups of people without creating confusion (Cohen, 2005; Kotter, 2010). As Cohen (2005) prescribes, "organizational change, by definition, cannot take place in a vacuum; communicating in a concise, candid, heart-felt manner is critical to the success of your change effort" (Kindle location 2226). Heifetz (2009) also reminds leaders to make each word count by communicating clearly and making one supporting point at a time to establish credibility and ensure that others see the vision as described (p. 272). Additionally, networking with other individuals will spread knowledge of an innovation, persuade them to try it, force them to make a decision about whether to adopt or reject the innovation, and confirm their decision to implement change (Rogers, 2003).

After the open discussion during our CalStateTEACH annual statewide faculty meeting, I also shared my virtual communities of practice vision at two professional conferences: the *International Organization of Social Sciences and Behavioral Research (IOSSBR)* and the *Mobile Technology in Teachers Education*, to gain input from other teacher educators. Initially, I provided examples of similar communities, including samples of online Google+ educator groups, then I presented research on the added benefits that communities of practice bring to support my proposed vision (Lave & Wenger, 1991). Now that I have my guiding coalition, we have additionally been able to network with other faculty colleagues in various teacher preparation programs to expand our ideas in developing the community. Furthermore, we have individually reached out to our teacher candidates and their mentor teachers to discuss beta testing the community with live webinars that can also be podcasted in our Fall 2017 semester.

### **Empowering Broad-Based Action**

Removing obstacles and structural barriers within a system is imperative during transformational efforts (Cohen, 2005; Heifetz, 2009; Kotter, 2010; Senge, Hamilton & Kania, 2015). Kotter (2010) also recommends that leaders “encourage risk-taking and nontraditional ideas” to empower individuals that lower level employees are given more responsibilities (Kindle location 2273). Innovation is more likely to be sustained when members of an organization feel invited to participate and they are directly involved in the design and implementation phases of the diffusion process (Rogers, 2003, p. 179). Heath and Heath (2010) also advise that leaders “grow their own people by cultivating a sense of identity and instilling the growth mindset” (Kindle location 3519).

Training and professional development are options for empowering CalStateTEACH faculty and mentor teachers to create a virtual community of practice that can be utilized with candidates. They may need to learn more technical skills for building and maintaining the community site in addition to being taught how to edit and upload podcasts. Each member of the community should be utilized for their varying talents, capabilities, and contributions. Faculty should be encouraged to share their ideas for structuring the webinar TeachMeet sessions with candidates and responsible for determining their individual roles within the implementation phases. Teacher candidates and mentor teachers should especially be motivated to take initiative and leadership of their learning through the virtual community of practice. Ideally the alumni, mentor teachers, and faculty who are more knowledgeable others will take on roles as moderators to keep discussion flowing and to determine topics of interest for synchronous webinar TeachMeet sessions in the virtual community.

Furthermore, the guiding coalition recently came up with a plan to explore similar types of innovations that were previously implemented by other teacher preparation programs, reporting on the details of how they worked and what the benefits were. Examples currently include: *LabNet* (Ruopp, Gal, Drayton, & Pfister, 1993), the *Math Forum* (Renninger & Shumar, 2004), *Tapped In* (Schlager, Fusco, & Schank 2002), *Elementary and Secondary Teacher Education Program* (eSTEP; Derry, Seymour, Steinkuehler, Lee, & Siegel, 2004), *Curriculum Access System for Elementary Science* (CASES; Davis,

Petish, & Smithey), *Knowledge Networks On the Web* (KNOW; Fishman, 2003), and the *Knowledge-Building Teacher Network* (KBTN; Chan, 2011). These example communities will be used as references for decisions in our design and implementation steps. Next, the coalition will produce appropriate guidelines for establishing our virtual community of practice to best shape the path for transformation. As the leader, I have been nominating members of our guiding coalition to shepherd specific areas of the project based on their talents and interests. For example, the members of our curriculum committee are exploring ways to bring the community into our updated CalStateTEACH 4.0 curriculum for Fall 2017, the tech savvy faculty members and mentor teachers are exploring if we should use a blog, wiki, Google site or create our own platform to link within our new Canvas LMS, in addition to how what program we will use to record our webinar sessions. Moreover, teacher candidates have been helping me to pinpoint specific webinar meeting dates in addition to sharing about the project through social media. Everyone has a role and is actively involved in the implementation process to keep the momentum going.

### **Generating Short-Term Wins**

Heifetz (2005) describes how benchmarks are helpful to marathoners and can similarly be beneficial for tracking the progress of goals in adaptive leadership (p. 260). Similarly, Heath and Heath (2010), mention that “small targets lead to small victories, and small victories can often trigger a positive spiral of behavior” (p. 146). Benchmarks (Heifetz, 2005), small victories (Heath & Heath, 2010) or short-term wins (Cohen, 2005; Kotter, 2010) that focus on the critical moves help to prove that sacrifices are worthwhile and will build further momentum, rewarding change agents for their continued efforts while undermining cynics. In other words, short-term wins visibly build credibility through tangible results that are necessary to sustain change (Cohen, 2005). By creating wins, individuals will be motivated to persist through challenges and break the habit of losing (Heath & Heath, 2010). Kotter (2010) recommends that short-term wins are “visible, unambiguous and clearly related to the change effort” (Kindle Location 1641).

The first goal for establishing our virtual community of practice is to gain faculty, teacher, and candidate support by empowering them to make specific suggestions for organizing the structure. Now that

the guiding coalition has been formed, our next step is to begin the webinar sessions with candidates, mentor teachers, and faculty who volunteer to participate outside of required curriculum expectations. A CalStateTEACH Google+ community, wiki, blog, or website will need to be designed and maintained by members to keep track of the webinar TeachMeet sessions, interactive forums, and other open educational resources shared within the virtual community. Additionally, podcasts will need to be edited, posted from recorded webinar TeachMeet sessions, and uploaded to the site. I will also use the CalStateTEACH social media pages to promote webinar meeting dates and invite participants to join the community. The process will be slow, but ideally we will get further buy-in over time and transition from our traditional discussion forums that are only designed for the program curriculum into a thriving community that includes alumni and mentor teachers in other school districts who wish to collaborate while exchanging ideas and resources.

To measure our short-term wins, it will be beneficial to evaluate if the CalStateTEACH virtual community of practice is gaining traction through specific formative methods of assessment. An initial step for formative assessment will include examining participant interactions to explore the impact on their learning, their engagement, and the overall culture of participation, which can be done by compiling samples of posts, podcasts, and resources shared over each semester. I will work with members of the guiding coalition to review the content of these samples in order to determine the quality of dialogue and the mentoring received from the site moderators or expert teacher participants. Other forms of formative evaluation will include focus groups with participants to explore their perceptions with regard to the functionality and usability of the site, interest in particular features, level of support received, suggestions for improvement, etc. Additionally, if we end up with a vast number of participants on the site, an electronic survey can be sent out to collect further input. In conjunction with the assessments conducted as check points throughout this project, the guiding coalition will meet to make updates or revisions within the community and webinar TeachMeet session format based on participant input.

### **Consolidating Gains and Producing More Change**

In this phase of the process, the leader or change agent will use increased credibility to transform all systems, structures and policies by bringing in more people that are able to promote the change vision

(Cohen, 2005; Kotter, 2010). Urgency levels must remain high in order to tackle larger projects and to keep the innovation moving toward sustainability (Kotter, 2010; Rogers, 2003). Short-term wins will continue to propel larger changes if leaders monitor and measure progress consistently while maintaining the momentum (Cohen, 2005). As Rogers (2003) emphasizes, “innovations should be introduced into the system at a deliberate rate that allows for careful balancing of the system’s ability to adjust to the changes” (p. 453). New behaviors and practices may be fragile until equilibrium is attained (Kotter, 2010). Rather than relying solely on survey research methods, observation, and extended case studies are recommended as strategies to investigate the innovation consequences and overall effectiveness to promote widespread diffusion (Rogers, 2003).

To produce further change when candidates graduate from the CalStateTEACH program, alumni will be encouraged to stay active in the community by sharing their experiences as beginning teachers. Newcomers to the program will also be recruited as members to keep the momentum going. Additionally, mentor teachers and faculty will continue to be invited as guest speakers to moderate relevant topics of interest that draw participants in. This progression will promote sustained webinar TeachMeet participation in the virtual community, ultimately leading to changes in the teacher preparation program academic curriculum, clinical experiences, and continued professional development for both pre-service and practicing teachers.

Following formative assessments conducted at each stage of the process to measure short-term wins, it will also be important to evaluate the long-term effects the community has on pre-service teachers, beginning teachers, mentor teachers, and faculty, particularly in relation to the level of support they receive and how it impacts their professional development. After one academic year of implementation through fall, spring, and summer semesters, we will send out a summative assessment survey and to pull focus groups again for a critical review of the virtual community of practice. This will allow us to measure the perceived value of our community, to assess participant satisfaction, and to identify other input or suggestions for continued improvement. As a guiding coalition, we will use these details to revamp the structure, design components, and determine if it’s meeting the needs of all

educators involved. Finally, the coalition can revisit goals to determine if the project has been successful and determine next steps for moving forward, including whether we persist with the virtual community of practice or move into a different direction.

### **Anchoring New Approaches in the Culture**

To ensure productivity and high performance, there must be a balance maintained between leadership and management (Kotter, 2010). Rogers (2003) recommends that change agents “develop self-renewing behavior on the part of clients and develop the client’s ability to be their own change agents” to establish self-reliance (p. 370). This step will ensure future leadership and succession within an organization (Kotter, 2010). The culture will shift as people see connections between new actions and the performance improvement, reaching critical mass when enough individuals have adopted the innovation so that it becomes self-sustaining (Cohen, 2005; Kotter, 2010; Rogers, 2013). Cohen (2005) describes how “a supportive culture provides roots for the new ways of operating” (Kindle location, 4580). An innovation may adapt over time based on the needs of the organization and through this process, the norms and values of the culture may change as well (Cohen, 2005; Kotter, 2010; Rogers, 2003).

Establishing our virtual community of practice will ideally bring changes to the institutional culture of the CalStateTEACH Teacher Preparation Program and to the overall support structure provided for teachers in schools, especially through the induction period. As we revamp our curriculum and discussion forum procedures, we will hopefully utilize the community as a new place for networking and sharing resources. Furthermore, the community will extend beyond student teaching by including alumni who graduate from the program as they transition into their first years of teaching, in addition to mentor teachers who support newcomers. All teacher participants will have opportunities for continued professional development and ultimately this will help to promote retention in the profession, thus eliminating the high attrition rates.

Instead of relying on the CalStateTEACH program directors to enforce change, I will guide faculty, district personnel, school site administrators, and teachers in working together as a team while delegating teacher candidates as leaders of the webinar TeachMeet sessions. Candidates can select the topics of interest

for collaboration in their virtual community of practice and determine what structure best fits their needs. Faculty and mentor teachers will facilitate the conversations by prompting candidates with talking points, addressing concerns, and answering questions to support learning. Ultimately, this will lead to a transformation in teacher preparation and continued professional development in the teaching practice, allowing teacher candidates, beginning teachers, mentor teachers, and faculty to stay connected while promoting knowledge curation within the community.

### **Conclusion**

Research confirms that change can be a very arduous and slow moving process. Humans naturally resist change because of ingrained habits and cultural norms that directly influence individual behaviors. While in some cases it may appear that change is impossible, there are several suggested strategies for adoption and implementation of innovative ideas. First, “shrinking” change into small wins is a highly recommended approach for motivating others and building momentum (Cohen, 2005; Heath & Heath, 2010; Kotter, 2010). Additionally, it is important to recognize that humans are extremely social and individuals learn from their interaction with others in cultural historical practices (Jimenez-Silva & Olson, 2012; Lave & Wenger, 1991). By creating a guiding coalition, change agents can help to empower others and communicate a vision while establishing expertise, credibility and leadership (Cohen, 2005; Kotter, 2010). Moreover, networking is proven to increase the rate of knowledge and adoption of innovation, persuading others to implement new ideas (Rogers, 2003).

As discussed, community of practice models with pre-service teachers provide known benefits for success in the teaching profession including increased professional reflection, self-efficacy, and confidence in the classroom, in addition to the development of collegial relationships with other educators (Feiman-Nemser, 2001; Grossman, Wineburg, & Woolworth, 2001; Jimenez-Silva & Olson, 2012; Lave & Wenger, 1991; Perry, Walton, & Calder, 1999). Providing a virtual community for new and experienced teachers from multiple stages of the practice will create opportunities for teacher candidates, teachers, and university faculty to collaborate across geographic boundaries. In order for the CalStateTEACH Teacher Preparation Program to successfully establish a virtual community of practice, a dedicated team of faculty, school

district personnel, school site administrators, teachers, and teacher candidates must be formed. Empowering the coalition with decision-making responsibility through shared leadership will motivate them to engage others in the community as they spread the vision. Furthermore, beginning with small, reasonable goals such as offering voluntary monthly TeachMeet webinars should provide the team with an opportunity to develop further strategies for implementation that ideally increase participation. By following Kotter's eight steps for implementing change (2010), CalStateTEACH can utilize innovative podcasts within a virtual community of practice as an extension of their academic curriculum, providing a transformation that will best support candidates and teachers beyond pre-service preparation and induction.

If the CalStateTEACH Teacher Preparation Program can successfully beta test and develop this community, ideally it will gain traction across other programs, bringing in new candidates and teachers to keep it thriving. Moreover, it will support teachers through the induction period and beyond, addressing current issues with teacher retention and attrition rates, while promoting continued professional development. Throughout the process, formative and summative assessments would include: a detailed analysis of the digitally archived artifacts such as member profiles, professional development badges, interactive forums, webinar podcasts, and open educational resources. This will allow us to measure the overall participation, perceived value of our community, and to assess participant satisfaction in order to determine if we will continue the project following one academic year of implementation.

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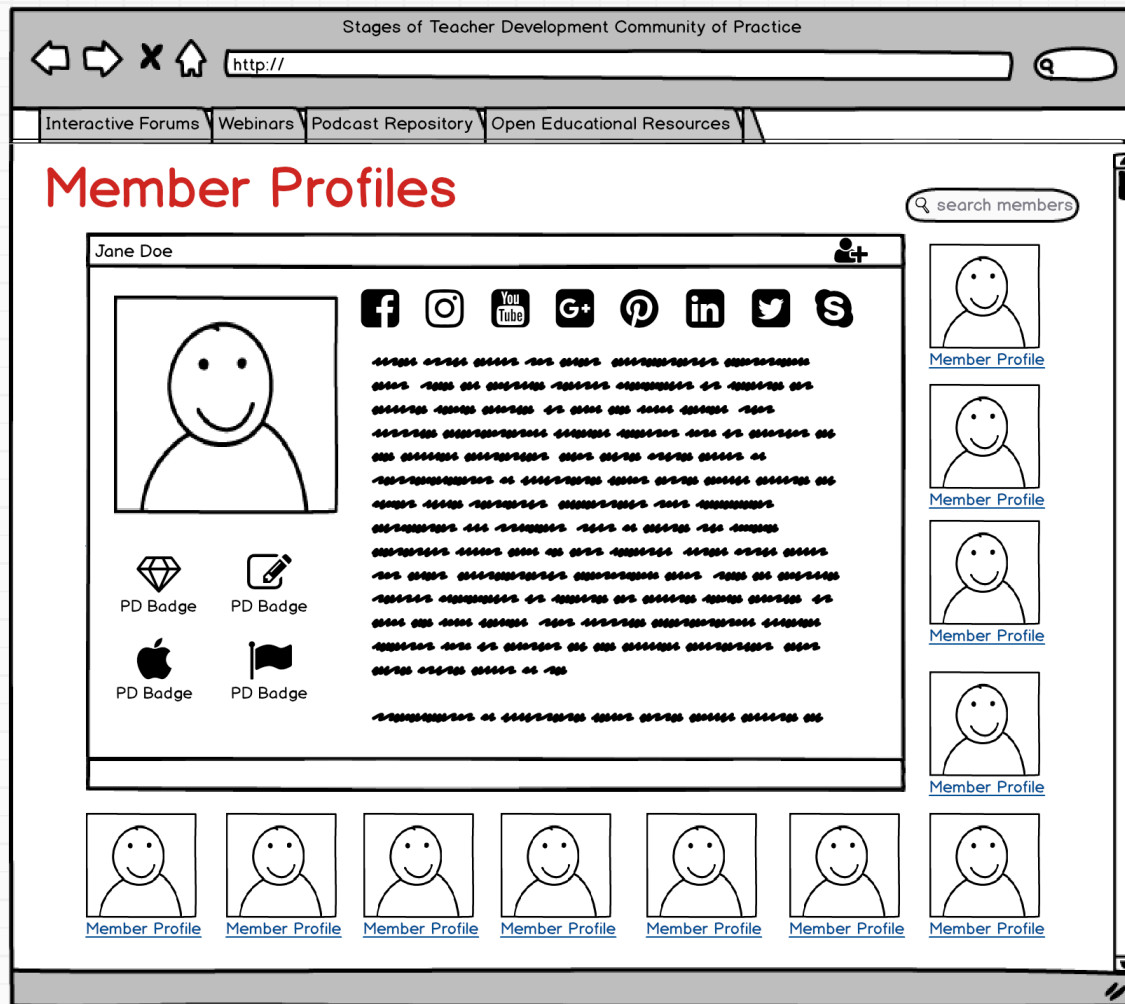
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## Appendix A

## Community Design Feature Examples



*Figure 1.* Member Profiles. This figure displays how member profiles will provide member background information, a photo, professional development badges earned in the community and links to other social media pages. In the upper right corner, members can click to follow one another.

Stages of Teacher Development Community of Practice

Interactive Forums | Webinars | Podcast Repository | Open Educational Resources

## Interactive Forums

search forums

Topic	Total Posts	Unread	Notifications
PBL Ideas	37	<input type="radio"/>	<input type="checkbox"/>
Classroom Organization	34	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lesson Planning	37	<input type="radio"/>	<input type="checkbox"/>
Literacy Instruction	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Classroom Management	55	<input checked="" type="checkbox"/>	<input type="checkbox"/>
STEM	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Teaching Resources	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technology Support	24	<input type="radio"/>	<input type="checkbox"/>
New Teachers	16	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Student Teaching	45	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Math	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Differentiated Instruction	39	<input type="radio"/>	<input type="checkbox"/>
Supporting ELLs	18	<input type="radio"/>	<input type="checkbox"/>

software statistics teaching **technology**  
tips tool tools **toread** travel  
tutorial **tutorials** tv twitter  
typography ubuntu usability video videos

### Moderators & Frequent Posts

Sample Post

Member [Link to Member Profile](#)

**B I U** style

SubGroup SubGroup SubGroup SubGroup SubGroup

*Figure 2.* Interactive Forums. This figure displays how the forums will be organized by categories that members create with notification options based on preferences. Additionally, there will be a search feature and meta-tag links so members can look for posts on specific topics or by certain people. To easily identify more knowledgeable others and as a motivation tactic for participation, members who moderate discussions or who frequently post will be displayed with a direct link to their profile that others can follow. As the community grows organically, there will also be room for members to develop their own subgroup spaces below.

Stages of Teacher Development Community of Practice

Interactive Forums | Webinars | Podcast Repository | Open Educational Resources

## Webinars

TeachMeet Session Topics ▼

Engaging Discussion

Upcoming Sessions

◀ FEB 2008 ▶

S	M	T	W	T	F	S
						1
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

Featured Moderators & Guest Speakers

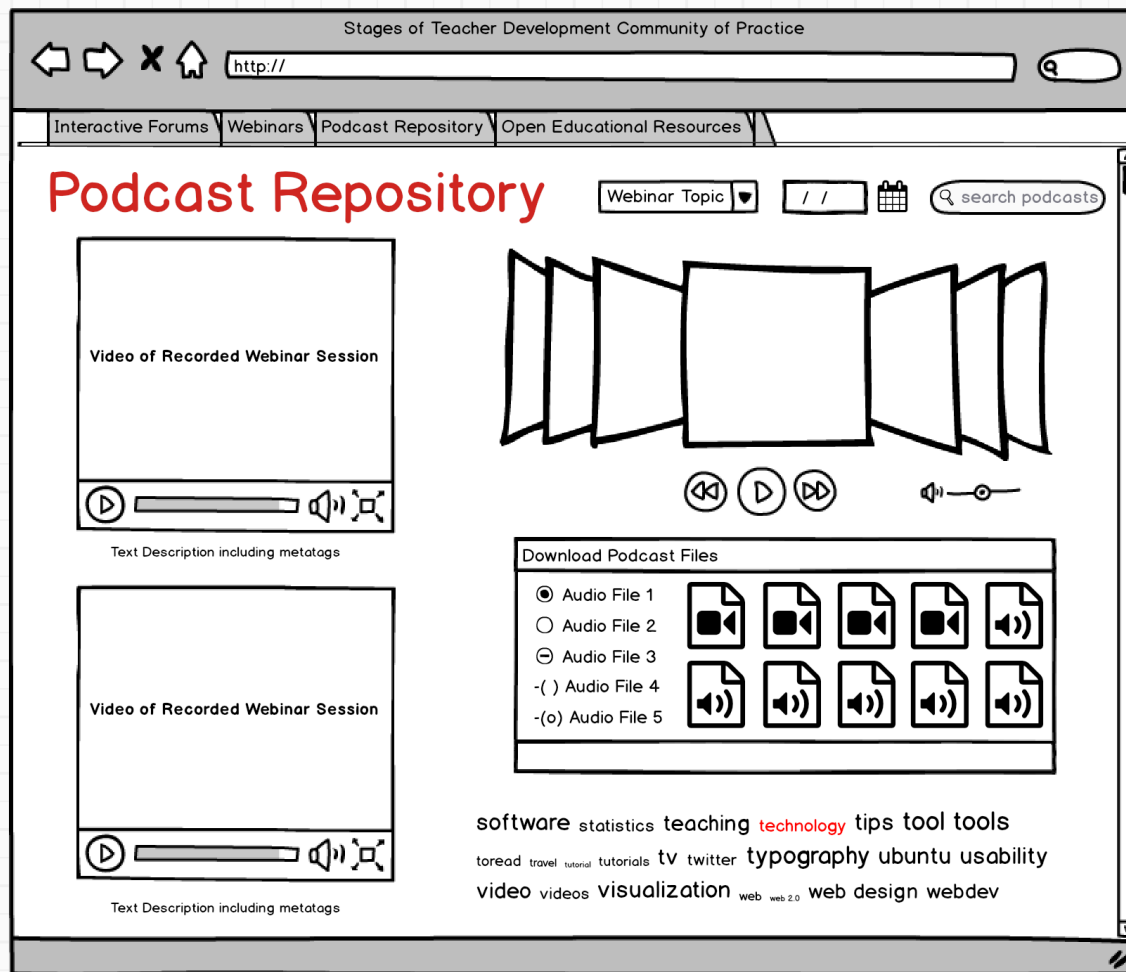
Member Profile

Member Profile

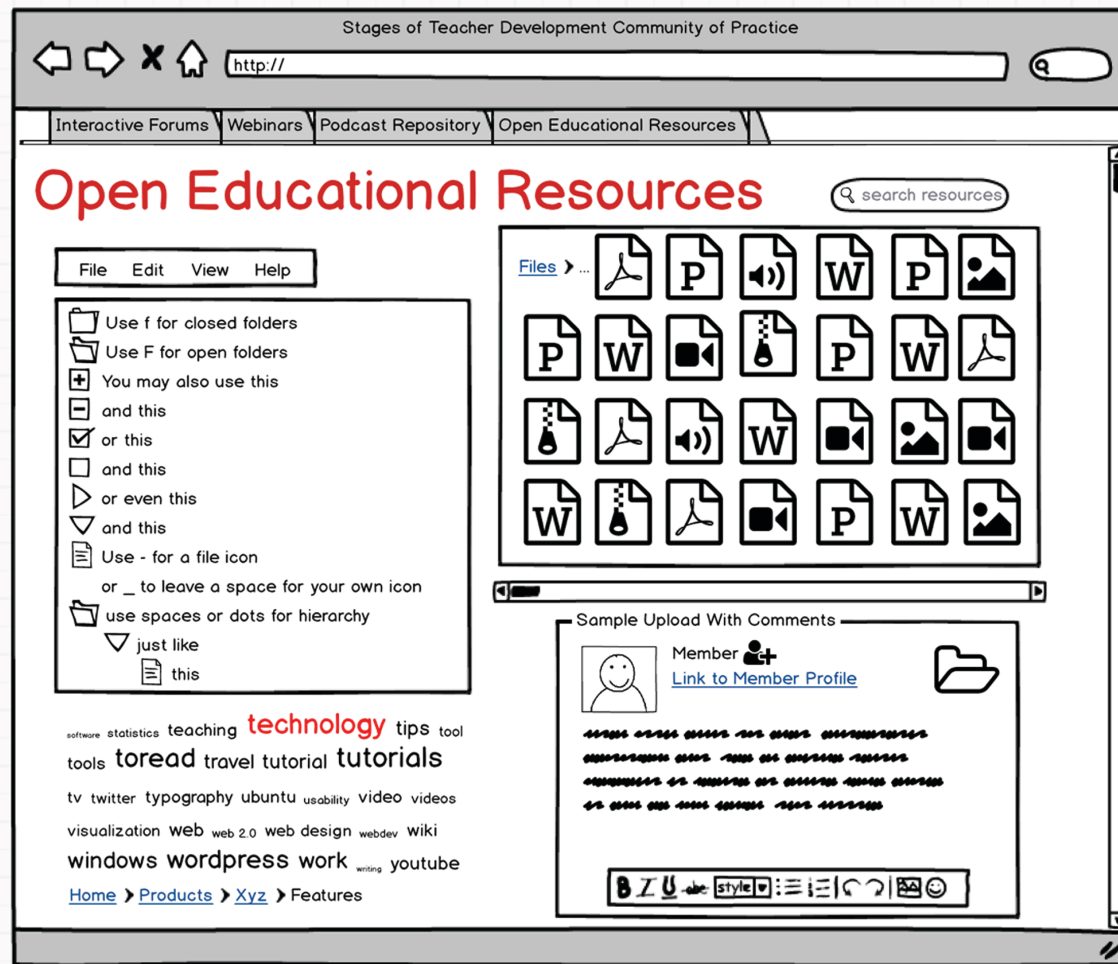
Member Profile

software statistics teaching technology tips tool tools toread travel tutorial  
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visualization web web 2.0 web design webdev wiki windows  
wordpress work writing youtube

*Figure 3.* Webinars. This figure displays how members can connect synchronously using video-conferencing technologies within the community to discuss topics of interest following a *TeachMeet* model for professional development. There will be a calendar that displays upcoming sessions, a topic listing that includes meta-tags, and links to profiles of the moderators or guest speakers.



*Figure 4.* Podcast Repository. This figure displays how webinar sessions will be recorded and compiled as podcasts within the community for members to review and download in various formats including video or audio files. Edited videos of “hot topics in education” will be displayed on the site and members can search through the database by topic, date, guest speakers, common meta-tags, etc.



*Figure 5.* Open Educational Resources. This figure displays how the community will include a digital library of website links, articles, lesson plans, videos, photos, and other resources that can be openly shared. Members can upload to a digital drop box, organize resources by meta-tags, provide comments, link articles written to their profiles, etc.

## Appendix B

## Implementation Plan Timeline

Phase	Goals/Milestones
<b>Phase I-</b> Fall 2016	<ul style="list-style-type: none"> <li>○ Presented project idea to CalStateTEACH directors</li> <li>○ Discussed with CalStateTEACH Los Angeles Region faculty for input</li> <li>○ Formed initial guiding coalition with “early adopter” faculty, mentor teachers, and alumni teacher candidates</li> <li>○ Presented at the IOSSBR Conference for input from other researchers</li> </ul>
<b>Phase II-</b> Spring 2017	<ul style="list-style-type: none"> <li>○ Shared the vision at our CalStateTEACH statewide annual faculty meeting for further suggestions</li> <li>○ Presented at the MiTE Conference for input from other teacher educators</li> <li>○ Guiding coalition met with CalStateTEACH technology department to discuss site development and webinar formats for podcasting (added new members to our team)</li> </ul>
<b>Phase III-</b> Summer 2017	<ul style="list-style-type: none"> <li>○ Guiding coalition is reviewing other online CoPs to explore features used and pros/cons</li> <li>○ Tech team is making a prototype site for the community to launch in Fall semester</li> </ul>
<b>Phase IV-</b> Fall 2017	<ul style="list-style-type: none"> <li>○ A smaller group of interested faculty will be inviting mentor teachers and teacher candidates to join the community as a beta-test</li> <li>○ Nominate volunteers as moderators and page curators</li> <li>○ Start webinar sessions and record for podcast repository</li> <li>○ Extend invitations to other members of the education community via professional conferences, school site visits, email, social media, word of mouth, etc.</li> </ul>
<b>Phase V-</b> Spring 2018	<ul style="list-style-type: none"> <li>○ Begin formative assessment data collection by compiling samples of posts, podcasts, and open educational resources shared; meet with focus groups and/or send out a survey depending on how many users we have</li> <li>○ Experiment with editing podcasts and uploading various file types to the community site</li> <li>○ Make adjustments based on member input received</li> </ul>
<b>Phase VI-</b> Summer 2018	<ul style="list-style-type: none"> <li>○ Continue to review formative assessment data collected in the community</li> <li>○ Send out a summative assessment survey and pull focus groups again for a critical review</li> <li>○ Determine next steps</li> </ul>

## Appendix C

## List of Courses Taken

**Fall 2015**

EDLT 725 - New Media Literacy - Dr. Paul Sparks

EDLT 750 - Introduction to Social Science Research - Dr. Linda Polin

EDLT 770A - Cognition, Learning, and Technology - Dr. Judi Fusco

**Spring 2016**

EDLT 721 - Policy Development - Dr. Paul Sparks

EDLT 751 - Quantitative Research Methods - Dr. Kay Davis

EDLT 770B - Social Learning Theory and Technology - Dr. Linda Polin

**Summer 2016**

EDLT 728 - Games, Simulations, and Virtual Worlds for Learning - Dr. Mark Chen

EDLT 762 - Innovation and Change - Dr. Sarah Haavind

**Fall 2016**

EDLT 700 - Leadership - Dr. Lani Fraizer

EDLT 740 - Applied Seminar in Learning Technologies – Dr. Bill Moseley

EDLT 752 - Qualitative Research Methods - Dr. Kay Davis

**Spring 2017**

EDLT 727 - Knowledge Creation and Collaboration - Dr. Linda Polin

EDLT 735 - Inferential Statistics - Dr. Kay Davis

EDLT 760 - Global Perspectives on Technology and Learning - Dr. Paul Sparks

**Summer 2017**

EDLT 726 - Emerging Technologies and Research- Dr. Mark Chen

EDLT 780 - Imagining Futures/Capstone- Dr. Linda Polin