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This qualitative case study used Wenger's (1998) communities of practice (CoP) framework to analyze how the institutionally-driven electronic learning community (eLC) process at an established state virtual high school (SVHS) supported new and veteran online teachers in quality online teaching. Components of the eLC process were analyzed according to elements of the CoP framework, which provided a theoretical lens through which to analyze data gathered through interviews, observations, and document collection. Further, Lave and Wenger's (1991) concept of legitimate peripheral participation (LPP), which describes the participation of new CoP members as they move toward full membership, was used to examine the participation and perspective of new eLC members at SVHS. Three eLCs within the English department were selected for observations and document analysis. Seven interview participants included the chief academic officer, two instructional leaders, two veteran teachers, and two new teachers at SVHS.

Findings revealed several areas of alignment between the eLC process and the CoP framework, particularly with Wenger's (1998) notion of practice within a CoP as a duality between participation and reification. The institutionally-driven nature of the eLC process was found to support new and veteran online teachers in quality online teaching while at the same time posing a barrier to alignment with the CoP framework. Elements of LPP were evident in case study data, particularly in the way the eLC process granted new members access to resources and to the practice of other members. Other elements

of LPP were less visible in the eLC process, such as becoming and conferring legitimacy. Recommendations were made to increase alignment between the eLC process, the CoP framework, and LPP for new eLC members, including the implementation of a mentoring system to provide additional support for new online teachers and use of the TPCK framework to focus on alignment between content, pedagogy, and technology in designing professional learning for online teachers. Further, recommendations were made to guide researchers in the selection of topics and methodologies for future research.

A QUALITATIVE CASE STUDY OF AN ELECTRONIC LEARNING COMMUNITY
AS A COMMUNITY OF PRACTICE FOR NEW AND VETERAN ONLINE
TEACHERS

by

Jayne Nixon Linton

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Committee Co-Chair

Committee Co-Chair

To my husband, Angelos, for making this possible
and my sweet Annie and Deacon for loving me through it all.

APPROVAL PAGE

This dissertation written by JAYME NIXON LINTON has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Committee Co-Chair _____

Committee Co-Chair _____

Committee Members _____

Date of Acceptance by Committee

Date of Final Oral Examination

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CHAPTER I

INTRODUCTION

Statement of the Problem

In the field of online learning, theory lags behind practice (Barbour, Siko, Gross, & Waddell, 2013; Journell et al., 2013). The rise in the popularity of online courses in K-12 and higher education has resulted in many educators, either forcibly or voluntarily, teaching in an online environment (Allen & Seaman, 2009; Shattuck, Dubins, & Zilberman, 2011). Following recent trends, K-12 online learning could reach approximately five million students, mostly high school students, by the year 2016 (Picciano, Seaman, Shea, & Swan, 2012). According to Christensen, Horn, and Johnson, (2008), over half of all high school students will be enrolled in online courses by the year 2020. Coupled with exponential growth in K-12 online learning, there exists a lack of research on best practices for K-12 online teaching and preparation for online instructors (Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009). Specifically, the research base in K-12 online schooling leaves a gap in pedagogy for successful K-12 online teachers (Ferdig et al., 2009). There is a small but growing body of literature focused on effective pedagogy in online environments. Several researchers have studied ways that online instructors can build community, give effective feedback, motivate students, and facilitate student learning in online and blended learning environments (Battalio, 2009;

Buraphadeja & Dawson, 2008; Garrison & Cleveland-Innes, 2005; Gayton & McEwen, 2007). However, the majority of this research has been conducted in online higher education settings rather than K-12 online environments (Ferdig et al., 2009). K-12 online education has existed in various formats for decades, while the majority of literature on effective practices for online teaching is more recent. In the U.S., one of the first attempts at K-12 online learning was a consortium known as the Virtual High School, which offered online courses initially to a small group of students but now provides instruction to over 16,000 students in over 30 states and 30 countries (Journell, 2013). At approximately the same time, the Florida Virtual School (FLVS) was established. Enrollments the first year of FLVS were low, with the virtual program serving only 157 students. Over the next few years, however, FLVS grew tremendously, reaching an enrollment of 18,000 students by 2004 and over 122,000 students by 2012. The FLVS has become the largest virtual public high school in the United States (Journell, 2013). The second largest state virtual school in the country, referred to in this study as the State Virtual High School (SVHS), was commissioned in 2005 to provide e-learning opportunities to high school students from across a state in the southeastern United States. Courses were first offered in the summer of 2007. During its first year, 17,325 students enrolled in courses through SVHS. Since the 2007-08 school year, course enrollment has exceeded 193,000.

The majority of the tens of thousands of “new teachers who enter the profession each year begin without online teaching skills in their professional repertoire” (NEA, 2006, p. 3). Virtual schools, school districts that offer online learning programs, and

colleges and universities continue to promote online courses but fail to provide the training necessary to ensure high quality online instruction (Learn NC, 2008; Ray, 2009). In fact, many instructors who teach in online or blended learning environments report negative feelings toward teaching in such environments (Allen & Seaman, 2009). This is partly due to the lack of teacher preparation and professional development to help instructors learn how to teach effectively online (Shattuck et al., 2011).

Due to the lack of pre-service teacher preparation for online instruction, most training for K-12 online teachers is conducted by virtual schools (Ferdig et al., 2009). State Virtual High School, for example, provides an 18-week induction program for new online teachers, which serves to orient teachers to specific expectations for SVHS as well as prepare novice online teachers to use quality practices for online teaching. Additional professional learning opportunities and ongoing support for SVHS teachers take place through electronic learning communities (eLCs). The purpose of this case study was to explore how the electronic learning community process at SVHS supports new online teachers and prepares them for quality online teaching. Congruent with the purpose of the eLC, a community of practice (CoP) provides a space for community members who share an interest in a common domain of knowledge to engage in meaningful and authentic work, collaborate and interact with other one another, and participate in ways that lead to the creation of ideas, strategies, and resources (Wenger, McDermott, & Snyder, 2002). The eLCs for online English I, English III, and AP English Language teachers, which were the focus of this case study, are examples of this type of

community. Therefore, I used Wenger's (1998) communities of practice framework as a theoretical lens to explore the structure and nature of the electronic learning communities.

Rationale for this Study

While much of what constitutes effective teaching in traditional classrooms also translates to good teaching online (Garrison & Anderson, 2003; Journell et al., 2013), there is an additional set of skills and competencies needed to ensure high levels of student engagement and student learning in virtual settings (Learn NC, 2008; NEA, 2006; Palloff & Pratt, 2011; Redmond, 2011). These skills and qualities for teaching online courses are largely absent from teacher education programs (Barbour et al., 2013). In some cases, this leads to administrators touting online learning as unsuccessful when, in reality, the lack of training and support may be what is setting up many online instructors and online learners to fail (Learn NC, 2008). Forced to fend for themselves, many online instructors have adopted a "sink or swim" mentality, taking responsibility for their own professional learning (Hawkins, Graham, & Barbour, 2012; Marek, 2009; Ray, 2009).

Although a wealth of research studies have been conducted to determine the characteristics of effective professional development (Duncan-Howell, 2010; Garet, Porter, Desimone, Birman, & Yoon, 2001; Holmes, Signer, & MacLeod, 2010; Schlager & Fusco, 2003), few researchers have studied effective practices for preparing and supporting online teachers in K-12 settings (Barbour et al., 2013; Ferdig et al., 2009; NEA, 2006). A gap in the literature exists in the relationship between research on effective professional development for teaching online and research on effective online instruction. Additional research into K-12 online schooling is needed to establish a set of

best practices for online teaching and inform pre-service and in-service teacher preparation for online instruction (Cavanaugh, Barbour, & Clark, 2009; Ferdig et al., 2009), as researchers have yet to identify effective models of teacher preparation and professional development for improving the quality of online instruction and supporting new online teachers (NEA, 2006). This is especially true for K-12 online teaching.

Conceptual Framework

The communities of practice framework provided a theoretical and conceptual lens for this case study of the electronic learning community process; something that is often missing in research about online teaching. This case study explored the eLC process for online English teachers through the CoP framework in order to better understand how the eLC supported new and veteran online teachers and contributed to quality online teaching.

Chapter II offers a discussion of Wenger's (1998) communities of practice framework as it relates to the purposes of this study; however, the conceptual framework guiding this case study, presented visually below, includes the elements of a community of practice. The funnel-shaped image in the center of the framework represents the ongoing work of the eLC. Three necessary components of a CoP, according to Wenger et al. (2002), include domain, community, and practice. As indicated below, the domain of the eLCs is the body of knowledge and competencies related to teaching secondary English online. This domain guides the topics on which the eLCs focus, the efforts that are undertaken, and the identity of the eLCs within the larger community of online teachers. The community is an eLC itself and all its members, including members at

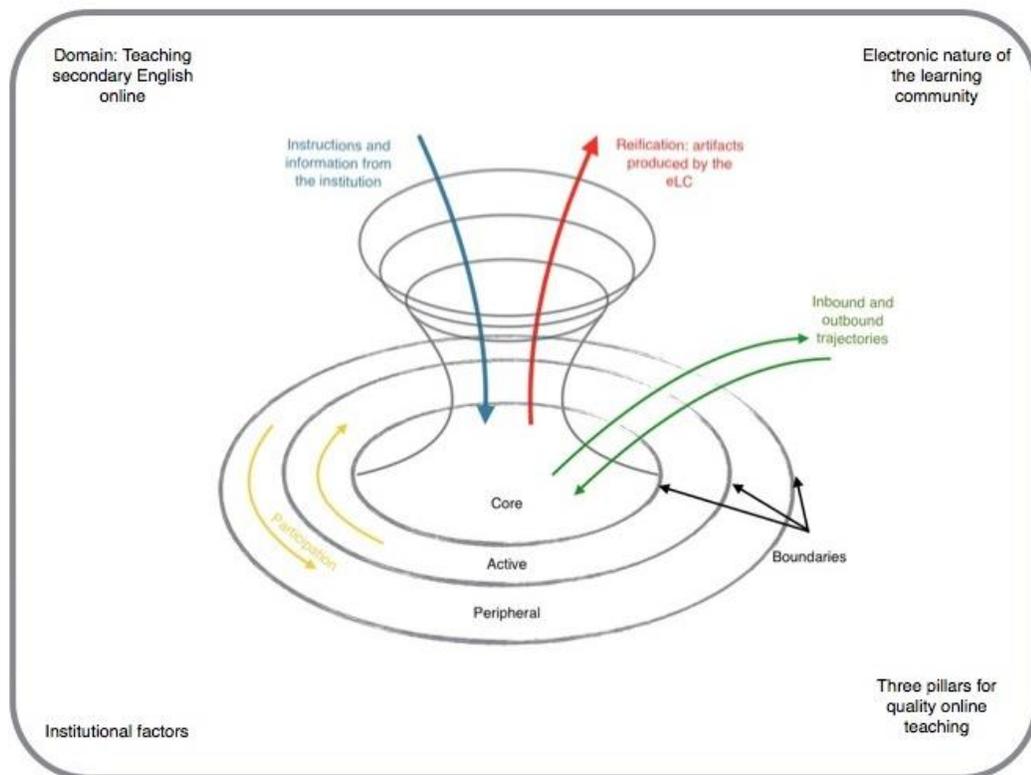
varying levels of participation and membership. Members of a CoP exist at varying trajectories and levels of participation, frequently crossing boundaries as their identities within the CoP change. These trajectories and levels of participation are continuously changing as members gain new experiences, take on new projects, transition to different roles, engage in community activities, and interact with one another (Wenger et al., 2002). The third required element, practice, exists in the relationship between participation and reification. As members of the eLCs interact with one another via sustained, mutual engagement, their participation leads to the creation of artifacts, or evidence of their practice, which Wenger refers to as reification (Wenger, 1998). Further, within the context of the eLC structure at SVHS, the institution drives the eLC process, providing topics, questions, and resources that shape participation and reification.

Further conceptualization of the features of a CoP, specifically within the structure of eLCs for online teachers at SVHS, reveals additional contextual factors that influence the work of the eLCs. Notably, the communities exist in an online environment. As such, the nature of the online communities cannot be removed from the work of the eLCs. In addition, the eLC process at SVHS is institutionally-driven, which brings another set of factors to bear upon the CoP structure. Finally, quality online teaching at SVHS is represented by three pillars for online teaching: 1) teaching through learning blocks and announcements, 2) teaching through grading and feedback, and 3) teaching through communication (Linton & Journell, in press). An exploration of the eLCs as a process for preparing new online teachers for quality online teaching must be

framed by the three pillars, which were foundational and ubiquitous within SVHS. In this case study, I was particularly interested in how new and veteran online teachers found support within the eLC process and developed skills and competencies for quality online teaching.

Figure 1

Conceptual Framework



Research Questions

The following research questions guided data collection and analysis in this case study of the electronic learning community process at an established state virtual school. In addition to the two guiding questions listed below, two supporting research questions served to further focus data collection and analysis as well as interpretation of findings in this case study:

1. In what ways do institutionally-driven electronic learning communities operate like communities of practice from the perspective of experienced online teachers, novice online teachers, and learning community leaders?
 - a. In what ways is the electronic learning community process aligned with the communities of practice framework?
 - b. In what ways does the institutionally-driven nature of the electronic learning community process influence its relationship to the communities of practice framework?
2. In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices at an established state virtual school?

Research Design

I used an interpretive case study design to understand how the electronic learning community process at an established state virtual public school supported new and veteran online teachers and prepared new online teachers for quality online teaching. As a researcher, I was interested in learning about the multiple perspectives and varied

experiences of individuals who were part of the case (Stake, 1995). Case study data was collected over 12 weeks via qualitative techniques including observations, interviews, and document analysis. In the spring of 2014, I studied the electronic learning community process for online high school English teachers at an established state virtual public school. My role during this case study was that of observer. Data sources included transcribed interviews, observation field notes, emails, shared documents, and shared websites. Merriam (1988) defines methodological triangulation as the combination of “dissimilar methods such as interviews, observations, and physical evidence to study the same unit” (p. 69). According to Merriam (1988), the use of multiple types of data collection is a strength of case study research. Researcher-generated codes aligned with Wenger’s (1998) communities of practice framework and research on effective online teaching guided data collection and analysis. Additionally, emergent codes were created as needed to describe data that did not fit the pre-existing data coding scheme.

Positionality

As a researcher, I brought past experiences and certain understandings with me to this case study. As a doctoral student, I have participated in online and blended courses. Some of my experiences as a student in an online learning environment have been engaging and meaningful while others have been lacking. Most of my participation in online courses has left me feeling disconnected from the instructor, from classmates, and from the content. In blended courses, which consist of face-to-face classes as well as online interaction mainly through discussion boards, I have observed a contrast between

the pedagogy used in the face-to-face and online environments. For example, an instructor who creates an engaging and challenging learning community in a face-to-face environment may struggle to create a similar learning community in an online environment. Many times, in my experiences, these instructors possess strong pedagogical knowledge but have difficulty transferring that to an online environment.

The challenge facing this system of online instructors and online learners is wrapped up in my work as a teacher, professional development provider, and teacher educator. I have frequent opportunities to facilitate pre-service and in-service teacher development in technology integration and online teaching. Most recently, I am the facilitator of a blended learning community for university faculty who teach online and blended courses. I have had the opportunity to teach online and blended courses, and I use online tools in the face-to-face courses I teach as well. Additionally, I elected to take an experimental doctoral course in online instruction which prepared me to facilitate learning effectively in online environments. Unfortunately, there are only a handful of courses like the one in which I participated being offered across the country. As a teacher educator, I am preparing future educators, many of whom will likely teach in online or blended learning environments. I am also currently developing a graduate program in online teaching and instructional design. Clearly, my bias is that professional learning experiences can impact the quality of online teaching, particularly through a learning community approach. Therefore, I attempted to guard against my biases by gathering multiple perspectives, grounding data collection and analysis in current

research literature, and using techniques such as triangulation and member checking to validate findings.

Significance of this Study

Rapid changes in technology combined with the high demand for online courses in K-12 education settings contribute to the current state of affairs, in which schools, districts, universities, and states do not have the leisure to wait for researchers to provide a theoretical foundation for their work (Barbour et al., 2013; Journell et al., 2013). The work of designing and teaching online courses is moving forward at an increasingly accelerated rate, while researchers attempt to keep pace with practitioners. Although online learning environments have existed in K-12 settings for two decades (Watson, Murin, Vashaw, Gemin, & Rapp, 2011), teacher education programs have only recently begun to consider ways to prepare pre-service teachers for teaching in virtual schools (Barbour et al., 2013; Journell et al., 2013). However, teacher educators and researchers alike have failed to examine how to best prepare K-12 teachers for being successful as online instructors (Barbour et al., 2013; Journell et al., 2013). This is evidenced by the small amount of existing research literature related to practices for teacher educators and model programs designed to prepare pre-service teachers for the possibility of teaching online. As K-12 online and blended learning opportunities continue to expand and attract more students, particularly middle and high students, it is imperative that all teachers entering the field, not just a select few, are equipped with the necessary competencies for designing and delivering quality online instruction (Barbour et al., 2013).

Research shows that online teachers typically have experience in traditional classrooms but lack the training needed to be successful in online environments (Archambault & Crippin, 2009). Teachers transitioning from traditional to online instruction face many challenges that can be addressed by quality teacher preparation or professional learning opportunities. Shifting from traditional to online instruction requires a significant change in practice (NEA, 2006; Redmond, 2011), as even experienced teachers become novices in this new teaching environment. Not only are online instructors in need of quality professional development (PD), they also are more likely than traditional teachers to feel disconnected from colleagues and students, which limits their ability to learn from colleagues and can lead to feelings of isolation (Hawkins et al., 2012).

The rising demand for online courses and programs in K-12 settings necessitates a response from teacher education programs and professional developers who are now charged with preparing scores of online instructors lacking the requisite knowledge and skills for successful online teaching (Journell, 2008; Palloff & Pratt, 2011). Despite the overwhelming shift toward online learning, school districts, institutes of higher education, and state departments of public instruction are failing to adequately equip online instructors (Barbour et al., 2013; Journell et al., 2013; NEA, 2006). By failing to address the specific demands of teaching online and equip instructors to utilize effective online pedagogy, the current educational system is in danger of setting up online students and teachers to fail.

Summary

This study was designed to explore how the electronic learning community process at SVHS supported new and veteran online high school English teachers, examine how the eLC process for online English teachers supported quality online teaching, and determine in what ways the eLC process was aligned with the communities of practice framework. Case study methods, including observation, interviews, and document analysis, were used to provide a rich and dynamic analysis of the eLC process in light of what research says about preparation and support for quality online teaching.

Definition of Terms

For the purposes of this case study, important concepts and terminology are defined in the following way.

Electronic learning community (eLC): An electronic learning community is defined as an online community to which members are committed and involved professionally over an extended period of time, with opportunities for synchronous and asynchronous communication (Duncan-Howell, 2010).

Community of practice (CoP): According to the originator of the CoP framework, “communities of practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al., 2002, p. 3).

Domain: The first necessary element of a community of practice, domain refers to a common body of knowledge consisting of complex issues related to ongoing learning

and development of a community of practice (Wenger et al., 2002). In this case study, the domain of the eLC is practices for teaching high school civics and economics online.

Community: Wenger et al. (2002) defined a community as group of people who have an interest in the domain and who, through mutual engagement with one another and shared practice, develop their identity as a community of practice. Such a community is the second necessary component of Wenger's (1998) CoP framework.

Practice: The third necessary element of a CoP, practice represents "a set of socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance, and accountability" (Wenger et al., 2002, p. 37).

Participation: More than simply being present and active in a community of practice, participation is a "complex process that combines doing, talking, thinking, feeling, and belonging" (Wenger, 1998, p. 55). Participation shapes members' experiences in the community while also shaping the community itself.

Reification: The process that, along with participation, produces artifacts that give the work of a community of practice "thingness" (Wenger, 1998, p. 58), reification is the act of projecting communities of practice out into the world.

Legitimate peripheral participation (LPP): A term used by Lave and Wenger (1991) in reference to new CoP members, legitimate peripheral participation refers to "the process by which newcomers become part of a community of practice" (p. 29). Legitimate peripheral participation serves as a conceptual bridge that newcomers travel as they move toward full participation in the community (Lave & Wenger, 1991).

Pedagogical content knowledge (PCK): Shulman (1986) used the term pedagogical content knowledge as a representation of the intersection between what teachers know about their content area and pedagogical practices, encompassing the methods teachers use to make content accessible for students and facilitate student learning of content.

Technological pedagogical content knowledge (TPCK): Technological pedagogical content knowledge offers a conceptualization of the relationship between a teacher's knowledge of content, pedagogy, and technology. An extension of Shulman's (1986) PCK framework, the TPCK framework was developed by Mishra and Koehler (2006) to offer a research-based model for designing teacher education and PD to support development of teachers' ability to utilize technology in pedagogically sound ways to increase student learning of content.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This review of the current research literature on preparation for online teachers explores several topics significant to this study. First, a discussion of the Communities of Practice framework (Wenger, 1998) as apprenticeship through legitimate peripheral participation (Lave & Wenger, 1991) provides the theoretical perspective framing this study. Next, research exploring the history, current state, and future of K-12 online learning is synthesized and major critiques of online learning are discussed briefly in order to provide a context for this study. These contextual sections lead into the main areas of research detailed in this review: qualities of effective online teaching and professional development for online teachers. A comprehensive overview of quality online teaching illuminates what researchers have found to be the characteristics of effective online teachers. Following a look into what makes online teaching effective, the review explores models and characteristics of both teacher preparation programs and professional development for online instructors. Research-based recommendations for designing pre-service and in-service teacher training for online instructors are provided. Finally, the review concludes with a discussion of the existing gap in research

on professional learning and support for new online instructors, which is the rationale for this current study. The research literature synthesized here provides the foundation for this case study, which explored how the electronic learning community process supported new and veteran online teachers at a state virtual high school.

Theoretical Framework

This case study of the electronic learning community process for online teachers at SVHS was situated within the communities of practice framework developed by Etienne Wenger (1998). According to Wenger et al. (2002), communities of practice (CoPs) are everywhere and are defined as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al., 2002, p. 3). Each of us belongs to multiple communities in our work, at home, and in our leisure activities. Members of a CoP may not necessarily work together every day or even come into contact with each other face-to-face. Communities of practice typically engage in activities such as sharing information and advice, discussing situations, solving problems, pondering common issues, exploring ideas, acting as a sounding board, and creating tools or documents (Wenger et al., 2002). Through participation in these shared practices over time, members of a CoP “develop a unique perspective on their topic as well as a body of common knowledge, practices, and approaches” (Wenger et al., 2002, p. 4).

In addition to developing common understandings and practices, members of a CoP also develop relationships with one another and form a sense of identity (Wenger et al., 2002). Through the CoP framework, learning is viewed not as internalization of a

body of knowledge but rather as increasing participation in a community. Movement toward full participation is less about acquiring specific knowledge and skills and more about the act of becoming a member of the CoP. Learning is only partially about being able to perform new tasks and master new concepts; Lave and Wenger (1991) viewed learning as the construction of new identities. In other words, learning is becoming (Lave & Wenger, 1991). Wenger's CoP framework was established on a foundation of social constructivism and, more specifically, situated learning. I now turn to a brief discussion of social constructivism and situated learning in order to provide context for a further exposition of the CoP framework to follow.

Social Constructivism and Situated Learning

This study uses concepts from the CoP framework (Wenger, 1998) and Lave and Wenger's notion of apprenticeship (Lave & Wenger, 1991), which is grounded in social constructivist theory (Vygotsky, 1978) and, more specifically, notions from situated cognition (Brown, Collins, & Duguid, 1989). Constructivism emphasizes the prior knowledge and experiences that learners bring to their learning and the context within which learning occurs. Constructivist proponents argue that meaning is constructed based on the relationship between the learner's prior learning, past experiences, and new information (Schunk, 2012; Vygotsky, 1978). Lev Vygotsky's (1978) theory of learning was based on social constructivism, which emphasized the social nature of learning. Vygotsky believed that cognitive processes occur within the social environment (Schunk, 2012; Vygotsky, 1978). Another key Vygotskian notion is that of the Zone of Proximal Development (ZPD), which represents the potential an individual has for learning under

appropriate learning conditions including the support of a more knowledgeable other (Hirtle, 1996; Schunk, 2012; Vygotsky, 1978). The ZPD is essentially the gap between a learner's current state and a potential state of learning that can be reached through problem solving with guidance from others (Schunk, 2012).

Situated learning emphasizes the relationship between the learner and the context within which the learning takes place (Brown et al., 1989; Schunk, 2012). Proponents of situated cognition do not view concepts as isolated, abstract notions (Brown et al., 1989). In other words, thoughts do not exist only in the mind. Rather, concepts, context, and the learner are closely related (Vygotsky, 1978; Schunk, 2012). From a situated cognition perspective, instructional practices should be aligned with content that is situated within authentic contexts (Schunk, 2012), which can be defined as the ordinary practices and settings of a profession or culture (Brown et al., 1989). Theoretically, situated learning should allow learners to understand the purpose of their learning and apply their knowledge in meaningful contexts (Collins, Brown, & Holum, 1991). Professional development grounded in social constructivism should: a) provide teachers with opportunities to interact and collaborate with one another; b) remind teachers to intentionally connect their own knowledge and their students' prior learning and experiences with new information; and c) provide differentiated approaches to learning based on teachers' ZPDs. Further, teachers and professional developers working from a social constructivist perspective should consider ways to situate learning within meaningful, authentic contexts (Schunk, 2012; Vygotsky, 1978).

Communities of Practice

The Structure of Communities of Practice

Although CoPs may vary widely in size, life span, location, affiliation, and other attributes, all CoPs, according to Wenger et al. (2002), share the same structures, which include: a domain of knowledge, a community of people, and a shared practice.

According to Wenger et al. (2002), when these three elements are functioning effectively together, they make a CoP “an ideal knowledge structure - a social structure that can assume responsibility for developing and sharing knowledge” (p. 28).

The first fundamental element of a CoP is a commitment to a common domain of knowledge consisting of complex issues related to a body of knowledge that is necessary for the development of practice. According to Wenger et al. (2002), “without commitment to a domain, a community is just a group of friends” (p. 29). In this case study, the domain of the specific electronic learning communities consists of knowledge and practices for teaching English online. This domain “defines the identity of the community, its place in the world, and the value of its achievements to members and to others” (Wenger et al., 2002, p. 30). Members of a CoP develop a shared understanding of the domain, which guides the issues that are presented to the group, the questions that are asked, and the way the community organizes knowledge.

Secondly, a CoP is made up of “a group of people who interact, learn together, build relationships, and in the process develop a sense of belonging and mutual engagement” (Wenger et al., 2002, p. 33). Through mutual engagement, a joint enterprise, and a shared repertoire, individual people coalesce into a community of

practice (Wenger, 1998). Sustained mutual engagement, according to Wenger (1998), is what defines the community. The development of a shared practice within a CoP is dependent upon mutual engagement among community members over time. Further, a coherent CoP involves what Wenger (1998) refers to as a joint enterprise, which is “the result of a collective process of negotiation that reflects the full complexity of mutual engagement” (p. 77). In other words, this joint enterprise is a collective set of goals, actions, and undertakings negotiated by the community as they maintain engagement with one another. Finally, a CoP requires a shared repertoire, which is made up of ways of doing things, stories, concepts, words, and routines that have been adopted by the community (Wenger, 1998).

Members of the community develop relationships which lead to mutual trust and respect through engagement in activities such as resource sharing and problem solving. Simply working in the same organization, having the same role, or sharing a hobby do not constitute a CoP. A community is “a place where people can make a contribution and know it will be genuinely appreciated” (Wenger et al., 2002, p. 43). Regular interaction around issues related to the domain is necessary for a community to form. Over time, as community members interact with one another, they develop a shared understanding of the domain, a shared practice, a common history, and a common identity (Wenger et al., 2002). Membership in a community may either be self-driven or mandated; however, the level of participation and engagement is voluntary. A key concept in the formation and development of a community is reciprocity, which encourages members to contribute to the community with the understanding that they will benefit from participation as well.

Within a CoP, domain, community, and practice are closely interrelated. Practice, which is the third required component of a CoP, “denotes a set of socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance, and accountability” (Wenger et al., 2002, p. 37). The practice of the community explores issues related to the domain, provides a common language for communication within the community, and contributes to the shared history of the community (Wenger et al., 2002). Multiple types of knowledge are encompassed by a community’s practice, including stories, rules, theories, models, and lessons learned (Wenger, 1998; Wenger et al., 2002). Some evidence of the practice of a community can be found in specific documents, tools, books, and databases. Other evidence of practice, such as norms, ways of thinking, and ethics, is less visible (Wenger et al., 2002). While practice often begets evidence, this is not always the case. A community’s practice “is doing in a historical and social context that gives structure and meaning to what we do” (Wenger, 1998, p. 46).

Just as community development depends on regular interaction among members, successful development of a shared practice also requires that members explore and produce ideas through interactions with one another (Wenger et al., 2002). This exploration and production are described by Wenger (1998) as participation and reification. Wenger’s (1998) definition describes participation as a “complex process that combines doing, talking, thinking, feeling, and belonging” (p. 55). Participation is broader than being active in community meetings or working on a project. According to Wenger (1998), participation is ongoing and something they “always carry with them” (p.

57). This participation within a CoP shapes our experiences in the community while at the same time shaping the community itself. Complementary to participation is the notion of reification, which is defined by Wenger (1998) as “the process of giving form to our experience by producing objects that congeal this experience into ‘thingness’. In so doing we create points of focus around which the negotiation of meaning becomes organized” (p. 58). Reification is the act of projecting ourselves and the work of our communities out into the world. In Wenger’s (1998) view of the CoP, “participation and reification both require and enable each other” (p. 66).

Communities of Practice within Organizations

The relationship between a CoP and the organization in which members work can range from unrecognized by the organization to highly institutionalized (Wenger et al., 2002). While the health of CoPs “depends primarily on the voluntary engagement of their members and on the emergence of internal leadership” (Wenger et al., 2002, p. 11), organizations can foster the growth and development of CoPs by valuing their work, creating time and space for CoP tasks, encouraging participation, and removing barriers (Wenger et al., 2002). In fact, successful CoPs which are likely to inspire growth, leadership, and innovation exist at the intersection of “strategic relevance” to the organization and the passions of community members (Wenger et al., 2002, p. 31). Further, organizations do well to integrate CoPs into the structure of the organization, thereby giving them legitimacy and voice. Wenger (1998) describes communities of practice as being “key to an organization’s competence and to the evolution of that competence” (p. 241).

Wenger et al. (2002) suggest that “without intentional cultivation, the communities that do develop will depend on the spare time of members” (p. 13). As CoPs address complex issues, solve problems, and contribute to improved practice, they offer value to the organization, measurable by both tangible results (i.e. improved skills and faster access to information) and intangible results (i.e. relationships, confidence, and a sense of belonging) (Wenger et al., 2002). Perhaps of primary importance, CoPs bring value to the organization by “connecting the personal development and professional identities of practitioners to the strategy of the organization” (Wenger et al., 2002, p. 17). Whether a CoP is initiated by members or an organization, the ultimate success of the community will depend on the energy which members of the community generate (Wenger et al., 2002).

Active communities are fueled in part by a coordinator who serves to organize the practice and connect community members with one another and with resources related to the domain. This leader focuses the work of the community on its domain, maintains relationships within the community, and develops the practice of the community. The coordinator typically schedules and facilitates regular meetings, projects, resource sharing, and other community activities. Regular community events facilitate relationship building among members, fostering a “comfort level that invites candid discussions” (Wenger et al., 2002, p. 60). In addition to scheduling and facilitating community meetings, the coordinator also takes responsibility for connecting with members via private conversations, connecting members with resources, and assisting members with problem solving as issues arise. While meetings of the entire community

are essential, informal conversations and connections serve to strengthen relationships and establish a “conduit for sharing information” within the community (Wenger et al., 2002, p. 58). As such, effective CoP coordinators possess good interpersonal, networking, and coaching skills. Finally, the community coordinator maintains connections with the organization and with others outside of the community (Wenger et al., 2002).

Pitfalls of Communities of Practice

Successful CoPs depend on balanced integration of domain, community, and practice. If any element is neglected while others are prioritized, the community may suffer (Wenger et al., 2002). There are additional pitfalls of the CoP framework that may lead to ineffective or unsuccessful communities. First, while not all mandated communities will lack drive and passion, forced participation in a community may limit the amount of passion one brings to the community. Second, community members may not be given or take advantage of opportunities for sustained engagement with one another, which may prevent members from building relationships and developing trust. Third, a CoP that has become stable and developed a long history of shared practice may be at risk of becoming stagnant. In other words, intimacy within a CoP can present a barrier to newcomers or cause members be oblivious to innovative ideas. Finally, the qualities that may be considered strengths of a CoP (a strong identity, well-developed relationships, and a shared domain and practice) can be the very things that “hold it hostage to its history and its achievements” (Wenger et al., 2002, p. 140).

Levels of Participation in a Community of Practice

A central concept to the CoP framework is that of identity, which is built through the negotiation of meaning by membership in social communities (Wenger, 1998). The processes of participation and reification are active in the development of our identities within CoPs. “We define who we are by the ways we experience our selves through participation as well as by the ways we and others reify our selves” (Wenger, 1998, p. 150).

As we encounter our effects on the world and develop our relations with others, these layers build upon each other to produce our identity as a very complex interweaving of participative experience and reificative projections. Bringing the two together through the negotiation of meaning, we construct who we are. (Wenger, 1998, 151)

This ongoing process of identity development is social but unique for each member of a community, as each member of a given CoP exists along a distinct trajectory of community membership, formed by our identities. This trajectory is neither fixed nor a path that can be plotted out or planned. Just as a CoP is ever evolving and in a constant state of motion, the trajectory of each member is fluid and dynamic. Various types of trajectories exist within a CoP:

- Peripheral trajectories- may never lead to full participation, but provide access to the community
- Inbound trajectories- path of newcomers moving toward full participation
- Insider trajectories- continual evolution of one’s identity even after reaching full participation

- Boundary trajectories- members who exist at the boundary of the community and serve to link the CoP with others outside of the community
- Outbound trajectories- paths which lead out of the community

These different trajectories allow members to make sense of their engagement in the shared practice of the community. As such, communities of practice invite different levels of participation from members with varying levels of interest, degrees of experience, and expertise (Wenger et al., 2002). The most active level is referred to as the core group. Members of the core group take initiative in community projects, select topics and issues to focus the work of the community, and move the community forward in its domain. Just beyond the core group is the active group, whose members participate regularly but less intensely than the core group. Typically, a large percentage of members of a given community are referred to as peripheral participants, often remaining on the sidelines. Although these peripheral members may not contribute as actively or regularly to the community, they benefit through observation and private conversations (Wenger et al., 2002).

Levels of participation within a CoP change as members move from the sidelines to become involved in a project, step away from the core group until a topic of interest arises, or move from the active to the core group to take on a leadership role within the community. Successful communities create opportunities for members at all levels to engage, interact, and contribute, keeping even peripheral members connected to the domain and the community via shared practice. This happens naturally when the core of the CoP is passionate and active, drawing members toward the center (Wenger et al.,

2002). Further, membership ebbs and flows as community members interact with multiple CoPs throughout their lives. Diverse and ever-changing participation within a community is described by Lave and Wenger (1991): “A community of practice is a set of relations among person, activity, and world, over time and in relation with other tangential and overlapping communities of practice” (p. 98).

Communities of Practice as Apprenticeship through Legitimate Peripheral Participation

A CoP can serve as an apprenticeship model for newcomers to a profession, such as online teaching. Similar to traditional apprenticeships, the cognitive apprenticeship model involves a learner observing a master at work, with the learner gradually taking on more responsibility for tasks until the learner is able to complete the tasks independently (Collins et al., 1991). Cognitive processes are often invisible to learners and teachers, making the cognitive work of experts difficult to observe and learn. The cognitive apprenticeship model aims to make thinking visible and accessible for the apprentice (Collins et al., 1991). The CoP framework offers a more contemporary and social view of the apprenticeship. According to Lave and Wenger (1991), “mastery resides not in the master but in the organization of the community of practice of which the master is part” (p. 93). As apprentices observe and interact with community members, they learn through involvement in community activities and through the development of relationships with practicing CoP members. Membership within a CoP reflects a diverse range of apprentices and masters, all participating in and traveling along individual trajectories of identity development (Wenger, 1998). Sustained mutual engagement with

fully participating members of a community serves as an apprenticeship to newcomers (Lave & Wenger, 1991).

Closely related to the notion of CoP as apprenticeship, Lave and Wenger (1991) use the term “legitimate peripheral participation” (LPP) to describe “the process by which newcomers become part of a community of practice” (p. 29) which serves as a conceptual bridge that newcomers travel as they move toward full participation in a CoP. The development of identity, according to Lave and Wenger (1991), is fundamental to the notion of LPP. That is, movement along a trajectory toward full participation facilitates the learner becoming part of the community. This participation along the periphery of a community is viewed as legitimate because the purpose is for new community members to learn the knowledge and skills needed to move along a trajectory toward full participation in the community. In this way, the apprenticeship of new community members is not viewed as a master / novice relationship. Rather, the community consists of diverse levels of participation, experience, and relationships.

Although the term “peripheral” implies a member on the outskirts of a community, a newcomer’s LPP is not synonymous with the act of observing the actions of a community as an outsider. Rather, “it crucially involves participation as a way of learning - of both absorbing and being absorbed in - the ‘culture of practice’” (Lave & Wenger, 1991). More specifically, in order for newcomers to engage in LPP, they must gain access to the CoP and all aspects of membership within the community. Movement from peripheral to full participation requires that newcomers access community activities, members, resources, and shared practice. In addition to access, transparency is necessary

as new community members move from LPP to full participation. Evidence of shared practice within the community must be made transparent, so that newcomers can observe the “inner workings” of each artifact (Lave & Wenger, 1991, p. 101). As experienced community members make available access, transparency, and interaction to newcomers, they confirm the learning of newcomers as “legitimate and of value from the point of view of the apprentice” (Lave & Wenger, 1991, p. 109).

In my research, as experienced face-to-face teachers become novice online teachers, they need opportunities to interact with other online teachers who were placed in similar settings with similar challenges and issues. There is no cumulative body of knowledge that can be passed down to novice online teachers. On the contrary, the “knowledge of experts is an accumulation of experience - a kind of ‘residue’ of their actions, thinking, and conversations - that remains a dynamic part of their ongoing experience” (Wenger et al., 2002, p. 8). Developing expertise “requires interaction and informal storytelling, conversation, coaching, and apprenticeship of the kind that communities of practice provide” (Wenger et al., 2002, p. 8). Therefore, communities of practice provide a structure and process whereby novice online teachers can develop knowledge and engage with experts in a shared practice as they travel along trajectories toward full participation in a journey of becoming.

The application of CoPs as apprenticeship for new online teachers through legitimate peripheral participation provided a frame of reference for conducting this study. An examination of current research on effective online teaching practices provided insight into the domain and practice of the electronic learning community

process at a state virtual high school, which was the focus of this case study. Following a discussion of what research tells us about effective online teaching, this review will explore effective practices in the preparation of and ongoing support for new online instructors, including research into the CoP framework and electronic learning communities. Before exploring online instruction and professional development models for preparing new online instructors, the review will discuss the history and current state of online learning in the United States.

History and Current State of Online Learning

Historically, distance education – now online learning – has evolved greatly. In fact, online learning is changing at such a pace that researchers face challenges in remaining on the cutting edge in order to inform practice. Before examining current practices in online learning environments, this review provides a brief history of online learning. This section traces the history of distance education and online learning, provides a description of current models and purposes of online learning in K-12 education, and shares researchers' predictions about the future of online learning.

Early Distance Education

While the rapid growth of online learning can be attributed to advanced technologies and the development of the World Wide Web, the beginnings of distance education can be traced back much further. Online learning, only a recent occurrence in the development of distance education models, provides educational opportunities to learners who are at a distance from the education provider (Journell, 2013). In the late nineteenth century, distance education opportunities were available as correspondence

programs. Those who were prohibited from public education (i.e., women and minorities) or lived far from educational institutions could participate in correspondence programs, receiving educational materials and submitting assignments by mail (Larreamendy-Joerns & Leinhardt, 2006). In 1892, the University of Chicago was the first major U.S. institution to create a department solely dedicated to distance education, known as the Extension Department (Holmberg, 1986), which allowed the University to reach a much wider audience than was possible via traditional campus-based programs and to fulfill the social mission of providing educational opportunities for all (Larreamendy-Joerns & Leinhardt, 2006). Soon after, the distance education movement spread to many major universities across the nation (Larreamendy-Joerns & Leinhardt, 2006). It is interesting to note that in the beginning there were negative perceptions of these correspondence programs, similar to common perceptions of online learning today. For those delivering distance education, management of student work was time-consuming, and it remains so for online instructors today. There were also complaints of a lack of student-to-student interaction, which is a criticism of online learning as well. Just as today, face-to-face instruction was perceived to be of a higher quality than distance education (Journell, 2013).

Distance Education Meets the Internet

With the development of the Internet, the first major research university solely focused on distance education, the Open University, opened in Great Britain in 1969, and triggered the spread of distance education. Other developed countries established similar ‘open university’ programs. In the United States, several smaller state institutions were

created based on the Open University model. The availability of public access to the World Wide Web in 1993 forever changed the delivery of distance education. Since 1993, online learning has expanded to nearly every institution of higher education in the United States (Journell, 2013), and online enrollment has increased exponentially (Allen & Seaman, 2011). Over a period of eight years, (2002 to 2010), student enrollment in online higher education courses grew at an annual rate of 18.3%. During that time, the overall number of students in higher education grew at an annual rate of just two percent (Allen & Seaman, 2011). In U.S. higher education, online student enrollment surpassed six million in 2010, an increase of 560,000 students from the previous year. As of 2011, nearly one-third of all students in higher education were enrolled in at least one online course (Allen & Seaman, 2011).

Online Learning for Students in K-12 Settings

Online learning is much more established in U.S. higher education than in K-12 public education, having been initially adopted into K-12 schooling in the late 1990s (Wicks, 2010). Canada ventured into K-12 online learning prior to the U.S., in an attempt to provide educational opportunities to students in remote locations (Journell, 2013). In early K-12 online programs, students had two options: enroll in a full-time cyberschool, which was typically a charter school, or take supplemental online courses, primarily offered by state virtual schools and universities (Wicks, 2010). While these courses aimed to provide education anytime, anywhere, the format and structure of these courses imitated traditional educational systems with stand-alone courses and degrees (Natriello, 2005). In addition, only a very small percentage of the K-12 student

population had access to these early online learning options. Although opportunities have expanded greatly since those early distance education offerings, many states are still limited, as the availability of online learning opportunities varies widely depending on where students reside (Wicks, 2010). Limited public education funding at the state level forces schools and districts to allocate their own funds for many of the programs and services provided to students and leads to variability in offerings from district to district. As evidence of this variability, full-time online education was being offered to some but not all K-12 students in 30 states and the District of Columbia by 2011. (Watson et al., 2011). This means that in 20 states, K-12 students did not have access to online learning opportunities; further, many of the 30 states that provided online opportunities did so only for some students.

According to Natriello (2005), the transition from face-to-face to online instruction appears to be smoother in K-12 than in higher education, due to the ongoing accountability movement in public K-12 education. Public K-12 schools are familiar with justifying their procedures and processes, making the online learning transition a more successful one than its counterpart in higher education. In fact, as of 2011 three states required high school students to successfully complete at least one online course before graduation (Watson et al., 2011). Other states have since come on board, and the most recent findings show that five states have online learning as a graduation requirement (Barbour et al., 2013). Currently, the North Carolina State Board of Education has approved the addition of a K-12 online learning graduation requirement. Legislation mandating an online course requirement for all North Carolina high school

graduates is expected to go into effect beginning with the graduating class of 2020.

Further, some districts are also planning to establish their own online learning graduation requirement (Watson et al., 2011). However, despite the increase in online learning and rising demand, many K-12 schools and districts have progressed hesitantly, developing online courses and programs apart from core educational programs (Natriello, 2005).

Purposes of K-12 Online Learning

Online learning in K-12 settings serves several purposes, thus meeting the varied needs of students, parents, and administrators. Most K-12 online courses and programs serve high school students who are in need of alternatives to traditional school settings (Conceicao & Drummond, 2005). Instruction delivered online also provides students with access to opportunities that would otherwise be unavailable (Picciano et al., 2012; Watson, 2008; Wicks, 2010). For example, math, science, or foreign language courses, or advanced courses can be made available online. This is particularly beneficial in rural and inner-city settings, where face-to-face course offerings may be limited (Watson, 2008). In content areas where highly qualified teachers are in demand, online learning can meet that need (Watson, 2008; Wicks, 2010).

According to surveys of school and district administrators, credit recovery is the primary purpose of online courses in K-12 public education (Picciano et al., 2012). Credit recovery is becoming increasingly important for high school students, as well as for administrators, who are concerned with improving graduation rates (Picciano et al., 2012). Through online programs, schools and districts are able to offer a wider range of courses for students (Watson, 2008; Wicks, 2010). For some students,

traditional school offerings are too rigid to meet their learning needs and fit within their schedules. This group includes homebound students, elite athletes and performers, at-risk students, and dropouts. Virtual schooling can be the avenue through which these students can take a more flexible approach to education (Watson, 2008; Wicks, 2010).

Parents of online learners overwhelmingly view flexibility as the greatest benefit of online learning (Sorensen, 2012). Additionally, students wishing to accelerate their learning trajectory can access advanced courses and even graduate early by taking courses online (Conceicao & Drummond, 2005). It is important to note that not all rationales for online learning in K-12 public schools relate to learning outcomes and student needs. Many schools and districts have turned to online learning to reduce expenses in tough economic times for public schools (Burbules, 2004; Watson et al., 2011). The Internet has made the process of accessing and delivering information more cost efficient, and online learning takes full advantage of that fact (Journell, 2007). Other benefits of online education include:

- individualized instruction to meet students' learning needs
- greater motivation
- educational choice
- increased time for students to think
- opportunity for shy students to engage in discussions (Barbour, 2010)

Current Models of K-12 Online Learning

As online learning has expanded in K-12 public education, it has taken on various forms. All states have developed some form of online learning, but none have

established a full range of online offerings available to all learners (Watson et al., 2011; Wicks, 2010). There are no typical K-12 online models, as schools, districts, and states have implemented online learning in diverse ways (Wicks, 2010). However, researchers have defined five general models of K-12 online learning. They include single-district programs, multi-district programs, consortia, state virtual schools, and programs run by postsecondary institutions (Watson et al., 2011). Single-district programs are offered to students within one school district and primarily rely on blended learning models in which some instruction is delivered online and some face-to-face (Watson et al., 2011). In fact, single-district virtual programs are the fastest growing form of blended learning (Watson et al., 2011). These offerings tend to focus on credit recovery and are funded by individual school districts (Watson et al., 2011). While single-district programs have risen in recent years, there are numerous forms of multi-district programs which, as the name implies, are offered to students from multiple districts. Unlike single-district models, these programs often provide full-time, online learning opportunities for students (Watson et al., 2011). Not all districts have the resources to provide online options for their students, particularly smaller districts. Many of these districts have joined consortia in order to expand their capacity to offer online learning opportunities for their students. The Virtual High School Global Consortium is one such model, allowing schools to share resources and expand their online offerings (Watson et al., 2010).

State virtual schools, such as the Florida Virtual School and North Carolina Virtual Public School, provide online course offerings mainly to high school

students. These models make up a large component of K-12 online learning opportunities. However, according to Watson et al. (2011), these programs have become less important than they were in the past due to the increase in single-district, multi-district, and consortia offerings and the decrease in state funding. In 2011, forty states offered K-12 online learning opportunities via state virtual schools or other statewide online learning initiatives (Watson et al., 2011). Further, some districts provide online learning opportunities via university-based programs (Watson et al., 2011; Wicks, 2010). Opportunities for K-12 online learning can also be classified by the level of partnership between schools and partners. These partnerships span a continuum from home-grown programs, in which schools and districts create their own online courses, to vendor programs in which vendors serve as the sole course provider. Between those two extremes, some online models are hybrid programs with schools creating courses and selecting vendor courses as needed (Conceicao & Drummond, 2005).

According to data collected via a national survey of online K-12 teachers who teach in state-sanctioned virtual schools, the majority of online instructors in K-12 settings teach high schools students, followed by middle school, then elementary (Archambault & Crippen, 2009). These instructors have an average of fourteen years of teaching experience in traditional classrooms and an average of four years teaching online. A little more than one-third of survey participants in the Archambault & Crippen (2009) study used asynchronous delivery methods, with students completing assignments on their own time rather than meeting virtually at the same time. In addition, almost half used a content provider as opposed to creating their own content. Finally, results from

this survey revealed that the majority of teachers working for K-12 state virtual schools had positive perceptions about teaching online, with several participants commenting that teaching online is "challenging but rewarding" (Archambault & Crippen, 2009, p. 378).

The overall make-up of online learners in public K-12 schools is different than the general K-12 student population (Watson et al., 2011). These differences point to inequities that are a result of the digital divide with black, Hispanic, and Asian students being under-represented while white students are over-represented. In addition, English Learners (ELs) and students with special needs are severely under-represented in online courses. While the national percentage of ELs in public schools was 11% in 2011, the percentage of ELs in K-12 virtual learning environments was approximately two percent (Watson et al., 2011). Similarly, students with special needs made up 13.2% of the national K-12 population but only about six percent of the K-12 online student body (Watson et al., 2011). This gap is also economic, as evidenced by the disparity between the national percentage of K-12 students qualifying for free or reduced lunch (45%) and the percentage of K-12 students online who qualify (21.7%) (Watson et al., 2011). As mentioned previously, a significant amount of K-12 online learners are at-risk or underachieving students (Watson, 2008).

The Future of K-12 Online Learning

Due to the rapid and significant growth in online learning, it may be difficult to predict what the future holds. However, many researchers have attempted to describe what the future of K-12 online learning may be like. Following recent trends, enrollment in K-12 online schooling could reach approximately five million students by the year

2016 (Picciano et al., 2012). Christensen et al. (2008) predict that over half of all high school students will be enrolled in online courses by the year 2020. Cutting-edge technologies have increasingly become an important component of education, while improving broadband Internet access facilitates implementing these technologies. These trends will continue (Watson, 2008). Blended learning is the fastest-growing form of online learning (Watson et al., 2011) and predicted to continue to increase (Watson, 2008). Many K-12 online programs are using blended models to provide learning experiences that supplement traditional schooling (Watson et al., 2011). Mobile learning, in which students access learning experiences via mobile technology, is another model of online learning that is growing internationally and expected to become a significant part of the K-12 online learning landscape (Wicks, 2010).

As technology continues to change rapidly, school districts that fail to make an effort to incorporate online learning will fall behind (Journell, 2013). The percentage of chief academic officers who report that online learning is a significant component of their long-term instructional plan is on the rise after holding steady for several years (Allen & Seaman, 2011). Along with changes in technology that make possible new models of online learning, the role of the K-12 teacher will continue to evolve as online learning becomes a larger facet of the K-12 educational system (Natriello, 2005; Redmond, 2011). Teachers and students are at the center of online learning and, as such, they must continue to evolve along with technology and methods for teaching and learning (Watson, 2008). However, as online learning continues to expand there remain those

who question and critique its effectiveness and viability as an educational method. The main issues raised by critics are briefly described in the following section.

Critiques of Online Learning

Since the initial implementation of distance education models, from correspondence programs to online learning, many have criticized distance education by arguing that teaching and learning at a distance is less effective than traditional schooling (Bernard et al., 2004; Journell, 2013). Some fear that the quality of education will suffer when assembly-line educational methods replace traditional methods in virtual learning environments. Noble (2001) described an educational system whereby instruction is designed to "produce this product, in the shortest amount of time, with the least resources, to the greatest effect" (p. 30), ultimately leading to the deprofessionalization of academic labor. This fear is not unfounded. For example, a North Carolina principal drew attention for claiming to have earned a Ph.D. from an online institution referred to as a "diploma mill", an institution that awards degrees for little work for a fee (Clark, 2011; Noble, 2001). This and other concerns affect how teachers, students, parents, and others perceive online learning.

Recently, researchers have begun to collect comparative data between online and face-to-face learning environments. The data are mixed, revealing wide variability in the quality of teaching and learning in traditional and online settings (Bernard et al., 2004). Data comparing traditional and online schooling support the notion that "good teaching is good teaching", regardless of the format (Journell et al., 2013, p. 127). The inverse of that is also true: "poor pedagogy is poor pedagogy", whether it is delivered

face-to-face or online (Barcelona, 2009, p. 193). The next section presents the mixed findings from researchers in response to critiques against online education as compared to traditional education. Critiques described below pertain to online education in general, including research in higher education and K-12 online settings. These criticisms of online education have been voiced by those concerned with online K-12 schooling and online higher education.

Student Achievement

Perhaps the most pressing concern related to online education is that of student achievement. In today's high stakes public education system, students, parents, teachers, and administrators are acutely aware of achievement measures. While there is a lack of empirical research on K-12 online student achievement, many researchers have examined student achievement in online higher education. Bernard et al. (2004) conducted a meta-analysis of 232 higher education studies from 1985 to 2002 in order to provide a comprehensive comparison of student outcomes in traditional and distance learning environments. Overall, there was a small but significant difference in student achievement favoring distance education. However, the researchers urged readers to use caution in interpreting these results as there was a large amount of variability among studies. According to Bernard et al. (2004), "It is simply incorrect to state that DE is better than, worse than, or even equal to classroom instruction" (p. 406). Similarly, Dell, Low, and Wilker (2010) found student achievement results between graduate students in an online course and those in a face-to-face section of the same course to be so similar that generalizations could not be made.

More recently, findings from a meta-analysis of 125 studies revealed that undergraduate and graduate students in distance education programs outperformed their peers in traditional classrooms (Shachar & Neumann, 2010). These researchers asserted that distance education is not only comparable to face-to-face instruction, but it has been found to be more effective in terms of student achievement. According to Shachar and Neumann (2010), these findings successfully overturned the notion that traditional schooling is more effective than distance learning alternatives. However, Barbour (2010) warned readers of studies comparing student achievement in traditional and online learning environments to interpret findings with caution. The dropout rate is much higher in online courses and programs than in traditional settings (Bernard et al., 2004; Jun, 2005). This low retention rate in online settings could contribute to skewed data, since students who perform poorly may drop out before final data collection (Barbour, 2010). An additional reason that these mixed results should be interpreted cautiously is that researchers have found teaching practices to be more significant than the format of course delivery (Bernard et al., 2004; Dell et al., 2010).

Quality of Teaching

Similar to the research on student achievement in traditional and online schooling, the research literature on the quality of instruction in face-to-face versus virtual environments is mixed in both higher education and K-12 contexts. Many researchers are in agreement that the learning medium is less important than the instructional strategies used by the instructor (Barcelona, 2009; Bernard et al., 2004; Dell et al., 2010; Journell et al., 2013). Interactions between teachers and students, as well as among students, are just

as important online as they are in traditional classrooms (Dell et al., 2010). In fact, interaction may be more important online due to the separation in time and place between teacher and students (Mayes et al., 2011).

Despite the importance of interaction in online settings, designing and maintaining interactive online learning environments may be more difficult than in traditional classrooms. For example, high school students taking an online United States history course perceived the online environment to be less conducive to interaction than face-to-face settings (Journell, 2010). Likewise, the teacher of the course believed the traditional classroom to be a better environment for interaction and collaboration and perceived the online environment to be better suited for delivering content (Journell, 2010). Similarly, students enrolled in a virtual high school program in Canada believed that communication with other students and the instructor was necessary but unsatisfactory. These students perceived that online communication tools held potential that was untapped during their online experience (Tunison & Noonan, 2001). According to Journell (2010), the perceptions of teachers and students that online learning environments are less able to facilitate interaction and collaboration are “symptomatic of a larger problem within secondary e-learning in that teachers and students are often uninformed about online instruction and, as a result, unprepared to transfer notions of active learning into an online format” (p. 77).

Another significant distinction between interaction in traditional and virtual classrooms is the shift in literacy skills necessary to be successful as an online learner. Traditional classroom interactions require speaking and listening skills, while

communication online requires reading and writing skills. Further, online learners' writing must make up for the lack of visual and verbal clues in virtual classroom interaction (Larson, 2003). High school world history students participating in both face-to-face and online discussions over the course of a semester felt that communicating their ideas was more difficult and time consuming online than face-to-face (Larson, 2003). On the other hand, some students preferred the online discussions because they had more time to understand their classmates' comments and think about their own contributions to the discussion. These students, who tended to be English learners and students who are shy in traditional classrooms, felt less afraid during virtual discussions than during conventional ones (Larson, 2003).

Dropout Problem

According to findings from the meta-analysis conducted by Bernard et al. (2004), significantly fewer higher education students completed online courses compared to students in traditional courses. Further analysis of these data revealed that the online retention rate was higher in synchronous online environments, in which students and instructor engaged in online learning activities at the same time, than it was in asynchronous environments where students completed learning activities on their time (Bernard et al., 2004). However, reports of dropout rates were inconsistent due to various factors. For example, some virtual programs had a large population of at-risk students, particularly during the summer when students enrolled in credit recovery programs. Additionally, dropout rates were calculated in different ways or at different times from program to program, leading to inconsistent reporting. Finally, virtual programs differed

in the amount of funding and resources available to teachers and students (Roblyer, 2006).

Not all online programs have high dropout rates, however. Roblyer (2006) examined five successful virtual high school programs, in which retention rates and assessment results rivaled or exceeded those of traditional school programs. Virtual learning programs with high success rates prepared students to be successful by providing orientation, checklists, and other supports to help students adjust to online learning. Course design in successful programs was interactive and flexible, providing multiple opportunities for learner-learner, learner-content, and learner-instructor interaction. Further, student needs were met through constant support, as all staff monitored student progress. In addition, successful online programs prepared teachers for success by providing professional development, working to develop a community of learners, and ensuring that teachers meet high expectations by offering ongoing support and monitoring (Roblyer, 2006).

The Digital Divide

As technology becomes more ubiquitous in American homes and schools, it is apparent that not all students have equal access to technology both in and out of school. This digital divide follows geographic, socioeconomic, ethnic, and cultural boundaries across the nation (Journell, 2007). Inequity in access to technology poses a challenge for K-12 online learning and has been cited as a critique of online learning. Although digital inequity is typically defined by access, the problem is much bigger than that. While students from families with a higher socioeconomic status are more likely to

have access to technology at home, they are also more likely to be enrolled in schools with more qualified and technologically savvy teachers (Journell, 2007). The digital divide affects rural and urban areas alike (Haythornthwaite, 2007). Online learning has been proposed as a temporary solution to the issue of the digital divide because students without local access to high-quality teachers and rigorous courses can have equal access to quality education via online courses and programs (Journell, 2007).

Students as Online Learners

Transitioning from traditional to virtual classrooms presents several challenges to students. A study of high school students enrolled in an online history course revealed that many students believed online courses to be less rigorous than traditional courses (Journell, 2010). Most of the students in this study admitted to taking the online course because they thought it would be quicker and easier than taking the course face-to-face (Journell, 2010). On the contrary, several high school students enrolled in a virtual school in Canada perceived online coursework to be more difficult than the work their peers were doing in traditional classrooms (Tunison & Noonan, 2001). These virtual high school students were required to complete a preparatory course designed to help them learn to navigate the technical aspects of the online learning environment and increase their familiarity with online communication tools. Approximately one-third of those students felt that the preparatory course was somewhat or very useful (Tunison & Noonan, 2001).

Additionally, Tunison and Noonan (2001) found an interesting contradiction. Students appreciated the flexibility and freedom of learning online but

struggled to manage their autonomy, often procrastinating with assignments (Tunison & Noonan, 2001). According to a mixed methods study, students in high school distance learning programs identified their need to control the time and pace of learning as being more important than interaction and other features of distance learning (Roblyer, 1999). Roblyer (1999) argued that it is possible to predict groups of students who may be successful as distance learners and who may struggle. Educators could potentially impact student success by offering counseling and guidance according to student preferences (Roblyer, 1999).

Predicting K-12 Online Student Success

Research about successful online students cites the following desirable traits: highly motivated, self-directed, self-disciplined, independent, strong reading and writing skills, and strong technological skills (Haughey & Muirhead, 1999). However, not all K-12 online students fit this description. As mentioned previously, a large percentage of K-12 online learners enroll in online courses for credit recovery purposes, having been unsuccessful in traditional settings. A number of researchers have turned their attention to identifying factors that contribute to student success online, predicting which students will be successful, and developing processes for providing interventions for at-risk students (Liu & Cavanaugh, 2011; Hawkins, Graham, Sudweeks, & Barbour, 2013; Roblyer & Davis, 2008; Roblyer & Marshall, 2002-03). Two categories of predictive research have developed: research into learner characteristics and research into learning environment characteristics. The purpose of this research is to provide guidance to assist online teachers, schools, and organizations in facilitating success for online learners.

Liu and Cavanaugh (2011) conducted an empirical investigation into the factors that influence high school student performance in an online course. Researchers examined the following student factors to determine the relationship between these factors and student performance: time spent in the learning management system (LMS), number of times logged into the LMS, free/reduced lunch status, teacher comments, student learning ability, grade level, race/ethnicity, and full or part-time status. Students' socioeconomic status as measured by eligibility for free or reduced lunch had a significant negative effect on online student performance. In addition, the amount of time spent in the LMS had the strongest significant effect of all factors included in the study. In order to better understand these findings, more research is needed to identify the activities students engage in while logged into the LMS and which activities contribute to student performance. Student learning ability as measured by the provision of an individualized education plan (IEP) and race/ethnicity were not found to be significant factors. Surprisingly, teacher comments and feedback did not have a significant effect on student performance (Liu & Cavanaugh, 2011).

Roblyer (1999) has argued that it is possible to predict groups of students who may be successful as distance learners and those who may struggle. Educators could potentially impact student success by offering counseling and guidance according to student preferences (Roblyer, 1999). Roblyer and Marshall (2002-03) developed a model to differentiate between successful and unsuccessful online K-12 students. The model has been tested with students enrolled in the Virtual High School Global Consortium (VHS) and revised in an attempt to establish a model that is highly effective in predicting

which K-12 students will be successful in online courses (Roblyer & Davis, 2008; Roblyer et al., 2008). Initially, Roblyer and Marshall (2002-03) developed the *Educational Success Prediction Instrument* (ESPRI). The instrument measures several learner and learning environment characteristics in order to determine which combination of factors serves to effectively predict student success online. To date, the best combination of predictors included two learner characteristics (age and GPA) and two environmental characteristics (home computer availability and school period for working on online course) (Roblyer & Davis, 2008; Roblyer et al., 2008). Using this combination of predictors, this model has a 93% success rate in predicting student success in a VHS course and a 30.4% success rate in predicting student failure (Roblyer & Davis, 2008; Roblyer et al., 2008). Predictive models such as this one can be used by online schools and organizations to identify and develop interventions for at-risk students. However, Roblyer and Davis (2008) contend that a unique prediction formula may be needed for each virtual school due to differences in student population.

Because the issue of student success as online learners and other critiques of online learning may be ameliorated by sound pedagogy and quality teaching, the following section addresses the characteristics of effective online instruction, which comprise the domain and practice of the electronic learning communities under study.

Qualities of Effective Online Instruction

A review of current research on teaching in online learning environments revealed consensus on the qualities and practices of effective online instructors. While most of this research was conducted in higher education settings, there is a newer and still

growing body of research on K-12 online teaching. Without question, there is great need for research into effective practices for online instruction in K-12 settings. However, the research base for effective online instruction in higher education provides a foundation for a look into what makes an effective K-12 online teacher. The following section of this review provides a synthesis of the current research on effective instructional practices in online learning environments, beginning with an introduction to widely-used *Standards for Quality Online Teaching*. Next, the review will turn to a brief discussion of current research on effective online teaching in higher education settings followed by an examination of effective practices in K-12 online learning environments. The characteristics of effective online instructors, which are synthesized in this review, comprise a set of knowledge and skills needed for new online teachers. According to Lave and Wenger (1991), this set of knowledge and skills can be developed as new online teachers engage in legitimate peripheral participation with experienced online teachers in a CoP.

Standards for Quality Online Teaching

Two organizations have spearheaded the movement toward a common language for describing and evaluating effective teaching online: the Southern Regional Education Board (SREB) and the International Association for K-12 Online Learning (iNACOL). In 2006, the SREB recognized the need for a set of commonly used standards to guide and evaluate the work of online teachers, courses, and programs. A team of experts from K-12 and higher education developed a set of standards, following a review of the research on online teaching by a team of representatives from iNACOL,

known as the *Standards for Quality Online Teaching* that have been widely implemented in practice and supported by research (SREB, 2006). iNACOL fully endorsed these standards in 2008 as a comprehensive set of criteria for guiding and evaluating quality online teaching. With the *Standards for Quality Online Teaching* already in use by virtual schools in sixteen states, the iNACOL team felt that the SREB standards best represented the qualities necessary for online teachers (iNACOL, 2011b).

Just three years later, as online learning continued to expand, iNACOL once again organized a team of educators and researchers to review the current *Standards for Quality Online Teaching* based on recent research on online teaching, and feedback gathered from iNACOL since adoption of the SREB standards in 2008. During this process, the iNACOL review team revised the standards by dividing them into two separate strands. These standards became the *National Standards for Quality Online Teaching* and the *National Standards for Quality Online Courses*. The teaching standards indicate what online teachers should know, understand, and do, while the course standards provide guidelines for evaluating online content, instructional design, use of technology, assessment, and course management (iNACOL, 2011b). For the purposes of this review, a brief, integrated synopsis of the *National Standards for Quality Online Teaching* and *Quality Online Courses* follows (iNACOL, 2011b).

According to iNACOL, quality online teachers understand and implement current best practices for teaching online and engage in continual professional learning to remain up-to-date with their understanding of content, pedagogy, and skills. Online instructors are able to create, adapt, and share content through multiple types of media while

designing engaging assignments and projects that encourage critical thinking. A range of grade-appropriate and emerging technologies are used to support quality online teaching and engaged learning, allowing for multiple types of interaction among learners, instructor, and content. Additionally, quality online instructors teach appropriate and responsible use of digital tools and content (iNACOL, 2011a, 2011b).

In addition, clear communication of expectations, content objectives and learner outcomes are built into quality online course design, and instructors use various types of communication to maintain contact with and provide ongoing, timely feedback to students. Effective online instructors build community among course participants within a student-centered environment. Instructors of quality online courses use regular and varied assessments to gather information on student progress toward learning outcomes, utilizing assessment data to differentiate instruction and ensure that diverse student needs are being met. Adaptive/assistive technologies and collaboration with others allow effective online instructors to provide access to all learners and address diverse learning needs as mandated by the *Americans with Disabilities Act*, the *Individuals with Disabilities in Education Act*, and other similar guidelines and mandates. Further, quality online teachers empower students to self-assess, determine their own readiness, and reflect on their own learning (iNACOL, 2011a, 2011b).

While these standards reveal that there is much in common between face-to-face and online teaching, they also emphasize particular competencies that are necessary for successful online teaching. Effective teaching online demands many of the same competencies as face-to-face teaching, as well as additional skills beyond those expected

of traditional teachers (Barbour et al., 2013; NEA, 2006; Smith, 2005). The purpose of these standards is to ensure quality teaching in online environments, just as quality teaching is expected in traditional, face-to-face classrooms. Every student deserves quality teaching, regardless of the learning environment (NEA, 2006). In the following sections, the particular qualities of effective online teachers are described in more detail.

Quality Teaching in Online Higher Education

A review of current research on teaching in online learning environments revealed that most of this research was conducted in higher education settings. However, the assumption can be made that effective practices for online instruction in higher education can translate to K-12 settings. This section presents findings from current research literature on effective teaching in online higher education settings. Following this section, research conducted on quality teaching in K-12 online settings will be discussed. The research literature on online instruction in higher education emphasizes three broad categories of online teaching practices: establishing presence, providing opportunities for interaction, and other critical components for effective online teaching, including clear communication and feedback.

Establishing presence. According to Garrison and Anderson (2003), establishing presence is one of the first and most important challenges for online instructors. Three types of presence are key to improving student learning, establishing classroom community, and developing student satisfaction online: social presence, teaching presence, and cognitive presence (Garrison, Anderson, & Archer, 2000). Effective online teachers proactively address the sense of isolation that often

occurs in online environments by being intentional about promoting social presence (Mayes et al., 2011). Social presence represents the degree to which students feel they are interacting with real people in online courses (Sung & Mayer, 2012). Numerous studies have shown that social presence is related to a sense of belonging in a learning community (Picciano, 2002; Rovai, 2001) and impacts student learning (Sung & Mayer, 2012). Online learners are separated by distance and often by time, and this sense of belonging is a necessary prerequisite for classroom community to develop online (Boling et al., 2012; Garrison & Anderson, 2003; Rovai, 2001). Measurable outcomes of classroom community include interaction with content, active resource sharing, expressions of support and encouragement, and willingness to provide constructive feedback to others (Paloff & Pratt, 2007). As instructors work to nurture a supportive climate and establish social presence, the risk of isolation is lessened and the potential for mutual support is strengthened (Palloff & Pratt, 2011).

If social presence is the first order of business for online instructors, developing and sustaining a teaching presence is the second. Excellent online instructors establish teaching presence early in the course and encourage students to establish their own presence as well (Palloff & Pratt, 2011). However, research has shown that social presence is necessary but insufficient in itself for high levels of learning. Garrison and Anderson (2003) asserted that there is always a need for the teacher to guide and direct online learning experiences. This shaping is known as teaching presence which, though similar to social presence, is more difficult to develop online than in traditional settings. In order to ensure that every student stays connected to course content and to

other learners in the course, the teacher must constantly monitor students' contributions to the learning community and provide direction (Haythornthwaite et al., 2000). Quality online course design and implementation with regard to teaching presence involves providing stimulating questions, modeling contributions to the learning community, challenging students' ideas, focusing class discussions, and promoting positive discourse (Garrison & Cleveland-Innes, 2005).

Social presence and teaching presence have been identified as precursors for cognitive presence (Garrison & Anderson, 2003). Cognitive presence is used to describe the degree to which members of a community construct meaning through ongoing communication (Garrison, Anderson, & Archer, 2000). Findings from a quantitative empirical study into how online instructors can promote deep approaches to learning (Garrison & Cleveland-Innes, 2005) confirmed the researchers' previously held notion that social presence is necessary but insufficient for developing a community of inquiry, which integrates social, cognitive, and teaching presence (Garrison & Anderson, 2003). In other words, social interaction alone does not promote cognitive presence. As with establishing social presence, the instructor must take steps to develop cognitive presence in online learning environments. Thus, teaching presence has a strong influence on both social presence and cognitive presence.

Providing opportunities for interaction. Closely related to the three types of presence necessary for quality online learning environments are three types of interaction identified by Moore (1989) as critical for learning and engagement in distance education settings: learner-learner interaction, learner-content interaction, and learner-instructor

interaction. Having established that developing the three forms of presence is a desirable outcome of quality online teaching, research confirms that providing opportunities for interaction is necessary for them to occur. Without pedagogical preparation for effective online teaching, online instructors tend to rely on text-based teaching and learning, which hinders interaction among students and between teacher and students (Boling et al., 2012). When describing optimal results through a social cognitive lens, interaction among learners, content, and instructor is the means by which presence is established, community is formed, and learning takes place.

While a slight positive relationship has been found to exist between the number of messages exchanged between learners and the level of classroom community in online learning environments (Rovai, 2001), research has repeatedly shown that the quality of interaction is more meaningful than quantity (Garrison et al., 2000; Garrison & Cleveland-Innes, 2005; Journell, 2008), and the necessary factor for quality interaction was teaching presence (Garrison & Anderson, 2003; Haythornthwaite et al., 2000). Developing cognitive presence involves not only interaction among learners but also their involvement with content. Of course, engaging with course content is necessary in all learning environments, whether traditional or online. However, online instructors must do more than provide students access to content. Effective online teachers design authentic and complex tasks related to course content by utilizing multiple types of media and encouraging students to apply content to their own experiences (Haythornthwaite et al., 2000; Schweizer, Whipp, & Hayslett, 2002).

While learner-learner and learner-content interactions are necessary for learning and engagement in virtual environments, a review of the research also supports the claim that learner-instructor interactions are more important than the other two types of interaction (Herring & Clevenger-Schmertzling, 2007; Journell, 2008; Rovai, 2001). Online instructors may be unaware of the tremendous potential in planning for and implementing opportunities for learner-instructor interaction. As learners interact with the instructor, they learn how to become part of, and make meaningful contributions to, a learning community (Shackelford & Maxwell, 2012). Teachers can provide this much-needed learner-instructor interaction by taking an active role in synchronous and asynchronous discussions (Tallent-Runnels et al., 2006), providing content through videos and podcasts, and utilizing interactive tools such as blogs and wikis (Brinthaupt et al., 2011). Another effective yet simple strategy for learner-instructor interaction is scheduling virtual office hours or regularly scheduled open chats to maintain ongoing communication (Haughton & Romero, 2009; Journell, 2008).

Just as establishing presence and providing opportunities for interaction are critical to effective online teaching, there are additional competencies and skills that contribute to the success of online teaching. Two competencies, in particular, emerged as themes in the review of current research literature on effective online teaching: providing clear communication of expectations and assessing and providing feedback on student learning. Experts identified these competencies as *Standards for Quality Online Teaching* (iNACOL, 2011b) and researchers have found them to be consistent

components of successful online courses (Bailie, 2011; Gaytan & McEwen, 2007; Sheridan & Kelly, 2010; Smith, 2005).

Clear communication. One of the most frequently recurring themes in the literature related to quality online teaching is the importance of clear communication from the instructor. Of the ten most important indicators of teaching presence as perceived by students, seven were related to clear communication. These indicators included: clear course requirements; clear communication of deadlines, clear expectations for participating in discussions, clear instructions for learning activities, clear communication about important content, communication of course goals, and an up-to-date course calendar (Sheridan & Kelly, 2010). This communication should happen prior to the start of the course, and the instructor must continually monitor and provide feedback on student contributions to ensure that they continue to meet expectations (Garrison & Anderson, 2003). A frequent cause of poor student participation in online discussions, low student satisfaction, and minimal student learning is failure to communicate expectations for online participation (Garrison & Cleveland-Innes, 2005; Journell, 2008; Mayes et al., 2011).

Feedback. Feedback is one of the most common recommendations from the research on assessment in online learning environments. Traditional classrooms provide a context in which instructors often use nonverbal cues and proximity to communicate feedback to learners. Providing feedback, therefore, must become more deliberate online. Online learners desire prompt, frequent, and individualized feedback from instructors (Haughton & Romero, 2009; Herring & Clevenger-Schmertzling, 2007; Kerr,

2011; Schweizer et al., 2012). Three studies seeking to identify effective instructional and assessment techniques as perceived by online instructors and students revealed that continual, immediate, and descriptive feedback about student learning were the top strategies employed by online instructors (Bailie, 2011; Boling et al., 2012; Gaytan & McEwen, 2007). Peterson and Slotta (2009) found that continuous feedback influenced student learning. Regular, individualized feedback allowed online instructors to maintain a steady teaching presence, promote social presence, and enhance cognitive presence.

Quality Teaching in Online K-12 Education

Due to the new and still growing body of research on K-12 online teaching, researchers must rely somewhat on foundational research conducted in online higher education settings. Very few empirical studies have been conducted to identify effective teaching practices in K-12 online education. Without question, there is great need for research into effective practices for online instruction in K-12 settings. Despite the dearth of research in this area, one thing that is known is that the effectiveness of K-12 online education has less to do with the medium and more to do with the teacher, the student, and the teaching and learning strategies used (Bernard et al., 2004; Journell et al., 2013; Rice, 2006).

DiPietro, Ferdig, Black, and Preston (2008) conducted a qualitative study of teachers from the Michigan Virtual School (MVS) to determine best practices for K-12 online teaching. Sixteen teachers from MVS participated in semi-structured interviews. Researchers identified 37 instructor traits and best practices and organized them into the following categories: community, technology, student engagement, meaningful content,

and supporting and assessing students. Effective traits and practices included skill with technology, establishing presence, formation of a community, the use of multiple channels of communication, strong content knowledge, use of multiple assessment strategies, accommodations for varying learning styles, timely feedback, clearly organized content, and rich interactions with students, among others.

A review of open access literature in K-12 online learning revealed that the highest percentage of literature in the field of K-12 online teaching practices was related to learner-instructor interaction, including the use of active learning strategies and providing feedback to students (Cavanaugh et al., 2009). Hawkins et al. (2013) used a survey of students enrolled in Utah's Electronic High School to examine the relationship between student perceptions of learner-instructor interaction and academic performance. Findings revealed that an increase in the frequency and quality of interaction between teacher and student led to an increased probability of course completion. Compared to non-completers, students who completed the course perceived greater frequency and quality of interaction. Increased frequency and quality of learner-instructor interaction, though, did not have a significant effect on student performance as measured by course grades (Hawkins et al., 2013). However, according to findings from Herring and Clevenger-Schmertzling (2007), not only did learner-instructor interaction support community development and student engagement, students in an online high school course perceived that they learned more when instructor interaction was high than when they interacted little with the instructor.

A multiple case study of three online high schools revealed qualities of effective online instruction, including timely and consistent feedback, learner-learner interaction, and clear articulation of learning goals (Kerr, 2011). This study also pointed to environmental factors affecting online learning, such as providing a room or quiet space at school for students to participate in their online courses as well as student access to technology at home and in school. Findings from an investigation of the impact of interaction on student performance in an online high school social studies course supported Kerr's (2011) findings (Herring & Clevenger-Schmertzling, 2007). Students preferred feedback from the instructor and frequent interaction with the instructor. However, students did not value learner-learner interaction as much as learner-instructor interaction. As in the Hawkins et al. (2013) study, the amount of interaction was not related to student performance.

Implications from a multiple case study of three online high schools suggested that online teachers must consider ways to facilitate communication among students and design structured opportunities for learner-learner interaction (Kerr, 2011). One recommendation made by this researcher was for teachers to facilitate discussions at the beginning of the course to provide a model, and then gradually allow students to take on responsibility for facilitating conversations. Since the majority of learner-learner and learner-instructor interaction in K-12 online environments occurs asynchronously through discussion boards (Boling et al., 2012; Murphy et al., 2011), online instructors need to develop strategies for facilitating quality discussions. Through interviews, several online high school teachers admitted to relying mostly on text for interaction with students,

supplementing with synchronous discussions or audio communication only occasionally (Murphy et al., 2011).

A study of discussions in an online high school history course revealed that a lack of teaching presence was responsible for weak discussions in which the majority of students lost interest because a few monopolized the conversation. These discussions lacked substance and depth. In fact, most students failed to read posts by other students or show any interest in engaging with other learners in critical historical discourse. The noticeable lack of instructor interaction on the discussion board, a failure to communicate expectations for participation, and the resulting low-quality discussions in this study support research on teaching presence through instructor interaction as the catalyst for both social and cognitive presence (Journell, 2008).

Communication in online environments can take many forms. In fact, researchers encourage online instructors to use multiple means of communication, including email, synchronous and asynchronous discussions, virtual office hours, and open forums (Journell, 2008). Additionally, providing examples of appropriate responses and exemplary student work can assist with communicating expectations clearly (Journell, 2008; Kerr, 2011), while rubrics can be useful for instructors to communicate their expectations and learners to monitor their own progress (Kerr, 2011).

Barbour (2005) developed seven guidelines for web design of online courses for secondary students. These guidelines were culled from interviews with course developers, administrators, and teachers at the Centre for Distance Learning and

Innovation in Newfoundland, Canada. Recommendations for course development include:

- Plan out the course with specific lesson ideas before developing web-based content.
- Keep the navigation simple but use variety in presenting material.
- Summarize content from readings or synchronous lessons and personalize the content to students' contexts.
- Provide clear instructions and model your expectations for student work.
- Use visuals and other media to supplement text and avoid using too much text.
- Use multimedia only when it enhances content, not simply to use multimedia.
- Develop content for average or below average students (Barbour, 2005).

Online instructors' capacity to design and deliver online courses that exhibit these competencies will depend on the quality of new teacher preparation and support available.

Teacher Preparation and Professional Development for Online Instructors

As the research cited above suggests, new online instructors need training and ongoing support in order to develop the requisite qualities for effective online teaching. Sadly, this preparation and support does not occur in many cases (Hawkins et al., 2012; Ray, 2009). Several studies have shown that online instructors believe training should be required before teaching an online course, and the majority of those who have experienced such training felt that it positively impacted their success as online instructors as well as their students' success (Learn NC, 2008; Ray, 2009).

This section synthesizes the literature related to teacher education and professional development (PD) for online instructors. It begins with a look at the research on what teacher education programs could do to prepare pre-service teachers to teach in online learning environments. The next section focuses on professional development for online instructors, beginning with an overview of what research has to say about effective PD in general and a research-based description of several effective PD models. This section provides the foundation for a discussion on effective preparation and support for new online instructors in particular. Because much of the literature pertaining to online instruction has been conducted in higher education, this research is woven into the research on PD for K-12 online instructors. The need for further research on qualities of effective online teaching in K-12 settings and training for K-12 online instructors necessitates some reliance on what works in higher education online settings. That is, the research on qualities of and preparation for online college and university faculty can offer guidance to those working in the K-12 online learning field. Finally, this section concludes with recommendations for teacher preparation and PD models that can prepare and provide ongoing support for new K-12 online instructors. To begin, a discussion of the challenges facing new online instructors makes evident the need for new online teacher support.

Challenges Facing Online Instructors

This review of the literature revealed four categories of challenges to which teacher educators and professional developers must respond by providing training and support specifically designed for online instructors.

Teaching online differs from traditional teaching. Although “good teaching is good teaching” (Journell et al., 2013, p. 127), research has shown time and again that online instructors perceive teaching online to be more difficult and time-consuming than teaching in traditional, face-to-face classrooms (Ray, 2009; Redmond, 2011). Online instructors spend more time and energy designing courses, assessing and providing feedback on student work, and maintaining ongoing communication with students (De Gagne & Walters, 2010). This contradicts the misconception that teaching online requires little preparation and teaching because online learners are primarily responsible for mastering content on their own (Learn NC, 2008). In fact, many experienced traditional teachers believe that adjusting to online teaching simply requires transplanting their face-to-face content and strategies to an online environment, only to discover that online learning environments present unique challenges to the instructor (Learn NC, 2008; Redmond, 2011).

The differences between teaching in traditional settings and teaching online should ideally lead teachers to search for innovative practices to better meet the needs of online learners (Hawkins et al., 2012). For example, online instructors must consider changes to their practice in course design, content delivery, communication, student involvement, and assessment, in addition to mastering new technology tools (Levy, 2003). As previously described in this review, online instructors need new practices in order to develop the three types of presence necessary for online learning environments (Garrison et al., 2000; Peterson & Slotta, 2009). However, some administrators expect traditional instructors to teach well online instantly. This expectation is unreasonable,

particularly when these instructors do not have access to quality PD to help them adjust to online teaching (Redmond, 2011; Smith, 2005).

Changing role of instructor.

It is possible to envision scenarios in which teaching is diminished as an element of the education sector with many functions once performed by teachers now shifted to advanced information and communication technologies or at least to lower cost instructors far from the site where education is actually delivered. (Natriello, 2005, p. 1900)

For example, in addition to mastering new skills and competencies, instructors transitioning from designing and delivering traditional face-to-face teaching to online courses must embrace new roles and expectations (Redmond, 2011). In many cases online instructors feel disconnected from the traditional teaching experience, perceiving their role to be more like a facilitator and evaluator of student work and less like a teacher (Hawkins et al., 2012), although Garrison and Anderson (2003) advocate for a strong teaching presence. This strong teaching presence sometimes requires the instructor to be an active participant while other times facilitating student-led learning experiences. One K-12 online teacher participating in a qualitative study exploring teacher perceptions of online teaching roles admitted:

I don't feel like I am teaching them. I feel like I put it out there, and they have to be willing to put the time and effort into it and learn the material. And you know, I'm kind of removed from it. (Hawkins et al., 2012, p. 137)

Teachers associate their professional identity closely with being in a physical classroom and experiencing high levels of control over the learning environment

(Meloncon, 2007). In online courses, with the absence of face-to-face communication and more control shifted to the learner, teachers may experience a loss of identity. Further, research has shown that many instructors find it harder to build a sense of community among online learners who are separated by distance and time (Garrison & Anderson, 2003; Schutt, Allen, & Laumakis, 2009). This can lead to feelings of frustration, as teachers believe they are unable to fulfill the traditional teaching roles to which they are accustomed in face-to-face settings (Hawkins et al., 2012). Again, adjusting existing teaching practices and adopting new practices can help online instructors build a sense of community among learners in the classroom, learn how to deliver content effectively online, and maintain regular communication with students – all of which can ease the frustration associated with these changing roles (Boling et al., 2012; Schutt et al., 2009).

Delivery and communication through new media. In K-12 online learning environments, the majority of learner-instructor communication is text-based and asynchronous (Learn NC, 2008; Murphy et al., 2011). Although this type of communication typically occurs through discussion boards and email, when synchronous interaction is used, new technologies become of particular importance. Instructors who are new to online teaching are faced with the challenge of mastering new technology tools such as a learning management system (i.e., BlackBoard, WebCT), synchronous and asynchronous communication tools (i.e., chat, web conferencing, discussion board), and student information systems for record-keeping and data collection (Eliason & Holmes, 2010; Kosak et al., 2004). In particular, research has shown that asynchronous,

text-based communication is more time-consuming than communication in traditional classrooms, which involves mostly verbal and nonverbal cues (Charalambos, Michalinos, & Chamberlain, 2004; Learn NC, 2008).

New online instructors must learn not only how to navigate new technology tools for content delivery and interaction, but they also must develop strategies and techniques for communicating effectively with learners at a distance through text and other new media. For example, a qualitative study of eight online high school teachers revealed that the online environment caused instructors to feel disconnected from students (Hawkins et al., 2012). These instructors felt that the lack of instantaneous feedback from students via verbal and nonverbal cues caused them to struggle with understanding why students were failing to master course content. During interviews, participants in this study admitted to feeling that students were just a name. These instructors found it difficult to build rapport and lacked strategies for intervening when students were struggling. As a result, this environment made it easier for students to disengage (Hawkins et al., 2012).

Although it is imperative that online instructors learn to maximize new technology tools for content delivery and communication, findings from another qualitative study of online high school teachers supported the notion that pedagogy, not technology, was the key factor in interaction and communication (Murphy et al., 2011). The tools themselves do not facilitate student learning; pedagogy should drive the use of tools to facilitate learning (Learn NC, 2008; Murphy et al., 2011). Reliance on diverse technologies for online courses required a pedagogical shift in how instructors

designed courses and communicated with students (Redmond, 2011). Effective preparation and PD can support this shift, as well as the use of new technology tools.

Changing perceptions and attitudes of instructors. The challenges previously noted that face online instructors can lead to resistance, skepticism, and hesitation (Redmond, 2011). Multiple reasons exist for these perceptions that are associated with the challenges of adjusting to a new teaching and learning environment, shifting instructor roles, and utilizing new technologies. One specific reason for this resistance, according to instructors transitioning from traditional to online settings, is students' expectation that online instructors are available twenty-four hours a day, seven days a week (Redmond, 2011). Although instructors in the Redmond (2011) study were initially skeptical and resisted the transition, they eventually became less critical of online teaching and even became curious and experimental, searching for ways to improve their online teaching practice. Over time, they were able to gain more confidence in themselves as online instructors and, through trial-and-error, were able to determine what worked and what did not. Another cause of resistance was fear of feeling incompetent in a new teaching and learning environment (Kosak et al., 2004).

Professional development can facilitate changes in online teachers' attitudes and perceptions. A quantitative study of online faculty members revealed a statistically significant difference in instructors' perceived preparation prior to and following pedagogical and technological training (Ray, 2009). Similarly, Marek (2009) found a significant increase in online faculty members' confidence when formal training and support were available. According to Clay (1999), several strategies can help instructors

overcome resistance to teaching online. They include setting reasonable class size limits for online courses, providing technical support via a help desk, offering support with course development, identifying and supporting online instructors to serve as models, and offering assistance with the shifting roles of online instructors. Those who design teacher preparation programs and PD for online instructors must recognize the need to include an emphasis on attitudes and beliefs, along with pedagogical and technological support (Palloff & Pratt, 2011).

Teacher Education for K-12 Online Teaching

In 2005, Davis and Roblyer asserted that “it is apparent that there will be demand for teachers who are prepared to teach from a distance” (p. 399). Eight years later, most teacher education programs have not responded to this demand (Barbour et al., 2013; Kennedy & Archambault, 2012b). In fact, a thorough review of the research literature revealed that there are only a few studies documenting current efforts by teacher educators to train pre-service teachers for roles as online teachers. Most research on training for online instructors focuses on professional development for university faculty, rather than teacher preparation for K-12 online teachers (Journell et al., 2013). Few research studies describe courses and field experiences for pre-service teachers who will soon become K-12 online teachers (Barbour et al., 2013; Journell et al., 2013). In some cases, teacher education programs that have attempted to design courses and programs to prepare pre-service teachers for online teaching have failed due to low enrollment, lack of support among faculty, and lack of support from administration (Barbour et al., 2013).

In 2006, the National Education Association advocated that pre-service teachers be required to take at least one online course on pedagogy and practice in virtual K-12 settings that includes a student teaching experience with a seasoned K-12 online teacher. Researchers have also suggested that courses in online pedagogy should be required for all teaching candidates (Duncan & Barnett, 2009; Journell et al., 2013; NEA, 2006). Nevertheless, many teacher education programs do not require pre-service teachers to take a course in online teaching (Barbour et al., 2013). Kennedy and Archambault (2012a) have spent the last few years investigating existing teacher education courses and field experiences to prepare teaching candidates to teach online. They suggest that teacher education programs offer coursework that includes pedagogy for teaching online and instructional design of online courses, along with virtual school field experiences (Kennedy & Archambault, 2012a). Similarly, Journell et al. (2013) asserted that following completion of coursework focused on online teaching methodology, teaching candidates should engage in field experience in virtual K-12 settings. As more pre-service teachers graduate from teacher education programs and accept teaching positions in virtual schools, the need for field experiences in online settings becomes apparent. However, according to a national survey of 522 teacher education programs, only seven universities (1.3%) offer pre-service teachers field experiences in virtual schools (Kennedy & Archambault, 2012b). Findings from this survey revealed that many respondents, who were faculty or staff members of teacher education programs, were unaware that online learning exists in K-12 education (Kennedy & Archambault, 2012b, p. 195).

Given this disconnect between K-12 and higher education, designing virtual school field experiences needs to begin by establishing partnerships between teacher education programs and virtual schools (Ferdit et al., 2009; Kennedy & Archambault, 2012a). The field experience itself benefits pre-service teachers by encouraging them to connect theory to practice, apply best practices, interact with real K-12 learners, and reflect on their teaching (Malin, 2010). Additionally, such partnerships have multiple benefits beyond the field experience. Collaborative partnerships between teacher education programs and virtual schools can lead to programs that are informed by both theory and practice, enhancing professional development for virtual school teachers as well as coursework and field experiences for teaching candidates (Kennedy & Archambault, 2012a). However, until teacher education programs address the need to prepare K-12 teachers for teaching online, many schools, districts, and virtual programs have taken responsibility for this preparation by offering professional development designed specifically for online instructors. The following section provides a detailed review of the current research literature on professional development for K-12 online teachers, including components of effective PD in general, specific features of quality online PD, and current models of online PD for in-service teachers.

Professional Development for K-12 Online Teachers

This review now turns to findings from researchers who have determined what constitutes effective professional development in order to provide a foundation for a discussion on PD for new online instructors. The research base on effective PD is extensive, providing consensus on characteristics and models of PD that are successful in

improving teaching practice and increasing student learning (Garet et al., 2001; Holmes et al., 2010; Schlager & Fusco, 2003). However, research reveals a contrast, described in the paragraphs to follow, between what is known to exemplify effective PD and what actually takes place in many PD models (Masters, Kramer, O'Dwyer, Dash, & Russell, 2010; Schlager & Fusco, 2003). Following a description of this contrast, the literature on characteristics and models of effective PD is synthesized, with special emphasis on models of PD that align with the purposes of this review, including electronic learning communities.

Research-based professional development. Among the goals of professional development are to positively change teaching practice and, in turn, impact student learning. In order to do this, PD should provide strategies for teachers to implement in their classrooms and allow teachers to participate actively (Duncan-Howell, 2010). Research shows that PD for teachers is most effective when it is collaborative in nature, sustained for long periods of time, situated within the context of student learning, and embedded in the school day (Duncan-Howell, 2010; Garet et al., 2001; Holmes et al., 2010; Schlager & Fusco, 2003). A mixed methods study of teachers participating in a five-week PD course revealed that PD was successful when it was designed purposefully, utilized tools for learning, and was positioned within the context of classroom instruction (Holmes et al., 2010).

According to a landmark study conducted by Garet et al. (2001) that drew from a nationally representative sampling of teachers, effective PD consisted of three core features and three structural features. The core features included a focus on content,

opportunities for teachers to actively engage in learning, and consistency with other teacher learning experiences. Structural features of effective PD related to the form of the activity, the duration of the activity, and the collective involvement of teachers from the same grade level, department, subject area, or school. Regarding structural features, the study showed that increased time span and contact hours for PD led to more opportunities for active learning, increased relevance, improved professional collaboration, enhanced knowledge and skills, and ultimately a greater change in teaching practice (Garet et al., 2001). Finally, four key components of effective PD, which will be described in greater detail later in this section, are interaction with other educators, ongoing support, relevancy, and active learning opportunities (Anderson & Anderson, 2009; Graves, Abbitt, Klett, & Wang, 2009; Kanaya, Light, & Culp, 2005).

Traditional professional development. Despite the broad knowledge base concerning effective PD, few professional learning experiences have a lasting impact on teaching practices and student learning (Schlager & Fusco, 2003; Tsai, Laffey, & Hanuscin, 2010). Teachers often do not maintain the gains made by participating in conventional PD experiences (Tsai et al., 2010). While research shows that effective PD should be situated within a classroom context, traditional PD usually takes teachers away from their classrooms and their students (Masters et al., 2010). A literature review on PD, technology, and Communities of Practice described traditional PD as being disconnected from teacher practice, misaligned with teacher goals, lacking in content, and inconsistent with other professional development experiences (Schlager & Fusco, 2003). In other words, conventional professional learning experiences are lacking in the

types of experiences recommended by research, which include teacher collaboration, active engagement, consistency with other learning experiences, and a connection to classroom context. As a result, many PD experiences create, ironically, both gaps and redundancies in teacher learning and are failing to have a meaningful and sustained impact where it matters most - in the classroom (Schlager & Fusco, 2003).

Other shortcomings of traditional PD lie in its focus on outside experts rather than teachers and students (Lock, 2006). Teachers rarely participate in PD that focuses on their own needs as learners or on the specific needs of their students (Schlager & Fusco, 2003). Rather than providing a just-in-time learning experience, with content and strategies geared directly toward teacher needs, conventional PD offers just-in-case trainings, focused on topics that may or may not be of value to participants (Lock, 2006). Local values and norms can also pose barriers to teacher learning through effective PD. Teachers are often reluctant to engage in inquiry-based dialogue that critiques their own and their peers' practice, because teacher identity is so closely tied to teaching practice (Schlager & Fusco, 2003). High quality PD also tends to be expensive and is likely not available to teachers in most schools (Masters et al., 2010).

Effective models of professional development.

Professional learning communities. In an effort to increase teacher collaboration, positively impact teaching practice, and improve student achievement, many teachers, schools, and districts have implemented Professional Learning Communities (PLCs). Members of a PLC share a common purpose: to develop teacher capacity and impact learning for all students (Wells, 2008). In essence, teacher learning

is the cornerstone of PLCs and has a direct impact on how that teacher learning translates to student learning (Parr & Ward, 2006; Wells, 2008). The goal of teachers working as a PLC is to take collective responsibility for the learning of all students (Doolittle, Sudeck, & Rattigan, 2008; Hord, 2009; Parr & Ward, 2006; Wells, 2008). Theoretically, a focus on data and results helps PLC teams stay centered on student learning and prevents unfruitful collaboration (Hord, 2009; Wells, 2008). Collaboration without intention takes teachers only so far (Wells, 2008).

When operating effectively, members of a PLC engage in collective learning and challenge assumptions about teaching and learning by reflecting on their own practices and those of their peers (Parr & Ward, 2006; Musanti & Pence, 2010). A common learning process for a PLC begins with its members studying multiple sources of student data and prioritizing student needs based on the data examined. All members of the PLC take responsibility for learning new instructional strategies or content to increase their effectiveness in relation to those specific student needs (Hord, 2009). In schools committed to innovation and strong professional learning communities, teachers find motivation, direction, and accountability for continuous learning and development. They find among their colleagues sources of new ideas, intellectual stimulation, and feedback essential to deepen learning and promote instructional change. They also find encouragement and safety in challenging assumptions, risk-taking, and experimenting with new ideas (Schlager & Fusco, 2003, p. 206).

Research into online learning communities identified preconditions that facilitate the development of PLCs: openness to improvement, mutual respect and trust,

availability of expertise, supportive leadership, and socialization into the community (Parr & Ward, 2006). Hord (2009) suggested six research-based components of PLCs: shared beliefs, values, and vision; shared and supportive leadership; supportive structural conditions; supportive relational conditions; collective learning; and shared personal practice. Doolittle et al. (2008) described five key structures, combining supportive structural conditions and supportive relational conditions into one aspect of PLCs. A brief description of these components follows. According to Hord (2009), teachers engaged in a PLC should share a common vision of what their school should be in addition to common beliefs related to student learning. Rather than one or two key people within the school holding power for making decisions, decision-making and leadership should be distributed across the community of learners. Structural conditions within the school (e.g., schedules and resources) as well as relational conditions, such as (respect and trust) should be in place to support the community. PLC members should engage in collective learning that addresses student needs instead of participating in isolated learning opportunities independently of one another. Colleagues should openly share their teaching practice and provide feedback for school improvement (Hord, 2009). These six components of PLCs address barriers to teacher collaboration and encompass the characteristics of effective professional development.

A comprehensive review of the literature on PLCs by Vescio, Ross, and Adams (2008) uncovered eleven empirical studies that focused on the impact of PLCs on teaching practice and student learning. The review was the first to synthesize significant findings regarding the impact of teacher participation in PLCs on teaching and

learning. All eleven studies cited in the review provided data that participation in PLCs facilitated change in teaching practice, although only five described specific changes teachers made in their practice. In addition, each of these empirical studies suggested that PLCs positively impacted school culture and promoted systemic improvement in teaching practice. Four categories of PLC characteristics encouraged change in teaching practice: collaboration, a focus on student learning, teacher authority, and continuous teacher learning. Of the eleven studies, eight made a connection between PLCs and student achievement, citing a positive relationship between PLC participation and student learning. The authors of the review asserted that PLCs unequivocally impact student learning through changes in teaching practice (Vescio, Ross, & Adams, 2008). Professional learning communities can be an ideal model for PD when implemented in ways that align with research. That is, PLCs which exhibit the characteristics identified by the previously cited research studies can offer a powerful learning environment for teachers.

Communities of practice. Comparable to PLCs, a Community of Practice (CoP) is defined as a group of people who share a common domain and maintain mutual engagement with one another around a shared practice (Wenger, 1998). A literature review by Schlager and Fusco (2003) identified CoPs as integral to achieving effective and sustainable systems of professional development. The foundation of CoPs rests in the notion that teachers learn much of what they need to know within the context of practice (Schlager & Fusco, 2003). Schlager and Fusco contended that teachers learn to be effective practitioners by engaging with their work from inside their

practice. According to findings from a case study of teachers enrolled in web-based, graduate-level professional development courses, three characteristics of a CoP included joint enterprise, mutual engagement, and a shared repertoire of resources (Waltonen-Moore, Stuart, Newton, Oswald, & Varonis, 2006). Members of a CoP were mutually engaged in a task and developed shared ways of working together, and their work and professional development were entwined with that of their colleagues (Parr & Ward, 2006; Schlager & Fusco, 2003).

Aligned with research on effective professional development, CoPs provide a means for job-embedded, context-based teacher learning (Schlager & Fusco, 2003). Through their longitudinal study, Musanti and Pence (2010) found that meaningful peer-to-peer interactions created an environment of interdependence in which teachers could grow both collectively and individually. Developing a CoP is not a quick fix, however. Findings showed that building a CoP required teachers to engage in a lengthy process of learning how to collaborate (Musanti & Pence, 2010). As the foundation of a CoP lies in shared practice rather than a shared group of students, CoPs can extend PD for teachers beyond school-based teams of teachers to include experts and colleagues outside of their own schools (Schlager & Fusco, 2003).

Bozarth (2008) conducted an instrumental case study of the CoP framework for her dissertation by exploring the usefulness of Wenger's (1998) framework in understanding an existing community of practice. The CoP under study was a community of professional trainers which had existed for 23 years and included 250 members. Bozarth (2008) set out to measure "to what extent is the framework presented

by Wenger (1998) useful in understanding the internal dynamics of an existing CoP” (p. 15). Overall, findings revealed that the CoP framework was useful for understanding the dynamics of the selected CoP. Most data gathered during the study could be explained and interpreted through Wenger’s framework. The CoP framework was not a good fit for all findings, however. In the instances where the data did not fit into Wenger’s description of a CoP, the researcher suggested revisions to Wenger’s framework. Specifically, Wenger’s concept of identity did not facilitate understanding of data gathered during Bozarth’s (2008) case study. The researcher felt that Wenger’s view of identity provided a limited understanding of these case study findings. Therefore, Bozarth (2008) recommended revisions to Wenger’s framework in order to make it more useful in examining the internal dynamics of an existing CoP, suggesting that other frameworks for identity development might be a better fit for understanding how identity functions within a CoP (Bozarth, 2008).

Online Professional Development

Much of the research on professional development for online instructors supports the recommendation that online instructors first experience what it is like to be an online learner (Dabner, Davis, & Zaka, 2012; Jamieson, 2004; Learn NC, 2008; NEA, 2006). Engaging in authentic professional learning opportunities in an online setting can increase the likelihood that instructors will transfer what they learn to their own professional contexts as online instructors (Jamieson, 2004). There is a large body of research about online professional development, which holds direct implications for those who are responsible for designing and implementing online professional development

(OPD) for instructors working in similar online environments. What follows is a review of the research on characteristics of OPD and one particular model of OPD, electronic learning communities, which is related to the purposes of this study.

Characteristics of effective online professional development.

Interaction with other educators. Within the current research literature, the primary characteristic of effective online professional development (OPD), and effective PD in general, referred to most often is interaction with other educators. Interacting with other participants is a key component of effective OPD (Anderson & Anderson, 2009; Graves et al., 2009; Kanaya et al., 2005; Marrero, Woodruff, Schuster, & Riccio, 2010; Signer, 2008). OPD allows for a variety of types of professional interaction, including synchronous and asynchronous discussions, collaborative creation of products, resource sharing, and video conferencing. Teachers participating in a model of OPD aligned with these research-based practices reported feeling part of a learning community (Signer, 2008). A survey also revealed that those teachers applied what they learned from each other over the course of the OPD (Signer, 2008). A collaborative approach to PD enhances sustainability by building community and establishing a culture of support (Chen, Chen, & Tsai, 2009; Kopcha, 2010).

Effective OPD provides opportunities to collaborate professionally and encourages continued collaboration as well. Palak and Walls (2009) used a mixed methods approach to examine the relationship between teacher beliefs and technology practices. They found that technology increased professional dialogue among teachers. In a landmark study on the qualities of effective PD, Garet et al. (2001)

collected survey data from a national probability sample of 1,027 teachers and identified three structural features and three core features of effective PD. One core feature related to the degree to which teachers from the same grade level, department, or school participate collectively. Similarly, Mouza (2009) discovered three factors that influence teacher change over time regarding technology-based PD. One of those influential factors was collegial support. Participants in OPD may be working at a distance from one another, and this support can extend beyond a local team of teachers to include colleagues at a distance with similar professional learning interests. Support from peers and colleagues is essential in order for OPD to influence teacher practice.

Ongoing support. Not only should OPD allow teachers to interact professionally with colleagues, it also must establish an ongoing system of support. Online learning opportunities for teachers that provide extensive and continuous support increase the likelihood that the outcomes of OPD, particularly change in teaching practice, will be met (Graves et al., 2009; Mouza, 2009; Polly & Hannafin, 2010). One model of OPD that provides ongoing support for teachers in improving classroom practice involves mentors. Kopcha (2010) presented a research-based model of PD to support teachers, based on the use of mentors to meet the ongoing needs of teachers. His research showed that mentors created a culture of support and assistance as teachers worked to improve their practice. The goal of the mentor role was to move away from an expert-focused learning model to a model that relied on teachers and school resources (Graves et al., 2009; Kopcha, 2010). Two factors of PD models that contributed to the amount of ongoing support provided to teachers included duration and intensity. According to

Kanaya et al. (2005), duration and intensity of PD were influential in promoting change in teaching practice. Garet et al.'s (2001) study also showed that increased time span and contact hours led to more opportunities for active learning, increased relevance, improved professional collaboration, enhanced knowledge and skills, and ultimately a greater impact on change in teaching practice.

Relevancy. Relevant OPD is situated within the context of the classroom, teachers' content areas, and student learning needs. According to Ertmer and Ottenbreit-Leftwich (2010), relevant PD can lead to increased self-efficacy. Teachers are not likely to change their teaching practices if they fail to see a connection between the content of the OPD and their classrooms. Effective OPD makes that connection by bridging technology tools and subject knowledge, instructional strategies, and student learning (Barker & Brooks, 2005; Kanaya et al., 2005). Based on her survey of 98 participants in online communities for teachers, Duncan-Howell (2010) noted that PD should offer strategies for implementation in the classroom and suggested that online PD environments should be designed to do just that. Teachers participating in a survey on the design of an online video-based platform requested an OPD environment that was relevant and connected to their work as teachers (So, Lossman, Lim, & Jacobson, 2009). Therefore, effective OPD should address topics that arise from teacher concerns (Orrill, 2001; Owston, Sinclair, & Wideman, 2008).

Active learning opportunities. According to Mouza's (2009) longitudinal multiple case study, effective PD engaged teachers in actively planning for and implementing lessons in their classrooms. Likewise, Garet et al. (2001) found active

engagement to be one key aspect of effective professional development. Therefore, effective OPD should engage teachers in synchronous and asynchronous discussions, viewing and reflecting on examples of effective practice in the classroom, collaborative planning, and sharing resources and strategies. Kanaya et al. (2005) identified active engagement as a key element of effective PD, just as is interaction with colleagues, relevancy, and ongoing support. Therefore, OPD should provide multiple opportunities for teachers to participate actively and creatively and allow for teachers to observe as well as present (Duncan-Howell, 2010).

Electronic learning communities. An electronic learning community is defined as an online space to which members are committed and involved professionally over an extended period of time, with opportunities for synchronous and asynchronous communication (Duncan-Howell, 2010). It is the “partnerships and interactions among people who gather together that define community, and not the digital media, that are used” (Lock, 2006, p. 667). Electronic learning communities create a third space for participants, where learners and experts are equals in the knowledge building process (So et al., 2009). Participants use this third space to discuss common interests. According to an online survey of 98 members of three online communities for teachers, participants joined those communities to learn from their peers, keep up-to-date with current trends, engage in discussions, share professional knowledge, obtain support from colleagues, and build a safety net of like-minded educators. Approximately 87% of those survey respondents felt their online communities were meaningful. Seventy-seven percent

reported that they made changes to their teaching practices as a result of their participation in an electronic learning community (Duncan-Howell, 2010).

By moving an existing PLC into an online environment, teachers can extend their collaboration outside of their work day and transcend geographical boundaries (Tsai et al., 2010). The Internet also can facilitate relationships within local communities of learners by providing them with a set of learning and collaboration tools that can be tailored to meet the needs of the community (Clary & Wandersee, 2009; Schlager & Fusco, 2003). Online environments that support existing school-based learning communities allow community members to take on leadership roles within different contexts (Schlager & Fusco, 2003). Results from a recent mixed-methods study revealed that teacher teams functioned well when using an online space to strengthen their existing learning communities (Parr & Ward, 2006). These teachers, first and foremost, felt safe within their existing learning community first, which contributed to the success of their online community. Parr and Ward (2006) also found that the existence of a well-functioning PLC within a school increased the likelihood that teachers would find success in an online learning community. Similarly, teachers involved in OPD reported that their participation in an online discussion board reinforced the learning that had taken place among colleagues within the same school (Signer, 2008). Data gathered by Holmes et al. (2010) showed that social presence was the greatest factor influencing teachers' learning and satisfaction online. When an existing PLC moved into an online environment, the social presence of the group contributed to the group's online learning.

Components of electronic learning communities. Building an electronic learning community requires that community members combine technology and procedures that facilitate collaborative learning (Yeh, 2010b). Technology integration can support and motivate teachers to focus on continuous growth and school improvement (Williams, Atkinson, Cate, & O’Hair, 2008). Factors that influence the success of electronic learning communities include motivation to participate, a sense of group trust, cooperation, sociability, and usability. Similarity among group members also contributed to the belongingness felt by members of an electronic learning community (Yeh, 2010b). Rovai (2001) conducted a mixed-methods study of adult learners interested in distance learning. He described four dimensions that build a sense of community online: spirit, trust, interaction, and learning. Yeh (2010a) identified four types of electronic learning communities by analyzing discussion board messages: active collaboration, passive collaboration, individualized participation, and indifference. The active collaboration communities, which consisted of high levels of member participation and collaboration, performed best in assigned tasks online.

In a study of 32 pre-service teachers participating in a blended learning environment, composed of online and face-to-face learning experiences, Yeh (2010b) identified four stages for building an online learning community. Teachers moved through the stages of motivation and acquaintance, socialization and belongingness, information exchange and consensus, and tacit understanding and development. Electronic learning community members working at the highest stage of Yeh’s model communicated well with one another and achieved goals effectively. A

similar model developed by Waltonen-Moore et al. (2006) included five stages of online group development: introduction, identification, interaction, involvement, and inquiry. The final stage, inquiry, occurred when teachers put what they learned into practice. Online communities who reached the inquiry stage behaved in ways similar to face to face conversations, with a lot of give and take among community members.

Benefits of electronic learning communities. Taking advantage of electronic learning communities can provide numerous benefits to teachers. However, before teachers can benefit from an online learning community, they must first perceive a need and recognize that an online community can be a solution to address that need (Parr & Ward, 2006). Teachers involved in electronic learning communities have increased access to resources and flexibility with regard to the time and place in which they work (Lock, 2006). Learning in an online community has been described as immediate, relevant, authentic, and linked to real life as teachers directed their own discovery and construction of knowledge (Duncan-Howell, 2010). As opposed to expert-directed professional development, online communities can build teachers' capacity by giving them ownership of their own learning (Lock, 2006). For example, teachers participating in the online course studied by Holmes et al. (2010) reported that their online learning community provided them with a variety of instructional strategies. The access to resources afforded them through the electronic learning community impacted their teaching practice. In addition, online learning communities offered teachers a common language for communicating about teaching and learning (Chen et al., 2009). Chen et al. (2009) further found that the use of technology as a tool to develop PLCs contributed

directly to instructional practices. Their data also showed that technology made teacher collaboration faster and simpler.

Challenges of electronic learning communities. While providing numerous benefits for teachers, online learning environments can pose several challenges as well. Duncan-Howell (2010) conducted an online survey of 98 teacher members of an electronic learning community. Participating teachers self-reported that time management and sidetracked conversations were barriers to effective learning online. Teachers involved in online professional development identified personal technological preferences, such as familiarity or comfort with specific types of software or web programs, as the basis for most problems within the online learning environment (Clary & Wandersee, 2009). Chen et al. (2009) also identified technical expertise as a factor in building a successful online learning experience for teachers. Similarly, Holmes et al. (2010) found that teachers with prior online learning experience were more satisfied with online professional development courses.

In her literature review of online teacher communities, Lock (2006) summarized the reasons why many electronic learning communities have failed, including problems with technology, lack of learner readiness, mismatch to the school culture, and quality of the community. The success of an electronic learning community is partly dependent on the technology available to facilitate teacher learning online. Technology tools used to support the online community should be flexible and meet the needs of community members. Lock (2006) also pointed out that online communities failed when teachers were not ready to participate. They must be self-motivated and independent learners and

have a level of confidence with technology use. Effective online communities require teachers to transition from an isolated, autonomous working environment to one that is collaborative, but school culture can hinder the effectiveness of electronic learning communities. If a school's culture does not foster collaboration and collective learning, it can be difficult for teachers to break free from the traditional school culture of independence and autonomy. In addition, the electronic learning community should be integrated into teachers' professional development practices rather than being perceived as an add-on. "The power and direction of the community must come from community members. It cannot be imposed on them," (Lock, 2006, p. 673).

Designing Professional Learning Opportunities for Online Instructors

This review of the research literature revealed several implications for professional development for online instructors and teacher education programs, based on the current research literature describing the qualities of effective online instructors, teacher education for K-12 online teaching, and professional development for online instructors. The recommendations made by researchers offer guidance to the following groups of stakeholders in the field of online learning and teaching: teacher educators who are preparing future generations of K-12 online teachers; professional developers who are asked to provide training and ongoing support for online teachers; administrators of virtual schools, brick-and-mortar schools with online courses, and state-level virtual schools; and online instructors who seek out their own professional learning opportunities. Key implications and recommendations for the design and delivery of

teacher education and PD to prepare and support K-12 online teachers are described below.

Provide experience as online learners. Arguably, one of the most practical ways to prepare online instructors is to provide them with experience as learners in online environments (Schweizer et al., 2012). The National Education Association's *Guide to Teaching Online Courses* (2006) recommended that at least some of the training online instructors receive be conducted online in order to provide a model of effective online pedagogy. Both pre-service and in-service teachers learning effective practices for online instruction benefit from the experience of being an online learner (Dabner et al., 2012; Jamieson, 2004; Journell et al., 2013). Once online instructors understand the complexities of learning in a virtual environment, teacher educators and PD leaders can assist online teachers in applying their knowledge and experiences in their roles as teachers (Journell et al., 2013). For example, students participating in the online methodology course described by Journell et al. (2013) claimed that being able to learn about online education theory while simultaneously experiencing it as students and applying it as online course designers made the course both rich and practical. Online instructors who have been online students in the past understand possible feelings of disconnect that can occur when instructors fail to establish relationships among instructor and learners in online courses (Kennedy et al., 2013). Following participation in a professional learning opportunity in an online environment, online instructors felt that the experience positively changed the way they think about and practice online teaching (Jamieson, 2004).

Because most teacher education programs do not offer courses about online teaching or courses conducted online, many new teachers enter the field without having experience as online learners, despite the fact that several states are now requiring high school students to take at least one online course before they can graduate (Barbour et al., 2013; Learn NC, 2008). Teacher educators and PD leaders must ensure that K-12 instructors have the opportunity to learn in virtual settings and experience online learning from a student's perspective (Learn NC, 2008). This online learning experience is essential to developing effective teacher education and PD programs (Barbour et al., 2013; Learn NC, 2008).

Address attitudes and preconceived notions about online learning. Research has shown that providing online instructors with experience as online learners is one way to change attitudes related to online learning and dispel myths and preconceived notions about teaching online (Jamieson, 2004; Kennedy et al., 2013). However, merely experiencing what it is like to be an online learner may not be enough. Teachers who have been online learners themselves may believe that teaching online can only be what they have experienced in the past (Kennedy et al., 2013), that online courses lead students to feel socially alienated, and that technical difficulties make online learning a challenge (Journell et al., 2013). Teacher educators and PD leaders can engage pre-service and in-service teachers in learning experiences specifically designed to address past experiences as online learners and uncover misconceptions related to online learning. For instance, Journell et al. (2013) claimed that an online methodology course overturned a common

perception that online teaching consists of simply uploading content and allowing students to work.

Researchers recommend that the first few weeks of online methodology courses or virtual school field experiences include activities to assist students with identifying their attitudes and beliefs about online learning (Journell et al., 2013; Kennedy & Archambault, 2012a; Kennedy et al., 2013). Positive online field experiences can be particularly effective at debunking preconceived myths related to online learning (Kennedy et al., 2013). A deliberate focus on unpacking students' prior online learning experiences can lead to rich conversations about ways to avoid potential pitfalls, engage learners, and design opportunities for interaction in online courses, allowing online instructors to "look at the virtual school with fresh eyes" (Kennedy & Archambault, 2013, p. 45). Similarly, PD opportunities that address not only skills and competencies but also online instructors' attitudes have been found to reduce instructors' resistance and skepticism about teaching online, thereby increasing their confidence and leading to positive perceptions of virtual schooling (Dabner et al., 2012; Redmond, 2011).

Develop a culture of support. The establishment of a support network for online instructors is key to sustained professional learning and can positively impact the quality of instruction and increase student learning in traditional and virtual settings (Vescio et al., 2008). The majority of research studies on preparing online instructors refer to the importance of establishing communities of support (De Gagne & Walters, 2010; Eliason & Holmes, 2010; Hawkins et al., 2012; Marek, 2009; Redmond, 2011). Online instructors in K-12 settings who are left to fend for themselves lack confidence in their

teaching and admit to feeling isolated and failing to take advantage of professional learning opportunities (Hawkins et al., 2012). In particular, instructors who transition from traditional to online teaching undergo a paradigm shift in the way they approach course design and delivery, interaction with students, assessment of learning, and many other aspects of teaching (Hawkins et al., 2012). Participation in a learning community can facilitate this transition and offer technological, pedagogical, and emotional support.

Virtual schools and school districts that employ online instructors must invest in developing and maintaining PLCs to provide much-needed support for online instructors, who are likely to feel disconnected from colleagues, students, and parents (Charalambos et al., 2004). Through virtual PLCs, online instructors can share and reflect on their practice, gather constructive feedback from peers, reflect on readings, and examine best practices (Dabner et al., 2012). In addition, the creation of virtual staff rooms where online instructors can interact, discuss issues related to online learning, and share best practices can provide community and support for teachers working at a distance (Hawkins et al., 2012).

Likewise, an established mentor program can provide the support online instructors need, reducing instructors' sense of isolation and leading to improved teaching practice (Marek, 2009). While informal mentoring can be useful, formal mentoring programs can lead to more systematic and consistent support across a virtual school or online program, particularly in the early stages of online learning (De Gagne & Walters, 2010; Eliason & Holmes, 2010). In settings where formal mentoring is not available, online instructors often turn to informal mentors for guidance and support, which was

found to be the most frequent type of professional support for online instructors (Marek, 2009). Administrators of virtual schools cannot expect quality instruction without providing instructional preparation and support for online teachers through efforts such as developing and maintaining mentor/mentee relationships (NEA, 2006).

Focus on content, pedagogy, and technology. All too often, training for online instructors focuses on technology, including learning management systems and student information systems, rather than pedagogy (Ray, 2009). While K-12 online teachers need to be fluent with a wide range of technologies, trainers and teacher educators must remember that the purpose of those technologies is to facilitate content delivery, online discussions, communication with students, collaboration among students, and assessments. Training and teacher preparation for technology tools needs to be situated within meaningful contexts and focused on effective pedagogy for teaching online (Journell et al., 2013; Kennedy & Archambault, 2012a). Online K-12 teachers must be proficient not only in their content areas and technology but also pedagogical approaches that increase student learning in virtual environments (Learn NC, 2008).

According to survey findings, most preparation available for faculty teaching online focused on technology used in online learning environments (Kosak et al., 2004). Participants sought professional development related to online assessment and teaching practices. Similarly, another group of online faculty survey participants wanted additional pedagogical PD, believing that it should be required prior to teaching online (Ray, 2009). As instructors transition from traditional approaches to virtual environments, their focus sometimes shifts to technological tools before pedagogy

(Redmond, 2011). Professional development that emphasizes pedagogy can help online instructors approach technology as a tool to use with effective pedagogical practices (Marek, 2009).

The technological pedagogical content knowledge (TPCK) framework developed by Mishra and Koehler (2006) offers a research-based model for designing teacher education and PD to support development of online teachers' ability to utilize technology in pedagogically sound ways to increase student learning of content. In 1986, Shulman used the term pedagogical content knowledge (PCK) to represent teachers' understandings of the blending of content and pedagogy to increase student learning. Pedagogical content represents the intersection of what teachers know about their content area and pedagogical practices. In other words, PCK encompasses the methods teachers use to make content accessible for students and facilitate student learning of content. Many aspects of good teaching are included in Shulman's (1986) definition of PCK, including the use of appropriate instructional strategies to facilitate learning of specific content, an understanding of possible misconceptions students may have about specific content, and knowledge of how to design assessments to measure student learning of specific content. In essence, teachers with strong PCK are able to use effective teaching and assessment practices that closely align with the content they are teaching in order to facilitate student learning (Shulman, 1986).

In 2006, Mishra and Koehler revised Shulman's (1986) framework to include technological knowledge. This revised framework represents the complex intersections between teachers' content knowledge, pedagogical knowledge, and technological

knowledge. The TPCK framework debunks the myth that knowing how to use technology is equivalent to knowing how to teach with it (Mishra & Koehler, 2006). Through TPCK, technology is integrated into content and pedagogy instead of being perceived as an add-on. Therefore, online instructors need opportunities to develop their content, pedagogical, and technological knowledge (Niess, 2005). Most importantly, teachers need to develop nuanced understandings of the relationship between these three domains of teacher knowledge (Mishra & Koehler, 2006).

Kadijevish (2012) recommended that PD emphasize pedagogy, in particular pedagogical content knowledge (PCK), technological pedagogical knowledge (TPK), and TPCK, since pedagogical knowledge is a common challenge when it comes to technology in education (Chai, Koh, & Tsai, 2010). Teacher educators and PD leaders can use the TPCK framework to challenge teachers to reflect on their knowledge and competency in each of the three domains and identify and reflect on examples of effective integration of all three domains (Doering, Veletsianos, Scharber, & Miller, 2009). In describing best practices for teacher education for K-12 online teachers, Ferdig et al. (2009) identified TPCK as a way to help teachers transition from traditional to online teaching. Currently, findings revealed inconsistent application of TPCK across teacher education programs, although coordinating content, pedagogy, and technology is a critical task for online teachers (Ferdig et al., 2009).

Summary

This review synthesized current research in the field of online learning, beginning with an exploration of research on the past, present, and future of online learning in K-12

settings, which was followed by critiques of online learning. Qualities and methods of effective online teaching were discussed next, as were models and characteristics of teacher education and professional development to prepare and support new online instructors. According to current research, much is known about what makes online teaching effective in higher education settings. However, very little research has been conducted to explore quality online teaching in K-12 settings and effective ways to prepare K-12 teachers to be successful as new online instructors. This gap in the research poses a problem to the many K-12 teachers and students currently involved in online education. Consequently, this study aimed to contribute to the research by exploring, through the CoP framework, how the electronic learning community process supported new and veteran online teachers at a virtual public high school and prepared them for quality online teaching.

CHAPTER III

METHODOLOGY

Research Design

Qualitative case study is an “ideal design for understanding and interpreting observations of educational phenomena” (Merriam, 1988, p. 2). According to Stake (1995), a case study researcher’s “first obligation is to understand this one case” (p. 4), to “take a particular case and come to know it well” (p. 8). Case study, by nature, is bound to a specific case (event, decision, individual, organization, program, etc.) at a particular point in time (Yin, 2014). A strength of case study is that it allows the researcher to explore a case in its everyday context (Stake, 1995; Yin, 2014). In case study research, “the researcher is the primary instrument for data collection and analysis” (Merriam, 1988, p. 19). Qualitative researchers in general, and case study researchers in particular, use techniques such as thick description and multiple realities to enable the reader to understand the experiences of those involved in the case (Merriam, 1988; Stake, 1995). These techniques will be described in detail later in this chapter.

Merriam (1988) describes case study research as exhibiting the following four characteristics:

Particularistic- Case studies focus on a particular case, which could include a program event, group of people, or phenomenon.

- Descriptive- Case study researchers offer a rich description of the case to offer readers a glimpse of what may have not yet been seen
- Heuristic- Case study research aims to “illuminate the reader’s understanding of the phenomenon under study” (Merriam, 1988, p. 13).
- Inductive- Generalizations made from data that has been collected, analyzed, and presented are grounded in the context of the case.

In order to address this study’s research questions, I used an interpretive case study design, with the intent to describe and interpret the case. Interpretive case study goes beyond description to offer an analytic interpretation of events, norms, and perspective related to the case (Merriam, 1988). By being granted the opportunity to explore a case closely, the case study researcher is able to “see what others have not yet seen” (Stake, 1995, p. 136). According to Merriam (1988), “educational processes, problems, and programs can be examined to bring about understanding that in turn can affect and perhaps even improve practice” (p. 32). Despite plans for gathering a wealth of data during this study, I aimed for “an accurate but limited understanding” (Stake, 1995, p. 134). While it was impossible to capture every intricacy of the experience of participants involved in the electronic learning community process, case study methods allowed me to explore many facets of the eLC process through multiple realities.

Research Questions

The following research questions guided development of the research design for this case study. In addition to the two guiding questions listed below, two supporting

research questions served to further focus data collection and analysis as well as interpretation of findings in this case study.

1. In what ways do institutionally-driven electronic learning communities operate like communities of practice from the perspective of experienced online teachers, novice online teachers, and learning community leaders?
 - a. In what ways is the electronic learning community process aligned with the communities of practice framework?
 - b. In what ways does the institutionally-driven nature of the electronic learning community process influence its relationship to the communities of practice framework?
2. In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices at an established state virtual school?

Setting

The State Virtual High School (SVHS), which is currently the second largest virtual state school in the United States, was commissioned in 2005 to provide e-learning opportunities to high school students from across a state in the southeastern United States. Courses were first offered in the summer of 2007. During its first year, 17,325 students enrolled in courses through SVHS. Since the 2007-08 school year, course enrollment has exceeded 213,000. Over 33,000 students enrolled in SVHS courses during the 2012-13 school year, and several of those students enrolled in more than one course. One hundred forty courses were offered during the 2012-13 school year with

world languages courses having the highest enrollment. Four of the 140 courses were offered through an external vendor. The course completion rate at SVHS during 2012-13 was 96.77%, while the pass rate was 82.07%. State Virtual High School has received numerous awards and recognitions, becoming the only virtual school with three consecutive finalists in the National Online Teacher of the Year program. Students who elect to take online courses via SVHS enroll through their local high school and receive credit for these courses locally. During the 2012-13 school year, all 115 school districts in the state and 44 charter schools had students who participated in SVHS courses. During the same year, SVHS contracted with nearly 700 online teachers. In order to be considered for a teaching position with SVHS, teaching candidates must have a state-issued teaching license in secondary education. Further, teachers with at least four years of experience teaching in a traditional high school setting are given preference in the hiring process.

As part of the application process, potential SVHS teachers must successfully complete an 18-week induction program designed to teach new online teachers the skills and competencies needed for effective online teaching and to orient candidates to SVHS-specific courses, programs, and expectations. The induction program consists of a nine-week orientation to online teaching and a nine-week practicum which allows SVHS teaching candidates to apply online teaching skills by co-teaching online courses with SVHS teachers. Upon successful completion of the orientation and practicum, candidates must achieve a passing score on an assessment which measures online teaching competencies and information specific to teaching at SVHS. One hundred fifty-eight

online teachers successfully completed the SVHS induction program during the 2012-13 school year. Candidates who complete the induction and achieve a passing score on the assessment may be offered a section to teach the following semester. However, successful completion of these requirements does not guarantee a teaching position with SVHS. Teaching positions are determined based on enrollment. While SVHS may project a need for three new teachers in a specific subject area the following semester, actual student enrollment may not reveal a need.

Beyond the induction program, ongoing professional learning opportunities are provided to SVHS teachers through a structured learning community process. Electronic learning communities (eLCs) function as part of the overall continuous professional learning program for SVHS teachers. All SVHS teachers are contractually obligated to participate in the eLC process, which is designed to facilitate professional learning, collaboration, and growth among SVHS teachers. Other professional learning opportunities are offered to SVHS teachers on an as-needed basis, including a recent self-paced online training on a new learning management system. According to the SVHS chief academic officer, the purpose of eLCs is to provide a collaborative process for teachers to enhance their practice and improve student learning.

Electronic learning communities are organized by program of study and content area. Programs offered to students at SVHS include the following: traditional program of study, credit recovery, occupational course of study, and STEM (science, technology, engineering, and math). The traditional program includes general, honors, and AP courses in traditional high school subject areas such as arts, sciences, social studies, math,

world languages, and healthful living. The credit recovery program was designed for students who need to repeat courses they have attempted unsuccessfully at their home schools and includes more than a dozen courses. For students pursuing an occupational course of study (OCS) rather than a traditional high school diploma track, the OCS program provides a blended learning environment. This OCS blended program pairs an online SVHS teacher who is certified in the content area with a face-to-face teacher who is certified to teach students with special needs. Courses in forensics, integrated math, and environmental science make up the STEM program.

Within this structure, all SVHS teachers belong to a course-specific eLC. For example, all SVHS teachers who teach sections of Biology belong to the Biology eLC. Further, with traditional courses that have high enrollment, such as psychology, teachers of the general and honors sections function as separate eLCs. That is, all teachers of the general psychology course belong to the psychology eLC, while all teachers of the honors psychology course belong to the honors psychology eLC. This qualitative case study focused on the eLC process for online English teachers during the spring of 2014.

Participants

In order to conduct an interpretive case study of the eLC process, six participants from three different eLCs within the same discipline were selected, in addition to the chief academic officer responsible for overseeing the eLC process. During the spring of 2014, eleven teachers participated in the eLCs selected for this case study. All eLC members were teaching at least one section of English I, English III, or AP English Language during the spring 2014 semester. The inclusion of three different eLCs was

necessary in order to obtain the multiple perspectives needed for this case study, which included that of new online teachers, veteran online teachers, and eLC leaders. I interacted with these eLC members primarily through participation in synchronous meetings. As a researcher observer, I observed participants engaged in typical eLC activities, such as resource sharing, problem solving, and reflection. In total, seven SVHS employees participated in interviews designed to address the research questions guiding this case study. Interview participants varied greatly in their teaching experience, ranging from seven to 32 years of traditional face-to-face teaching. Online teaching experience among participants also varied, ranging from one semester to eight years. See Table 1 for demographic information about participants.

Table 1

Electronic Learning Community Member Demographics

	Mean	Standard Deviation	Range
Age in Years	42	8.50	27
Years of Face-to-Face Teaching Experience	16	9.18	27
Years of Online Teaching Experience	4.48	2.79	7.33
Total Years of Teaching Experience	17	7.81	24

New Online Teachers

Two new eLC members, those who were in their first year teaching for SVHS during the 2013-14 school year, each participated in one interview. These two new SVHS teachers will heretofore be referred to as Cheryl and Wendy. Both new SVHS teacher interviewees had experience as high school teachers, with a combined total of 21 years of teaching experience in traditional high schools. However, both were new to teaching high school students online. Cheryl, 36, has taught English in traditional high school setting for 14 years, teaching all levels from at-risk to AP and all grades from ninth through twelfth. Before accepting a position with SVHS, Cheryl taught online courses for four years for a for-profit university with locations across the United States in addition to several online programs. During the spring of 2014, Cheryl was teaching three courses for SVHS: English I standard, English I honors, and English III. In addition to teaching for SVHS, she continued to teach in her face-to-face school, which enrolled approximately 2,000 students and was the largest of 14 high schools in the county. Wendy, 30, has seven years of experiencing teaching English in a traditional high school. After having a child, she made the decision to work from home and began teaching for SVHS. Wendy was teaching one section of AP Language and Composition during the spring of 2014. As a traditional high school teacher, Wendy developed and taught a hybrid English course to students at her face-to-face school. She has taught for a total of eight years and no longer taught face-to-face during the spring of 2014.

Veteran Online Teachers

One interview was also conducted with each of two veteran teachers who belonged to an English eLC. For this study, veteran teachers were those with at least three years of online teaching experience with SVHS. These interviews served to help the researcher learn about the experiences of eLC members from the perspective of the participants themselves. Teaching experience of these two interview participants, who will be referred to as Tina and Maggie, ranged from 14 to 32 years. Tina, 52, taught English in traditional middle and high schools for 34 years before retiring. She has taught two or three sections of English courses for SVHS each semester since it began in the summer of 2007, including English I standard and honors, English II standard and honors, and English III. Beginning in the fall of 2013, Tina moved into a course lead role at SVHS and took on responsibility for facilitating the English I eLC. Maggie, 47, taught English and technology courses in traditional schools for 12 years but no longer taught in a traditional setting during this case study. She has taught several sections for SVHS each year for the past five years, including English, Success 101, and Journalism. In addition to teaching for SVHS, Maggie was also a course lead during the spring of 2014, facilitating the English III eLC. In total, Maggie has taught for 14 years.

Instructional Leaders

In addition, I interviewed two teacher leaders responsible for providing instructional support for members of the eLCs selected for this case study, known as instructional leaders. These teacher leaders, who will heretofore be referred to as Amy and Simone, were responsible for being a liaison between the eLC and the curriculum

and instruction team, leading synchronous meetings, maintaining communication with eLC members, coaching teachers, and facilitating the work of eLCs. Amy, 39, had 13 years of total teaching experience, 10 of which were in traditional classrooms and eight of which were online. In face-to-face schools, Amy taught English, History, and Health, while her online teaching has consisted of courses within the English department, including English I, English II, and Journalism. Amy began teaching with SVHS during the summer of 2007 when courses were first offered, and she has taught for SVHS every semester since, including summers. She has taught no face-to-face courses for the past three years. During the fall of 2012, Amy became an instructional leader for the English department at SVHS, supporting teachers across multiple sections of English courses. Simone, 44, had been teaching in traditional schools for 22 years and continued to teach face-to-face during the spring of 2014. Her face-to-face teaching experience included all levels of English, including AP, SAT preparation, Yearbook, and Journalism. Simone began teaching for SVHS in the fall of 2008 and has taught several courses with at least one section every semester since, including English I, English III, SAT preparation, and AP Language. She became an instructional leader in 2011.

Chief Academic Officer

In order to fully explore the eLC process, additional perspectives were needed beyond that of teachers. Specifically, I sought out the SVHS educator who was responsible for designing and facilitating the eLC process. One interview was conducted with the chief academic officer who was responsible for designing and facilitating the eLC process. The chief academic officer, who will heretofore be referred to as Donna,

offered a multifaceted perspective of the nature of the eLC process at SVHS. Donna, 46, had been in the role of chief academic officer for 18 months when she was interviewed in the spring of 2014. Prior to moving into this role, she worked as a director in the curriculum and instruction department at SVHS. Donna’s online teaching experience consisted of teaching for six years for an online academy that was the precursor to what is now SVHS. She also served as director of this academy for one year. Of her 22 total years in education, Donna had 13 years of face-to-face teaching experience, six years of experience teaching online, and two years of experience working at the district administration level for a traditional school district.

Table 2

Interview Participant Demographics

Name	Role	Gender	Age	Years Teaching Online	Total Years Teaching
Donna	Chief Academic Officer	Female	46	6	16
Amy	Instructional Leader	Female	39	8	13
Simone	Instructional Leader	Female	44	6	22
Cheryl	New SVHS Teacher	Female	36	8 months	14
Wendy	New SVHS Teacher	Female	30	8 months	8
Tina	Veteran Online Teacher	Female	57	5	32
Maggie	Veteran Online Teacher	Female	42	5	14

Note: All names changed to protect the privacy of participants.

Pilot Case Study

A pilot case study was conducted during the fall of 2013 with a different electronic learning community at SVHS. Data were collected over 16 weeks through participant-observation and interviews. I participated in three synchronous meetings with the eLC and gathered data via emails and other asynchronous communication in the form of shared documents and shared websites. Interview participants included two instructional leaders who were responsible for facilitating the eLC, three SVHS teaching candidates participating in the induction program, one mentor teacher who supported teaching candidates during the nine-week practicum, and the SVHS policy director who is responsible for designing and facilitating the induction program. Findings suggested that an institutionally-driven electronic learning community can operate as a community of practice. The necessary elements of a CoP, described by Wenger (1998), were evident in data gathered through eLC communication and interviews. During the pilot case study, I interviewed eLC leaders but I did not interview eLC members. Therefore, I was unable to analyze the nature of support provided by the eLC for new online teachers. Participants for my dissertation included both new and veteran eLC members. These participants allowed me to explore ways that the eLC supported new and veteran online teachers and prepared them for quality online teaching.

Research Procedures

Data Collection

Data were gathered via synchronous meeting observations, interviews, emails, and asynchronous communication in shared documents and shared websites.

Approximately seven hours of observation data during seven hour-long synchronous meetings were gathered and analyzed. Field notes were gathered using the observation protocol in Appendix E. One semi-structured virtual interview was conducted with each of seven SVHS employees. Approximately seven hours of interview data were transcribed. Asynchronous communication among eLC members was gathered via shared documents and shared websites. In addition, all email correspondence sent by eLC leaders to eLC members during the twelve-week data collection period was gathered and analyzed. See Table 3 for a crosswalk of data sources organized according to research questions.

Table 3

Crosswalk of Data Sources by Research Question

Research Question	Interview	Observation	Asynchronous Communication	Email
RQ1	X	X	X	
RQ1a	X	X	X	
RQ1b	X	X	X	
RQ2	X	X	X	X

Interviews. According to Merriam (1988), “research focused on discovery, insight, and understanding from the perspectives of those being studied offers the greatest promise of making significant contributions to the knowledge base and practice of

education” (p. 1). Interview is a technique used by qualitative case study researchers in order to better understand the case through the perspective of those who understand the case best. “Interviewing is necessary when we cannot observe behavior, feelings, or how people interpret the world around them” (Merriam, 1988, p. 72). Qualitative research assumes that multiple realities exist, “that the world is not an objective thing out there but a function of personal interaction and perception” (Merriam, 1988, p. 17). Semi-structured interviews allow the researcher to be responsive to the participant and to new ideas that arise during interviews (Merriam, 1988). Multiple perspectives on the SVHS eLC process were gathered via semi-structured interviews at multiple points during the spring of 2014. “Much of what we cannot observe for ourselves has been or is being observed by others” (Stake, 1995, p. 64). For this reason, I identified key participants in the eLC process in an effort to better understand the case through their perspectives and as additional sources of data to triangulate potential findings. Virtual synchronous interviews were conducted with seven SVHS employees in the spring of 2014: two new eLC members, two veteran eLC members, two eLC facilitators, and the chief academic officer. All interviews were audio recorded, and each interview was transcribed. An interview protocol was developed for each interview; however, the researcher used a semi-structured format, allowing the interviews to evolve as needed. (See Appendices A-D for interview protocols.)

Two new SVHS teachers, Cheryl and Wendy, who first joined the eLC process during the fall of 2013 as part of the new teacher induction program, were each asked to participate in a one-hour semi-structured virtual interview. (See Appendix A for the

interview protocol.) Additionally, two veteran teachers, Tina and Maggie, were asked to participate in one semi-structured virtual interview during the twelve-week data collection process. The purpose of selecting veteran teachers for interview was to gather data related to their perspectives on the eLC process as well as the support they received and provided to new members. (See Appendix B for the interview protocol.) Further data on the eLC were gathered via one semi-structured interview with Donna, the chief academic officer who designed and facilitates the eLC process, and Amy and Simone, the teachers responsible for facilitating the eLCs selected for this case study. (See Appendices D and C for interview protocols.) All interviews were audio recorded and transcribed. Interview transcripts were emailed to interview participants in order to verify that the transcripts were accurate representations of my phone conversations with participants. Table 4 reveals alignment of interview questions to research questions.

Table 4

Crosswalk of Interview Questions Categorized by Research Questions

Research Questions	New Online Teacher	Veteran Online Teacher	eLC Leader	Chief Academic Officer
1a) In what ways is the electronic learning community aligned with the communities of practice framework?	11, 13, 14, 15, 16, 17, 11, 19, 20, 21, 22	11, 13, 14, 15, 16, 17, 11, 19, 20, 21, 22	9, 10, 11, 12, 14, 16, 17, 18, 19, 21	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
1b) In what ways does the institutionally-driven nature of the electronic learning community influence its relationship to the communities of practice	22, 23, 24	22, 23, 24	9, 10, 11, 12, 13, 16, 17, 18, 19	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21

framework?

2) In what ways does an electronic learning community support new and veteran online teachers in using effective online teaching practices at an established state virtual school?	11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23	11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23	9, 11, 12, 20, 21, 22	3, 4, 9, 16, 18
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Observations of synchronous meetings. Qualitative case study research

typically involves fieldwork “in order to observe behavior in its natural setting”

(Merriam, 1988, p. 19). There are several reasons a researcher might use observation as a data collection technique, including “to notice things that have become routine to the participants themselves, things which may lead to understanding the context” (Merriam, 1988, p. 88). Instead of relying on participants’ accounts of events, the observer can witness experiences firsthand in real-time and gain “expertise in interpreting what is observed” (Merriam, 1988, p. 88). Observation data were gathered via field notes during seven synchronous meetings. Observations were conducted during seven synchronous meetings, including four course-specific eLC meetings and three departmental meetings. During a typical semester at SVHS, each eLC met for a monthly synchronous meeting. In addition, each department gathered for a monthly synchronous meeting. However, during the spring of 2014, eLCs did not meet during one month of the data collection period for this case study. Due to the limited number of eLC monthly meetings that occurred during this case study, I also attended monthly department meetings to increase my time in the field. I conducted synchronous observations with each of the three eLCs

(English I, English III, and AP English Language) and departments (English, Honors, and AP) involved in this case study. One eLC, the AP English Language eLC, did not meet synchronously during the data collection window for this case study. However, I was able to observe an AP department meeting, which the AP English Language eLC members attended. See the schedule of synchronous meetings below.

Table 5

Schedule of Synchronous Meetings

Synchronous Meeting	Date
English Department Meeting	January 21, 2014
English III eLC Meeting	February 17, 2014
AP Department Meeting	February 18, 2014
English I eLC Meeting	February 24, 2014
English I eLC Meeting	March 10, 2014
English Department Meeting	March 17, 2014
Honors / English I eLC Meeting	March 27, 2014

An observation protocol was used to organize data collection during synchronous meetings and to facilitate data analysis following synchronous meetings. The protocol can be found in Appendix E. All synchronous meetings were archived by SVHS, thus available for review as needed.

Asynchronous communication in shared documents. While interview and observation are key practices of the qualitative researcher, documents can also provide useful data for case study. “Documentary data are particularly good sources for qualitative case studies because they can ground an investigation in the context of the problem being investigated,” (Merriam, 1988, p. 109). Members of eLCs communicated weekly via a shared online document. Weekly reflection questions - typically three or four - were posted in the shared document, and each eLC member typed a response in the document. Reflection questions were related to the monthly eLC focus. I was granted access to shared eLC documents in order to code and analyze asynchronous communication among members.

Email correspondence. In addition to archives of interviews, synchronous meetings, and asynchronous communication, I maintained records of all email correspondence sent to eLC members from the eLC leaders and the chief academic officer during the spring of 2014. Email communication served to facilitate triangulation of data and provide further context and meaning as I sought to better understand the case.

Summary of data collection. Case study data were collected via qualitative techniques including observation and interview. Over twelve weeks, I participated in synchronous and asynchronous communication with teachers belonging to three electronic learning communities in the spring of 2014. One semi-structured interview was conducted with each of two new eLC members, two veteran eLC members, two instructional leaders, and the chief academic officer. All interviews were conducted virtually, audio recorded, and transcribed. Field notes were gathered during seven

synchronous meetings, which were also archived. Ongoing communication via shared documents and email was also gathered as additional case study data.

Data Analysis

Case study researchers rely on direct interpretation and aggregation to analyze and interpret data. “Data analysis is the process of making sense out of one's data,” (Merriam, 1988, p. 127). Within case study research, the purpose of data analysis and interpretation is to understand the case (Stake, 1995). As case study researchers aggregate data, explore relationships, and identify trends, the primary goal is to gain a better understanding of the particular case, specifically in relation to the study's research questions (Stake, 1995). With the purpose of data analysis being to understand the case in relation to the research questions for this particular study, initial data analysis involved multiple readings or viewings of each piece of data accompanied by note-taking, which was organized according to the study's research questions.

Initially, I organized and tagged each data point using the data analysis software NVivo. For all research questions, researcher-created codes were generated from an extensive review of the literature. Tables 6 through 8 contain codes that were derived through a review of the CoP literature to address this study's research questions. I brainstormed possible evidence for each code to facilitate the identification of these codes in data gathered during the case study. In addition to these pre-determined codes, new codes were added as necessary to describe the data. The addition of new codes allowed me to ensure that data analysis led to a better understanding of the particular case. To fully address research question two, an emergent coding system was used. Rather than

approaching the issue of effective online teaching practices with a specific set of codes through which to analyze the data, I generated codes as necessary to describe the data. The use of an emergent coding system served to ensure that findings were descriptive of the actual data gathered related to effective online teaching at SVHS. These emergent codes to address research question two are listed in Table 9.

Table 6

Start Codes for Research Question 1a: In what ways is the electronic learning community process aligned with the communities of practice framework?

Category	Code	Evidence
CoP element: Domain	Topics & issues	topics of weekly reflection, topics of monthly sync meetings, topics of email correspondence
CoP element: Domain	Questions	weekly reflection questions, questions from eLC members, questions during sync meetings
CoP element: Domain	Shared understandings	common knowledge, implicit and explicit understandings
CoP element: Community	Mutual engagement	doing things together, relationships, community maintenance
CoP element: Community	Joint enterprise	mutual accountability, negotiating the business of the eLC, enterprise operates within the larger organization
CoP element: Community	Shared repertoire	shared history, common language, routines, tools, stories
CoP element: Practice	Participation	problem solving, requests for information, seeking experience, coordination & synergy, discussing developments, visits, mapping knowledge & identifying gaps
CoP element: Practice	Reification	creating & reusing assets, documentation projects

CoP element: Practice	Duality of participation & reification	participation & reification transform each other
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Table 7

Start Codes for Research Question 1b: In what ways does the institutionally-driven nature of the electronic learning community process influence its relationship to the communities of practice framework?

Category	Code	Evidence
Institutional factor	Value eLC's work	organization recognizes contributions of eLC, organization utilizes contributions of eLC
Institutional factor	Create time and space	organization creates time and space for the eLC to work together
Institutional factor	Encourage participation	organization encourages participation in the eLC
Institutional factor	Remove barriers	organization removes barriers to participation (i.e. scheduling conflicts, workload, technical issues)
Institutional factor	Connect eLC to organizational strategy	organization connects ongoing work of eLC to goals, initiatives, and overall strategy of the organization

Table 8

Start Codes for Research Question 2: In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices?

Category	Code	Evidence
LPP	Becoming	newcomers move toward full participation, newcomers

		begin to identify with the community
LPP	Access	newcomers have access to community members, activities, resources, and shared practice
LPP	Transparency	shared practice is made transparent for newcomers so they can see the “inner workings”
LPP	Conferring legitimacy	newcomers are welcomed as legitimate members of the community, with all that membership entails
LPP	Talking about practice	stories; lessons learned; talk focused on memory, reflection, & membership
LPP	Talking within practice	exchanging information necessary to the progress of ongoing activities; talk focused on engaging, focusing, & shifting attention and bringing about coordination

Table 9

Emergent Codes for Research Question 2: In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices?

Code	Evidence
Improve teaching	discussions about improved practice; references to changes made to teaching due to participation in eLC process
Communication	communication among eLC members; sharing of best practices for communication with students
Feedback	sharing of best practices for providing feedback; instructors gathering feedback from students
Relationships	sharing of best practices for building relationships with students; relationship-building among eLC members
Differentiation	sharing of best practices for differentiation; evidence of differentiation within eLC process
Announcements	sharing of beset practices for teaching through announcements; SVHS expectations for announcements

Data coding involved multiple readings of all data sources and organization of data sources into folders in NVivo. Folders were used to categorize each data point by the type of data collected. For example, folders were labeled “interview”, “synchronous observation”, “email”, and “document”. Each data point was coded at the word level and added to a folder. This organization structure assisted with later data analysis.

Once all data sources, including interview transcripts, observation field notes, emails, and documents, were coded and organized in NVivo using the coding scheme detailed above, I examined all codes in light of the study’s research questions to generate patterns of codes. These patterns eventually became themes that described the data. NVivo assisted in the generation of patterns and themes. Using NVivo’s data analysis tools, I gathered information related to code frequencies, which revealed the most frequently used codes throughout all data sources. Within codes, I also conducted queries to identify the most frequently used words among all data sources labeled with specific codes. Identifying the most frequently used words allowed me to determine the topics most commonly discussed, the issues most often addressed, the types of support most frequently provided, etc. Further, I examined code frequencies within data sources. For instance, I was interested in how often a code was used in interview data and observation data, in synchronous meetings and weekly reflections. This analysis provided insight into the priorities of the eLC process and its members.

Beyond code frequencies, I performed queries in NVivo to examine relationships among codes and data sources. These queries revealed relationships and patterns that eventually became themes. For example, I conducted a query to find individual data

points that were coded at two codes to explore how those codes overlap among certain data sources. Other ways in which NVivo assisted with data analysis included, for instance, searching for the most frequently used words within specific codes or data sources and exploring similarities between new online teacher and veteran online teacher data. This level of data analysis was guided by the study's research questions. Codes led to patterns which gave rise to themes that addressed the research questions.

Validity and Reliability

Due to the applied nature of educational research, it is “imperative that researchers and others be able to trust the results of research - to feel confident that the study is valid and reliable” (Merriam, 1988, p. 164). Issues of validity and reliability can be addressed in the way a study is conceptualized and carried out through data collection, analysis, and interpretation (Merriam, 1988).

Unlike experimental designs where validity and reliability are accounted for before the investigation, rigor in a qualitative case study derives from the researcher's presence, the nature of the interaction between researcher and participants, the triangulation of data, the interpretation of perceptions, and rich, thick description. (Merriam, 1988, p. 120)

In qualitative research, validity refers to the accuracy of findings from the viewpoint of the researcher, participant, or readers (Creswell & Miller, 2000). Terms used to describe validity in qualitative research include trustworthiness, credibility, and authenticity (Creswell & Miller, 2000). According to Lincoln and Guba (1985), qualitative researchers conceptualize validity as a way to determine whether the researcher's account can be trusted. Since qualitative research is based on the assumption

that there is no one reality that can be grasped and measured, internal validity can be measured through the researcher's experience with the case. External validity in qualitative research deals less with generalizability to other contexts and more with the soundness of implications offered by the researcher. Qualitative researchers typically do not seek to generalize findings to other contexts. As Merriam (1988) describes,

Generalizing from a single case selected in a purposeful rather than random manner makes no sense at all. One selects a case study approach because one wishes to understand the particular in depth, not because one wants to know what is generally true of the many. (p. 173)

Whittemore, Chase, and Mandle (2001) conceptualized validity in qualitative research as a classification of primary and secondary criteria, which serve as standards of quality in QUAL research. The framework of primary and secondary criteria developed by Whittemore et al. (2001) was constructed based on the work of other scholars, including writings by Lincoln and Guba (1985), Maxwell (1990), and Marshall (1990), among others. Further, they described techniques for diminishing threats to validity and upholding primary and secondary validity criteria. Below, I present these criteria and research-based techniques for addressing threats to validity in this case study.

Primary Criteria for Validity

Of primary consideration for qualitative researchers are credibility, authenticity, integrity, and criticality. Credibility and authenticity refer to the establishment of confidence in the interpretation of data and an accurate portrayal of the meanings of participants' experiences (Whittemore et al., 2001). In other words, do the findings

accurately reflect the experience of participants (Lincoln & Guba, 1985)? Credibility ensures that readers perceive the researcher's interpretations to be "trustworthy enough to act on and make decisions in line with" (Tracy, 2010, p. 843). Potential threats to credibility and authenticity include distortion, bias, and an inaccurate portrayal of participants and/or experiences (Whittemore et al., 2001). Criticality and integrity are used to describe the researcher's role in establishing validity or introducing potential threats to a qualitative study. The research process requires "devout attention to integrity and criticality" (Whittemore et al., 2001, p. 531). In other words, a researcher must explore ambiguities, use techniques to check the accuracy of findings, and critically address subjectivity. Possible threats to criticality and integrity include investigator bias, failure to consider alternative explanations, and inattention to divergent data (Whittemore et al., 2001).

Strategies to be used for ensuring that qualitative research is credible and authentic include triangulation, member checks, and extended time observing in the setting. Qualitative researchers can prioritize data source triangulation by collecting multiple sources of data, or "multiple realities" (Stake, 1995, p. 43). To facilitate triangulation of findings in this case study of an eLC, multiple sources of data were collected to address each research question. Multiple data sources targeted at each research question enhanced credibility and authenticity (Creswell & Plano Clark, 2011). The purpose of triangulation was to determine the consistency of findings from one data source to another (Yin, 2014). Closely related to triangulation, Tracy (2010) uses the term multivocality to describe the inclusion of multiple voices in data analysis and in the

research report. Through interviews with participants at SVHS, I strived to achieve multivocality in reporting findings. In addition, sustained time in the field and the reporting of divergent evidence can lend credibility to the qualitative researcher's findings (Creswell & Plano Clark, 2011; Merriam, 1988; Whitemore et al., 2001). Member checking was used to address threats to validity, whereby I gave data findings to study participants to determine participants' perception of the accuracy of findings (Creswell, 2003). Further, qualitative researchers must take "note of who is talking, and what they are talking about, but also who is not talking and what is not said" (Tracy, 2010, p. 843). Throughout the collection of observation data from synchronous meetings and the collection of asynchronous and documentary data, I maintained a critical perspective, taking note of what was not being said and who was not participating.

Secondary Criteria for Validity

Whitemore et al. (2001) identified secondary criteria for establishing validity in qualitative studies as explicitness, vividness, creativity, thoroughness, congruence, and sensitivity. Explicitness refers to specificity and accountability in the researcher's decisions. Constructing a data audit trail in which the researcher maintains detailed records of how, where, and when data are collected and provides explanations of decisions that are made throughout the data collection and analysis process can lend explicitness to this interpretive case study (Merriam, 1988; Whitemore et al., 2001). Vividness is described as the ability of the researcher to allow readers to "personally experience and understand the phenomenon or context described" (Whitemore et al., 2001, p. 531). Throughout data analysis and reporting, I provided thick description of the

happenings of the case and the interpretations of people who knew the case best (Stake, 1995). Two principal data collection techniques utilized by qualitative case study researchers to provide thick description and interpretations are observation and interview (Stake, 1995; Yin, 2014). Both data collection methods were used in this case study to present rich, thick descriptions of the data, allowing the reader to distinguish from data and researcher interpretations.

Creativity is used to describe the researcher's innovative use of techniques to address research questions, while thoroughness refers to comprehensiveness of data collection and analysis. Tracy (2010) refers to creativity as aesthetic merit and describes techniques researchers can use, including presenting the text in an artistic way, avoiding jargon, and using writing to evoke emotion and reaction in the reader. Data saturation, which refers to the process of collecting of data until no new themes emerge, is a technique that can be used to enhance thoroughness (Whittemore et al., 2001). Congruence is alignment between all parts of a study, including the research question, methods, data collection, data analysis, and findings. In this case study, I strived for congruence by clearly articulating the research design, explicitly making connections among different aspects of the study (Whittemore et al., 2001), aligning the study with established theories, and ensuring that the study accomplishes what it is proposed to be about (Tracy, 2010). Finally, the criteria of sensitivity describes research that is ethical, representative of the multiple perspectives of participants, and conducted in service of the community. Strategies for enhancing sensitivity included acknowledging my role and biases and sharing the perspectives of participants, particularly oppressed or marginalized

participant groups (Whittemore et al., 2001). Sensitivity can also be achieved through self-reflexivity and transparency with “one’s self, one’s research, and one’s audience (Tracy, 2010, p. 842).

Reliability

In traditional research designs, “reliability refers to the extent to which one's findings can be replicated” (Merriam, 1988, p. 170). From a qualitative perspective, defining reliability in terms of replicability is problematic in that there is no single reality that can be repeated to generate similar results. The interpretive and responsive nature of the case study researcher cannot be replicated across diverse settings, even when some characteristics may be similar (Merriam, 1988). Instead, qualitative case study researchers can increase reliability by ensuring that study results make sense and are dependable. One strategy for ensuring reliability involves the researcher honestly expressing his or her assumptions, biases, and perspectives. In addition, triangulation and an audit trail can increase reliability of qualitative case study findings. To construct an audit trail, I kept detailed records of how, where, and when data are collected and provided explanations of decisions that were made throughout the data collection and analysis process. Furthermore, I kept a journal throughout the twelve-week data collection period and the weeks of data analysis that followed. The purpose of journaling was to guard against my biases and provide a data audit trail of decisions made throughout the case study. Journal entries contained my thoughts, reflections, questions, and concerns at each point during the case study.

Ethical Issues

A case study researcher “must be sensitive to the effects one might be having on the situation and accounting for those effects” (Merriam, 1988, p. 96). Two points in a qualitative case study may reveal ethical dilemmas: data collection and reporting findings. Ethical issues in qualitative research include confidentiality, anonymity, level of researcher involvement, and ability to distinguish between data and researcher interpretation (Merriam, 1988).

In this case study, pseudonyms were used to protect the confidentiality of participants. All information obtained in this study was strictly confidential unless disclosure is required by law. All data were kept confidential and were only viewed by the researcher and the researcher's dissertation committee. Interview transcripts and other data sources were viewed only by the researcher and the researcher's committee. Consent forms, interview transcripts, and other documents were secured in a locked file cabinet in the researcher's office at Lenoir-Rhyne University. All data were stored via secure online storage under password protection. Digital data, including interview transcripts, email correspondence, and course documents were stored on the student researcher's password-protected personal computer. An inventory was conducted of all sensitive data at the beginning of the project. Identified data were disposed of upon successful completion and defense of the researcher's dissertation. Interview transcriptions, other data sources, and consent forms were shredded.

To recruit participants, a coordinator at SVHS worked with the chief academic officer to select eLCs and interview participants. Information was emailed to potential

participants explaining the purpose and process for this research study. The purpose of the emails was to recruit two new teachers, two veteran teachers, and two eLC leaders to participate in semi-structured interviews. I sent a similar email to the chief academic officer in order to seek her agreement to participate in a semi-structured interview during the twelve-week data collection period.

Researcher Role and Potential Bias

During synchronous meetings and asynchronous communication, I observed actions and interactions among eLC members. Observations allowed for rich data collection and intimacy with the case and participants. I recognize that I brought potential biases to this research study. My role as observer, in particular, may have influenced the eLC in ways that changed the data. As I observed synchronous meetings, for example, eLC members may have behaved differently than they would have if I were absent. Additionally, my experience as an online instructor is a bias that I brought with me as the research instrument in this case study. I have experience as an online instructor and as the facilitator of a blended learning community focused on online pedagogy. My experience and understanding of techniques for online teaching and facilitating learning communities for online instructors cannot be removed from my lens as a researcher and, therefore, must be accounted for here as a potential bias.

The theoretical framework for this case study served to ground this study in research literature and minimize potential influences caused by my perspective and past experiences. Research methods used in this case study were firmly rooted in current research literature on online teaching, professional development for online instructors,

and communities of practice. The CoP framework guided the types of data that were collected during this case study and how those data were analyzed.

Summary

This chapter described the research methods used in this case study of the electronic learning community process at an established state virtual high school. Following an introduction to the research design and research questions guiding this case study, I described the setting and participants for the study. A description of data collection and analysis methods used was preceded by a brief summary of the pilot case study. Finally, the chapter concluded with a discussion of issues related to validity, reliability, ethics, and biases.

CHAPTER IV

FINDINGS

This chapter presents the findings from this case study of the eLC process at SVHS. The discussion of findings begins with an introduction to the eLC process from the perspectives of those involved in the eLC process. Following the introduction, findings will be presented and organized by the categories of codes used to analyze data in this case study. The coding system was developed in alignment with the research questions guiding this study and, more specifically, the communities of practice framework, which served as a lens through which all data were gathered and analyzed. A vignette is used to introduce each section of findings and provide context for the discussion of findings to follow.

The Electronic Learning Community Process

In order to understand the findings presented in Chapter IV, it is necessary to have an understanding of the purpose of the eLC process at SVHS. When asked to define the eLC process, Donna, the chief academic officer who structured and facilitated the overall eLC process, defined it as “our ability to be collaborative among teachers to improve student learning” (Interview, 2/26/14). She later added, “An e-learning community has to be a collaborative community working together to improve student learning. That has to be our focus in everything that we do” (Chief Academic Officer, Interview, 2/26/14).

Data from this case study affirmed the eLC focus on student learning. A word frequency query revealed that *student(s)* was the most frequently used word across all data sources. The word *student(s)* occurred in the data 474 times. The second most frequently used word across all data sources was *eLC*, which occurred 353 times.

According to Donna, the eLC process originated in conversations with curriculum and instruction leaders at SVHS.

We were talking about how can we get our teachers to collaborate with each other to address pass rate. Why are the kids failing in English I semester after semester? Why are the pass rates always below failing? And you can't have that kind of discussion in a department meeting with other subjects listening in for obvious reasons. So we decided, well we know that PLCs have a great purpose behind them, so let's do an eLC. And we can have teachers come together. We really believed strongly in it. We piloted it that first semester and then we incorporated it that fall into the teacher contract so they would know we were serious about it, that we expected eLCs to be a requirement weekly. So that was how the eLCs came to be, out of a desperate need to have teachers collaborate and talk with each other about why kids weren't being successful on certain assignments or why certain content was not working. In other words, where were we going to get a uniform source of data to tell us what was working and what was not working? And the eLC was the answer. (Chief Academic Officer, Interview, 2/26/14)

In the same interview, Donna described how the eLC process is connected to the expectations of SVHS teachers.

If the expectation is that you are going to build relationships with students, then what we're doing through the eLC process is providing opportunities and strategies for you to get better at your job, to get better at doing that, so that you have people you can talk to.

According to several interview participants, the eLC process has improved since its inception in 2010. Amy described that “over the years the eLCs have become much more valuable and meaningful” (Instructional Leader, Interview, 2/26/15). Similarly, Simone referred to the eLC process during an interview as “a gradual improvement. It gets better every year” (Instructional Leader, 3/9/14). Tina, a course lead, described how this improvement has occurred:

They were always asking, “Is this helpful? How can we make this better?” And they listened. And they still do that. Like I said, we’re ever changing the courses, we’re always trying to improve. They’re very responsive. (Veteran Teacher, Interview, 2/26/14)

Donna agreed, “We’ve gotten better at it year by year as we really look at what works and what doesn’t work” (Chief Academic Officer, Interview, 2/26/14). She stated that during the spring of 2014 she was “the happiest I’ve ever been, last semester and this semester, with what the eLCs look like” (Chief Academic Officer, Interview, 2/26/14). She went on to say, “I think we’re getting there. I think we have a ways to go, but I think we are doing it the best this semester than we have ever done it, and that is simply because of trial-and-error” (2/26/14).

The Communities of Practice Framework

This case study was guided and framed by Wenger’s (1998) communities of practice framework. To better understand in what ways the eLC operated like a CoP, data were collected and analyzed according to the three features of a CoP identified by Wenger (1998): domain, community, and practice. Findings related to these three

features of the CoP framework are discussed below, with vignettes serving to introduce data related to each CoP element.

Domain

Vignette one: Domain. *Three English I teachers, the English I course lead, and an English instructional leader gathered in an online meeting room for a synchronous English I eLC meeting. The facilitator for this meeting was Tina, the English I course lead and a veteran teacher with SVHS. Prior to the start of the meeting, Tina had previously loaded a slide in the meeting room containing reminders for the group regarding progress reports. Tina welcomed participants to the meeting and asked each member to share something celebratory in their personal or professional lives. Each member took a turn using the “talk” feature in the online meeting space to share a piece of good news related to something personal or professional. One teacher announced to the group that she was nearing completion of the capstone project for her graduate degree program. Another eLC member shared that her daughter recently applied for a scholars program. Participants commented on their peers’ celebrations, providing positive feedback and encouragement in the synchronous chat box within the online meeting space.*

After each member of the English I eLC shared with the group, Tina shifted the focus of the meeting to a discussion about celebrating student work. The focus of the previous month’s eLC work for English I was celebrating student learning in their online courses. To review the work that had been done during the previous month, Tina asked, “Has anything changed in the way you do celebrations since we’ve been spotlighting that

this past month?” One teacher shared how she had been making an effort to include celebrations of student learning in her daily announcements as well as in feedback on student work. She described this to her fellow English I teachers, “I use their words and give them back to them to help guide each of those – the feedback and the celebrations.” The course lead then asked another teacher directly, “What about you?” The second teacher agreed that she had also tried to pull in specific feedback from students’ work “to highlight what the student has done well and use it as an exemplar for other students.” She also added, in reply to the first teacher who shared her efforts to include celebrations in her daily announcements and in feedback, “I might have to ask you to share a copy of that document with me.”

Tina continued the conversation about working to improve celebrations of student work. “I made a copy of the announcements we made together.” She went on to describe how she structured her own document for keeping records of student celebrations in announcements. “One thing I try to do now is go one step further and tie it, you know, ‘This is good because of what we did in lesson two.’ Just try to make it more specific so I really tie it back and reiterate some lesson that we’ve done.” Later she added, “I really feel like I’ve gotten better. How do you guys feel? Do you feel like yours are better than they were in the fall?” In reply, a teacher commented,

I think they are. I think they’re definitely more specific. I really wish that I would get some students to talk to me or communicate with me that they’ve read them and that they appreciate them. But I know that I’m trying to make them as specific as possible and reflective and using student work as examples for others.

As the conversation continued, Cheryl, a new SVHS teacher, left a comment in the chat box regarding something that was shared during the meeting. She wrote, "I hadn't thought about using specific student work... I will ask their permission to post the links to some of their work." The teacher who originally shared this idea replied in the chat box, "I don't ask – I just use their first name." Tina then mentioned that one of the English instructional leaders, Amy, had left feedback on the English I shared document containing the celebrations they created during their eLC work the previous month. She encouraged teachers to return to the document to read the feedback from Amy.

Tina then welcomed Amy, who had just joined the meeting. Amy took on the facilitator role for the remainder of the meeting and shifted the focus to the new eLC topic for the upcoming month. She began, "I sent you a very detailed email with some links and expectations of what we're actually going to be working on for the rest of this semester." Amy then introduced the honors portfolio process, a statewide initiative, as the focus of the March eLC work for English I. She explained that the entire English I team, including teachers who do not teach honors English I, would work together on the honors portfolio since the team was small and the project was large. Amy described that the chief academic officer "has laid out this really wonderful document for us that's going to walk us through it week by week, so we need to be really careful that we move through that on a weekly basis very carefully, very thoughtfully." In the chat box, a teacher commented, "There is a template online," to which Amy agreed. Another teacher posted a question in the chat box, "Isn't it supposed to be throughout all four years?" Amy replied that she did not know enough about the process yet but that she

would be learning alongside them as they worked through the process. “All I know is these are portfolios that we have to create, and we’re all going to be learning together what they need and what things we need to put in them.” Amy continued, “We will definitely do fine with them once we figure out all the steps that are in place.” Cheryl, a new SVHS teacher, commented in the chat box that she had not heard anything about the honors portfolio process in her face-to-face school. Amy replied that some schools and districts have not yet shared this portfolio information with teachers. She then turned the meeting over to Tina, who shared brief reminders about progress reports and a new documentation expectation before ending the meeting. Tina encouraged the teachers to make time for sleep and for fun, and then thanked them for attending.

Essential to any CoP is a common domain, consisting of concepts and issues related to a body of knowledge that is necessary for members to develop their practice. The domain connects the work of the community to a broader community of practitioners. According to Wenger et al. (2002), “A shared domain creates a sense of accountability to a body of knowledge and therefore to the development of a practice” (p. 30). Three components of domain, identified in the literature on CoPs, were explored in this case study: topics and issues, questions, and shared understandings (Wenger, 1998). In a broad sense, the domain of the eLCs selected for this case study consisted of knowledge and skills necessary for teaching English online to high school students. More specifically, findings revealed several topics and issues, questions, and shared understandings within the eLC process.

Topics and issues. Within the context of its domain, a community of practice focuses its work on topics and issues that consist of “key issues or problems that members commonly experience” (Wenger et al., 2002, p. 31). Within the CoP framework, the topics and issues addressed by a community should be long-standing issues of the domain, requiring ongoing engagement, learning, and growth. While topics must be relevant to the community and its domain, they must also be relevant to the organization. Without relevance to the organization, the CoP “will be marginalized and have limited influence” (Wenger et al., 2002, p. 32).

Throughout Chapter IV, I use tables to represent frequently used words within specific codes. The most frequently used words within a particular data set revealed the major priorities, issues, and activities comprising the eLC process during the spring of 2014. These data served to provide a starting place for the discussion of findings to follow. Across all data sources, the “topics and issues” code was used most frequently, with 92 references across the entire set of case study data, revealing that within much of the data gathered during this case study, topics of eLC conversation were easily identifiable. Table 10 lists the five most frequently used words within all data that were coded as “topics and issues.” Interestingly, *student(s)* was the most frequently used word in all data coded as “topics and issues.” No interview questions asked specifically about students. Rather, participants were asked to describe their participation in the eLC process. Donna described that student learning was the focus of eLCs, and the data below affirmed that purpose by revealing that *student(s)* was used most frequently in data

from interviews, emails, synchronous meetings, and weekly reflections coded as “Topics and Issues”.

Table 10

Frequently Used Words within Topics and Issues

Word	Frequency within Topics and Issues Code
Student(s)	73
Course(s)	61
Honors	41
Work	40
eLC	37

In addition to the five most frequently used words listed above, other important topics related to eLC work included announcements, feedback, data, and communication. Announcements, feedback, and communication were significant topics within the eLC process and were identified by SVHS as three pillars of quality online teaching. These three pillars are discussed later in Chapter IV.

The SVHS eLC process involved course-specific eLCs meeting synchronously once a month and responding to weekly reflection questions in a shared document. The ongoing work within the shared document culminated in a monthly synchronous meeting. As Amy described in an interview, “Each month we have a topic, and then each week it’s broken down by week and we have work we do each week. And that’s asynchronous

work” (Instructional Leader, 2/26/14). New SVHS teacher Wendy appreciated the eLC structure “because we know exactly what questions we’re supposed to cover, what areas we’re supposed to reflect on each week” (Interview, 3/12/14). Wendy described that each month “there’s a specific topic that we’re discussing, and we all kind of need to chime in and discuss it, and learn and grow through that to change and adapt what we’re doing to meet the needs of our students” (New Teacher, Interview, 3/12/14).

According to Simone, the instructional leader for AP English Language, instructional leaders previously played a bigger role in determining the focus for monthly eLC work than they did in the spring of 2014. During an interview, she described that SVHS curriculum and instruction leaders had “taken a big hand” in developing the focus of each month’s eLC work (Instructional Leader, 3/9/14). Donna, the SVHS chief academic officer, explained that the process of developing topics for eLC work took place one month at a time. She described, “We really use the learning and the results of the eLC happenings to drive what we’re going to do the month coming up so that it truly is something that can be applied right now to improve student learning” (Chief Academic Officer, Interview, 2/26/14). Once an eLC focus was determined, it was discussed at a weekly curriculum and instruction meeting, where Donna described “the vision of what we want to accomplish” (Chief Academic Officer, Interview, 2/26/14). According to Donna, at that meeting, the curriculum and instruction team, which consisted of instructional directors for all departments, reached “collaborative agreement, shared beliefs, shared vision” (Chief Academic Officer, Interview, 2/26/14). The instructional directors then met with their instructional leaders on a weekly basis “to make sure that

the vision is understood, that we all have the same goals, [and] that we know what the kinks are” (Chief Academic Officer, Interview, 2/26/14). Afterward, the instructional leaders met with course leads to communicate the focus and the vision for the month’s eLC focus.

During the spring semester of 2014, however, this process differed somewhat from previous semesters. In January 2014, eLC work was put on hold for one month to allow SVHS teachers to adjust to changes that were made in fall 2013. Then, in February 2014, eLCs were allowed to determine the focus for their monthly eLC work. According to instructional leader Amy, “February was an informal meeting where the group got to design their own course of action” (Interview, 2/26/14). In an email to her eLC members, English I course lead Tina asked for suggestions from her team regarding the focus for February, recommending that the English I eLC focus on “creating more effective daily student celebrations. Perhaps we can create a Google Doc and share our ‘best’ effort for each week in Feb?” (Veteran Teacher, Email, 2/8/14). Via email exchanges, English I eLC members agreed to focus on celebrating student work daily through announcements in their online courses. In an interview, Tina described that the English I eLC chose to focus on “student celebrations where we kind of had some motivational things, shout-outs to individuals in the class to let them know what they’re doing well and to connect that to whatever lesson we’re on” (Veteran Teacher, 2/26/14). New teacher Cheryl was the first to post an example in the shared document. Vignette one provided a description of the English I eLC synchronous meeting that occurred at the end of February, after the eLC worked deliberately to celebrate student work each day in course announcements.

During the same month, the English III team chose to work on adding real world connections and web 2.0 tools to their announcements. The English III eLC used a shared document to post daily announcements for each module in the English III course, focusing specifically on making real world connections with the content and using web 2.0 tools. In a synchronous meeting with the English III eLC, course lead Maggie tasked eLC members with revising existing course announcements to include web 2.0 tools. Each English III eLC member was asked to revise eight announcements, then copy the HTML code for those eight announcements and paste it into the shared document. Adding HTML code for the updated announcements would allow all eLC members to use the revised announcements in their own course sections. Using announcements to facilitate student learning was a long-standing topic of focus in the eLC process, as evidenced by the work of the English I and English III eLCs during the spring of 2014 as well as references to previous eLC work made by case study participants during interviews.

Unlike the English I and English III eLCs, the Advanced Placement (AP) English Language eLC was assigned a focus from SVHS during the month of February, which was designed to continue throughout the spring 2014 semester. Donna explained the AP focus in an interview.

We've never separated AP teachers out before, but we really feel that the culture of AP is not where it needs to be. It's not reflective of the rest of [SVHS]. So we devised an AP-focused semester for them, where they're working together, not doing what everybody else is doing. They are intently focusing on the data of the last round of AP scores, and it's painful for them, I'll be honest with you... But this is good, because this is how we learn and get better. So, I would imagine that

AP is now going to continue to move in a different direction. (Chief Academic Officer, 2/26/14)

She later added, “It might be easier on us to say, ‘Okay, it’s all going to be the same for everybody,’ and not have to write three eLCs, it just is not what’s best for our kids to do it that way” (Chief Academic Officer, Interview, 2/26/14). The focus on AP data and culture continued throughout the spring 2014 semester, as the AP English Language eLC focused on AP test data and student survey data. New SVHS teacher Wendy described this work in an interview.

Right now we are talking about the data from last year, so my eLC partner and I are looking at the data. Not only just our AP scores, but like how many students took the course. We’re looking at our survey data that we gave last semester. We gave a survey to our students to figure out ways that we could improve. We’re sort of taking it apart and figuring out the best ways to revise the course now. (3/12/14)

In March 2014, SVHS set the focus for eLC work for honors and AP eLCs. AP eLCs continued their work on data and culture, while honors eLCs began working on a statewide honors portfolio requirement which was mandated by the Department of Public Instruction. The honors portfolio was a new issue that needed to be addressed by eLCs immediately. As such, it was not a long-standing topic for online high school English teachers at SVHS. However, through the honors portfolio process, ongoing eLC issues were addressed, such as course revision and differentiation. Amy described the process in an email to English I eLC members.

We have to demonstrate that our honors courses meet the expectations the state has set forth. This month we are brainstorming - trying to take stock to see where we stand. This is a process we will be working on for many months to come. It's critical that we work as a team to determine the state of these courses and move forward accordingly. (Instructional Leader, Email, 3/6/14)

Tina, the English I course lead, assured her eLC members via email that all teachers, even those who did not teach an honors section, would be able to contribute since the "honors and standard courses are so closely related" (Veteran Teacher, Email, 3/6/14).

During the same month, non-AP and non-honors eLCs were again allowed to select a focus for the month. The following instructions were provided to those eLCs.

The feedback from your Instructional Directors was clear -- this month they want you to have the time to determine the path of your work for the next four weeks. Your Instructional Director will work with Instructional Leaders and eLC teams to determine what topic the eLC would like to tackle for the month. All eLC topics must have the approval of your Instructional Director. (eLC Newsletter, March 2014)

These eLCs were provided suggestions but were also allowed to choose a topic that was not listed as a suggestion. Although the non-AP and non-honors eLCs determined their own focus, their weekly asynchronous and monthly synchronous work was structured with reflection questions provided by SVHS.

In talking with eLC leaders and participants in interviews, topics which eLCs focused on during previous semesters were discussed. New teacher Cheryl explained, "We've done some on real-world feedback" (Interview, 3/14/14). Later, she described other topics of eLC work.

We did some on web 2.0 tools. How can we better our instructional learning blocks using SlideShares and Prezis instead of PowerPoints, Animoto, different web 2.0 tools, in order to help students connect with the instruction instead of everything just being something they have to read to try to understand? (New Teacher, Interview, 3/14/14)

She continued,

One month we focused on student contact and how often we contact students. Is it grade-based, is it performance-based, is it a set rule of you make contact every one week, every two weeks, every three weeks? We looked at the difference in when we contact parents and when we don't. We looked at communication with the ELAs (Electronic Learning Advisors) at the schools, and reaching out to them for help if we have a student who isn't logging in or not doing what they're supposed to. (3/14/14)

Feedback and communication were both long-standing topics of conversation and issues driving the work within the eLC process. Along with announcements, feedback and communication were ongoing topics within the eLC process. These three topics were referred to by SVHS as the three pillars, which will be discussed in detail later in Chapter IV. Other topics mentioned by eLC members during interviews included Common Core implementation, differentiating individual assignments, course revision, and expectations for teacher evaluation.

Questions. In addition to framing the issues and topics addressed by a community of practice, the domain of a CoP guides the questions that are asked by, of, and among community members (Wenger et al., 2002). These questions include ones that are easily answered as well as open questions that serve to guide the community's work over time. For instance, each discipline in science "has one or two burning

questions that researchers pursue at any given time” (Wenger et al., 2002, p. 31). While these burning questions may change as researchers pursue new problems and interests, there are bigger, long standing questions within a community of geologists, for example, that make up part of the community’s domain. Topics, issues, and questions are closely related within a CoP, as questions function to further members’ understandings of critical topics and issues related to the domain of the CoP.

Throughout the twelve weeks of data collection, questions were used to guide the work of eLC members. Questions were a driving force of weekly and monthly eLC work. During the months when SVHS determined the focus and/or provided the structure for eLC work, the instructions included several questions to facilitate participation and reflection. Content related to the focus of the month was included in the monthly eLC instructions, with questions used to help teachers process and reflect on the content. Teachers were then expected to respond to these questions weekly in a shared document. Donna explained that these weekly questions were ones for teachers to “consider, review, analyze, come to a judgment about” and added that the questions provided “some accountability for what their discussion is going to be in their live eLC time at the end of the month” (Chief Academic Officer, Interview, 2/26/14). Maggie, course lead for English III, described the weekly reflection questions as “focused questions that make us think and dig deeper and figure out best practices and things that can help to improve our teaching” (Veteran Teacher, Interview, 3/3/14).

Questions focused on ways to improve teaching, improve courses, and improve student learning were open questions that, over time, continued to guide the eLC process.

A word count query revealed that *question(s)*, *course(s)*, *teacher(s)*, and *student(s)* were the most frequently used words in all data coded as “Questions.” *Course(s)* was used 23 times, *teacher(s)* was used 13 times, and *student(s)* was used 12 times in all data coded as “Questions.” Other frequently used words within the “Questions” code were *data* and *feedback*, both used seven times. As described in the Topics and Issues section above, course revision through the honors portfolio process framed much of the eLC work during the spring of 2014 and, therefore, guided much of the questioning as well. With *student(s)* being a frequently used word in the “Questions” data set, the data again affirmed that the work of eLCs focused heavily on students. Simone described the types of student-centered questions that were addressed through eLC work, such as “which assignments they’re most successful with, where we can make the instruction more clear, where can we tutor students, how can our announcements in the course make this lesson more meaningful for the child” (Instructional Leader, Interview, 3/9/14). Tina made a similar student-centered comment in an interview, “We often ask ourselves, ‘Wow, they didn’t do as well on that. How can I make it easier for them? How can I help them understand so they can really get this?’” (Veteran Teacher, Interview, 2/26/14).

A typical question structure for weekly eLC work is below.

- Based on the data of the last three weeks, what is one action step your team can do now or should begin to address to increase student success in your AP course for this semester?
- Take a look at the AP Exam test prep items that are in this unit. What is the level of rigor of the items?

- How often is each type of AP Exam item in the course, and where is it located such as the end of course, the beginning of course, in every module, etc?
- What is the level of feedback that the student sees when completing a module post assessment? Who provides this feedback - you as the teacher or built in feedback?
- Does remediation exist in the course, and if so, what type and how often? (AP eLC Newsletter, February 2014)

Weekly reflections focused on both celebrating strengths and identifying areas for improvement. Often, questions posed in weekly reflections as well as synchronous meetings focused on celebrations of student learning and celebrations of effective teaching practices. For example, one set of weekly reflection questions for the honors portfolio process asked the following:

- After reading this material, what can you celebrate about the course you teach and how it “stacks up” to these questions?
- After reading this material, what areas of improvement might there be for your course?

Another question set followed a similar structure:

- Reflecting on the work of week two and three, what are you celebrating?
What does your course do well?
- Reflecting on the work of week two and three, what is missing in your course that the honors rubric requires? (Honors eLC Newsletter, March 2014)

Sometimes, in addition to weekly reflections, questions were also provided by SVHS to guide eLC discussions during monthly synchronous meetings. Amy described in an interview, “At the end of the month that group will meet synchronously to go over that with new questions to kind of really emphasize the experience of the month” (Instructional Leader, 2/26/14). While these guiding questions were sometimes provided by SVHS, they also were generated by the course lead who was responsible for facilitating eLC meetings. Maggie shared that she sometimes created an outline and guiding questions prior to synchronous eLC meetings. Beyond weekly reflections and synchronous meetings, questions also directed eLC work through shared documents, particularly as part of the honors portfolio process. For example, the English I eLC worked collaboratively in a shared document to reflect on and brainstorm revisions for their honors course. This reflection and brainstorming was directed by questions such as: What is the information telling you about this part of your course and the honors rubric? (English I Honors Portfolio Working Document, March 2014)

In addition to reflection, questions were also used to seek clarification, encourage participation, and gather feedback. A shared document was distributed during a live meeting in order to gather feedback from teachers on the honors portfolio process. The document contained the following three questions:

- What’s working well with the honors portfolio process?
- How can we improve the process?
- Any other thoughts? (Honors eLC Portfolio Process Feedback, March 2014)

During synchronous meetings, questions were posed by meeting facilitators and by participants, as evidenced by vignette one. In every meeting observed during the spring of 2014, teachers were expected to respond to questions and encouraged to share their own questions. Maggie described the expectation for eLC participation as “equally contributing and maybe posing questions to take the conversation a little deeper” (Veteran Teacher, Interview, 3/3/14). New teacher Cheryl discussed how all participants were expected to respond to questions during synchronous meetings, “whether it’s a general question that’s open to everybody and you just need to respond by voice or respond in the chat, or whether it’s a specific question” (Interview, 3/14/14).

Synchronous meetings also served as a place where teachers could get their questions answered and receive clarification on important issues. Cheryl described that an instructional leader or director was usually present in eLC meetings, “so even if we have general questions about [SVHS] as a whole or progress reports or policy changes, there’s usually somebody there and we can get answers in real time” (New Teacher, Interview, 3/14/14). Teachers took advantage of the opportunity to ask questions during synchronous meetings, seeking clarification on issues such as the honors portfolio process, professional development, and expectations for eLC work.

- “What happens if portfolios don’t pass state standards?” (English I eLC Meeting, 3/27/14)
- “Will AIG training be offered for teachers who are not familiar with AIG strategies?” (English I eLC Meeting, 3/27/14)

- “Do real world connections count as well?” (English III eLC Meeting, 2/17/14)
- “What will the oversight be like?” (English I eLC Meeting, 3/27/14)

Shared understandings. Wenger et al. (2002) described the importance of shared understandings in shaping a community’s focus. The “shared understanding of their domain – its purpose, its resolved issues, its open questions – allows them to decide what matters” (p. 30). Shared understandings consist of common knowledge shared by community members. These shared understandings include both implicit and explicit understandings (Wenger et al., 2002). As a community evolves, it addresses new topics, solves new problems, and asks new questions. However, the shared understandings allow the community to maintain a sense of identity within the domain (Wenger et al., 2002).

Again, *student(s)* was a frequently used word in all data coded as “shared understandings.” *Student(s)* was used 19 times across all 21 data sources coded as “shared understandings.” Other frequently used words across data sources coded as “shared understandings” included *work* (10 uses), *course(s)* (8 uses), *communication* (7 uses), and *honors* (6 uses). Further examination of frequently used words and concepts in the data revealed the three pillars of quality online teaching as the cornerstone of shared understandings throughout the eLC process. As described in Chapter I, SVHS used three pillars to define quality online teaching. Those three pillars were: teaching through learning blocks and announcements, teaching through grading and feedback, and teaching through communication. The three pillars were often the focus of eLC conversations and

work during the spring semester of 2014. Table 11 below represents the frequency with which the three pillars were referenced across all data sources. As evidenced by the frequency with which eLC members engaged in discussions and work around the three pillars, SVHS used the eLC process to reinforce and support teachers in aligning their online instruction with the three pillars.

Table 11

Frequency of the Three Pillars by Data Source

	Pillar One Announcements	Pillar Two Feedback	Pillar Three Communication
Total Frequency Across Data Sources	77	75	63
Frequency within Interviews	27	29	9
Frequency within Synchronous Meetings	19	9	22
Frequency within Weekly Reflections	10	21	4
Frequency within Emails	3	1	0
Frequency within Documents	18	15	28

As eLCs worked on the honors portfolio process during the spring of 2014, eLC members developed shared understandings about honors portfolio expectations. In addition, the honors portfolio process facilitated the development of shared understandings of the strengths and areas for improvement of honors courses. Amy described this process in an email to eLC members, “While we already have strong

curriculum in all of our English courses, this work on the honors portfolio shows me places where we can enhance the [English] I and [English] II honors course work - so exciting!” (Instructional Leader, Email, 3/3/14). This portfolio work also led teachers to negotiate agreement on areas of needed course revision.

Outside of the honors portfolio process, eLC members understood the importance of ongoing course revision. In weekly reflections for the AP English Language and English I courses, teachers reflected on identified strengths, weaknesses, and areas for revision. Weekly reflections revealed that AP English Language teachers negotiated action steps to revise their course. To facilitate this work, they used a shared document as they identified areas in the course that needed revision. During a synchronous meeting of the AP English Language eLC, eLC members crafted the following reflection on the eLC’s accomplishments for the week.

We have a good grasp on where students are, particularly communication. We also have some ideas about what we need to reiterate, or clarify for the students (such as office hours, communication, etc.). We also have some ideas about what we want to revise (Module about books they might want to read, forum they can share in). (AP English Language eLC Weekly Reflection, 3/10/14)

Shared understandings also related to broader issues such as culture and learner characteristics. Through eLC work and department meetings, AP teachers developed shared understandings of common characteristics of AP students, the culture of AP courses at SVHS, and how the AP culture related to the overall culture at SVHS. As described in vignette six, all AP eLCs met for a synchronous meeting to discuss and negotiate their understandings of AP students, AP culture, and the importance of the three

pillars in connecting with AP students. During this meeting, Donna posed questions such as “Who is the AP student?” and “What is our AP culture?” (AP Department Meeting, 2/18/14). This facilitated the sharing of agreed-upon characteristics of AP students and SVHS AP culture. This synchronous discussion also made explicit some implicit understandings about AP students and the role of the AP teacher. Shared understandings of the three pillars were explicitly connected to shared understandings about AP students. Donna reminded AP teachers that “Our job is to build relationship with them” and that “AP students need the three pillars!” (AP Department Meeting, 2/18/14).

Expectations for participation in the eLC process also existed as shared, explicit understandings. When asked in an interview what eLC members expected of each other, instructional leader Amy responded,

I think that they expect each other to put in your input, your thoughts, your ideas, so that we can come together and work on this. So I guess when I say they expect each other to do their job, what I mean is we can't work as a group if we're not all contributing, so I think they expect contributions. (2/26/14)

Shared understandings of SVHS teacher expectations focused on participation in synchronous meetings, responses to weekly reflection questions, and contributions on shared documents. New teacher Cheryl described that eLC members “are expected to either be present in the room on the computer, or you can call in if you're not where you can be on the computer. It is part of our evaluation” (Interview, 3/14/14). She later added that “everyone's expected to kind of weigh in on a decision. I have not been to an eLC yet where you can just sit back and chill and listen” (3/14/14). These shared

understandings related to participation in the eLC process were reiterated by new teacher Wendy, who shared that “Many of the eLCs depend on everybody [contributing]. Then we have to go back in and see what they’ve done and reflect. That’s the whole sharing process” (Interview, 3/12/14). Expectations governing participation in the eLC process, communicating with students, providing feedback on student work, and other SVHS expectations were clearly communicated via a shared 11-page document.

It is important to note that shared understandings were involved not only in the implementation of the eLC process but also in its design. Chief academic officer Donna described the eLC development process whereby leaders on the curriculum and instruction team met weekly to reach “collaborative agreement, shared beliefs, shared vision” (Interview, 2/26/14). When asked whether eLC members shared similar goals and values, Donna replied, “Absolutely. And I think that’s why I don’t have it all there yet. I think that we have particular areas that need continual work on investing in the shared values and the shared beliefs of this organization” (Chief Academic Officer, Interview, 2/26/14). In an interview, Cheryl described the goals and values shared by eLC members. “We want the students to be on grade level. We want them to excel. We want to challenge them. We want to see them be successful. I think we want [SVHS] to be successful” (New Teacher, 3/14/14). Similarly, instructional leader Simone stated that “Our primary goal is to make this course the best it can be for students” (Interview, 3/9/14).

Community

Vignette two: Community. *The entire English department gathered for a monthly meeting in a live meeting space. The English instructional director, three English instructional leaders, and 17 English teachers were in attendance. The English instructional director began the meeting by welcoming attendees and asking them to share celebrations with the group. Participants shared personal celebrations such as upcoming birthdays and announcements about their children. Cheryl, a new SVHS teacher, shared that one of her students recently improved her grade in the course from a 28 to an 87. After celebrations, the instructional director shared this quote from Theodore Roosevelt, “Nobody cares how much you know until they know how much you care.” She described,*

What we do with our communication at [SVHS] with our students and their stakeholders is an effort to show them that we care. It’s an effort to show them that they’re more than just a name in our grade book, but that they matter to us and we want to make sure they’re successful.

In reference to communication with students and stakeholders, the instructional director told participants “I’m just so proud of you guys for the work that you do here.” Next, she shared a slide containing student survey data from the fall 2013 semester. She added, “No matter where you look on the chart, the work that we’re doing in our pillars shone through in the survey.” The presenter then went on to point out one area of need as identified by the survey data. “Forty-two percent believe their online teacher knows them just as well as their face-to-face teacher... When we show the students that we care

and we get to know them, they do better.” She then reminded teachers of the purposes of the communication journal, which is required for SVHS teachers. “I want to remind you guys that the communication journal, the goal is that it tells a story of your work with your students and their stakeholders.”

This discussion of student survey data led to an introduction of the topic for this department meeting, which was effective practices for communication. The instructional director introduced the format for the remainder of the meeting, explaining that a few SVHS English teachers would be sharing their best practices for communication in their courses. She referred to these teachers as being members of the “Communication Hall of Fame.” Expectations for participants were shared by the instructional director, “As we hear their best practices and they show us their examples of connections they’re making with students and their communication efforts, think about how what they share, you might be able to take back in your work with your own students.”

Instructional leader Simone was the first to share. She presented slides containing an ongoing conversation with a student who was struggling and needed support from the teacher. Simone discussed her relationship with the student and how ongoing communication through text messaging contributed to the development of that relationship. Next, Maggie, a veteran teacher, displayed screenshots of her communication journal. She used arrows and text to annotate the screenshot, then described via audio how she structured and maintained her communication journal. In the chat box, participants responded positively to Maggie with comments such as “Good idea and very organized”, “This is great organization!”, and “I have always thought

about doing that!” Maggie also shared a few specific message exchanges she had with students and students’ parents. Specifically, she discussed ways that she maintained positive communication with students and parents. One parent messaged Maggie, “Thank you for the nice email. It’s educators such as yourself that inspire our students to work up to their potential.” Again, participants commented on Maggie’s sharing in the chat box, including “This is a great idea, especially for our more advanced students.”

Three other teachers followed a similar format, presenting their best practices for communication with students and stakeholders by sharing screenshots of documents and specific messages with students and students’ parents. Throughout the sharing session, participants commented actively in the chat box, providing feedback such as the following. “It’s so obvious why you’re sharing with us - you completely rock the communication!” “What a positive way to approach things.” “Your enthusiasm can definitely spill over.” “Thank you for sharing such wonderful strategies for student success.” After the best practice sharing session was complete, the instructional director concluded the meeting by thanking the teachers for their work. “You guys are amazing teachers. And you intentionally reach out every day to each and every student to make that connection, to help them in your class, and to lift them up.”

The second necessary element of a CoP, according to Wenger (1998), is a community of people who “interact, learn together, build relationships, and in the process develop a sense of belonging and mutual engagement” (Wenger et al., 2002, p. 33). Features of community that were explored in this case study included the following, described in Wenger’s (1998) CoP framework: mutual engagement, joint enterprise, and

a shared repertoire. Mutual engagement refers to sustained, community-building engagement among members. Joint enterprise is used to describe the work undertaken by the community as they engage with one another. Finally, members of a CoP develop a shared repertoire of strategies, tools, routines, and language as they engage in joint enterprise with other members. Data related to these three features of a Community of Practice are described below.

Mutual engagement. Wenger (1998) described membership in a CoP as a “matter of mutual engagement. That is what defines the community” (p. 73). He further defined mutual engagement as the “source of coherence of a community” (Wenger, 1998, p. 73). Although it is necessary that a community’s practice focus on important topics, issues, questions, and shared understandings, Wenger (1998) argued that it may be as important for members to “know and understand the latest gossip as it is to know and understand the latest memo” (p. 73). However, Wenger’s (1998) description of mutual engagement goes deeper than knowing the latest gossip. He explained that “The kind of coherence that transforms mutual engagement into a community of practice requires work” (Wenger, 1998, p. 74). He defined this work as community maintenance, which is instrumental although less visible than other types of community work. Through mutual engagement, a CoP can become a tightly knit network of interpersonal relationships (Wenger, 1998).

The most frequently used words across all data coded as “mutual engagement” were very different from the most frequently used words in other codes. Whereas the most frequently used words within the subcomponents of domain were related to

students, teachers, and courses, data coded as “mutual engagement” revealed a focus on people and relationships. In alignment with Wenger’s (1998) definition of mutual engagement, data representing mutual engagement within the eLC process were related to the people who made up the eLC process and their relationships with one another.

During interviews with three different case study participants, eLC members were described as supportive. When asked to describe the community of her eLC, Simone, the AP English Language instructional leader, replied, “I think we all work really well together. We’re all supportive. And we really see that there’s a common goal” (Interview, 3/9/14). She further explained, “I’ve pretty much been working with them since I started with [SVHS]. So we get along great. We’re very supportive of one another” (3/9/14). Similarly, new teacher Cheryl described the eLC process as “very supportive. I don’t feel like anybody is like, ‘Okay, you’re on your own, you’re doing your own thing.’ It’s been very supportive” (Interview, 3/14/14). New teacher Wendy also expressed feeling supported by the eLC process, describing that “everybody just sort of rallies around you, and if you have a question everybody is willing to help” (Interview, 3/12/14).

Evidence of the supportive nature of the eLC process existed in the focus on celebrating teacher effectiveness via emails, weekly reflections, and monthly synchronous meetings. For example, synchronous meetings typically involved eLC members sharing their best practices and receiving positive feedback and encouragement from fellow eLC members. During an English department meeting, several English teachers were asked to share their best practices for communicating with students and

their parents. As teachers shared their practices, comments like those below were made by fellow teachers in the chat box (English Department Meeting, 3/17/14).

- “The parent response says a lot about your craft” (Veteran Teacher).
- “You’re clearly reaching your students and building connections. You’re another rock star in the communication arena” (Instructional Leader).
- “Good job making that personal connection. Will you be my life coach?” (Instructional Leader).
- “I love that idea. I am trying it out tonight!” (Instructional Leader).
- “Another perfect example of building connections and relationships. Look at your amazing compassion and support here!” (Instructional Leader).

The vignettes throughout this chapter, which provide context for these findings, reveal the regularity of these professional celebrations. However, Wenger’s (1998) conceptualization of mutual engagement was possibly more evident in celebrations of teachers’ personal, not professional, accomplishments. Teachers shared personal celebrations, including family events, birthdays, and their children’s accomplishments. Communities of eLCs also offered support and encouragement through difficult times. An English teacher, who recently lost a parent, received emails, cards, and phone calls from eLC members and leaders expressing their sympathy. A new SVHS teacher and interview participant was recently injured. She described the response of her eLC in an interview.

I had all of the people around me were texting me and calling me, asking me if I was ok, asking if they could help me in any way, posting announcements. So it

was really nice. I really feel like it's a community of people who look out for each other. (New Teacher, 3/12/14)

Instructional leader Amy explained that she sent cards and made phone calls to maintain contact and develop trust with eLC members. According to Amy, her role "isn't just about the academic nature of teaching. It's not about just the business side of being a coach and a guide. Definitely there's a lot of personal stuff. So I want to always be friendly and approachable" (Instructional Leader, Interview, 2/26/14). She further expressed the importance of building relationships with eLC members. "For me, the personal stuff does come first because in order to have people trust me and believe in what I have to say, then I have to have a personal relationship with them" (2/26/14). Amy felt that calling and sending cards to eLC members helped to develop a deeper level of trust.

In addition to trust, other words used by case study participants during interviews to describe the community of the eLC process included cheerleader, mentor, respect, understanding, listen, and comfortable. Veteran teacher and English I course lead Tina described feeling "comfortable asking questions, giving suggestions, and just finding out about their lives" (Interview, 2/26/14). She went on to describe how the relationship-building process was ongoing and developed over time. "At the beginning, you think I don't know if I can depend on this person to help me or not. And now I know that I can" (2/26/14). New teacher Wendy appreciated how "everybody sort of just rallies around you, and if you have a question everybody is willing to help" (Interview, 3/12/14).

Beyond professional support, personal relationships also developed over time among eLC members. Amy described that, while she maintained contact with eLC members on the “business side of things,” she also wanted her eLC members to know that she thinks about them “outside of the work component” (Instructional Leader, Interview, 2/26/14). She did this by checking in on family issues and “trying to remember the big milestones for them” (Instructional Leader, Interview, 2/26/14). According to Donna, “you hear stories about how members of eLCs have been at each other’s weddings, they’ve thrown baby showers, wedding showers. They’ve become part of their lives” (Chief Academic Officer, Interview, 2/26/14). Cheryl echoed that sentiment by explaining that she met some of her eLC teammates who lived fairly close to her for breakfast one Saturday morning. As Wenger (1998) described, mutual engagement is less about knowing and more about doing things together.

Joint enterprise. The second element of community, referred to by Wenger (1998) as joint enterprise, is evident in the mutual accountability of community members to their shared practice. A community’s joint enterprise is “their negotiated response to their situation and thus belongs to them in a profound sense” (Wenger, 1998, p. 77). In the context of this case study, it is important to note Wenger’s (1998) argument that joint enterprise cannot be solely determined by a mandate from outsiders or by an individual community member. Rather, the enterprise of a CoP, even in response to a mandate, “evolves into the community’s own response to that mandate” (Wenger, 1998, p. 79). He further explained, “Even when strict submission is the response, its form and its

interpretation in practice must be viewed as a local collective creation of the community” (Wenger, 1998, p. 79).

Joint enterprise was the third most frequently used code across all data sources. In total, seventy-four references were coded as “joint enterprise,” revealing that the eLC process focused on communities of online teachers holding one another accountable for their shared practice. “Courses,” “student(s),” and “honors” were the most frequently used words within the “joint enterprise” code. As evidenced by these frequently used words, much of the joint enterprise of SVHS eLCs during the spring of 2014 focused on courses, students, and the honors portfolio process. According to Wenger (1998), a community’s joint enterprise exists in its mutual accountability to a shared practice and the community’s negotiated response to their situation. Data revealed that the eLC process fostered the development of joint enterprise through course revision, a focus on student learning, and the honors portfolio process.

The structure of the weekly reflection process and synchronous meetings provided time and space for eLCs to negotiate responses to the weekly and monthly issues and questions posed by SVHS. For example, as the English III eLC worked through the honors portfolio process, they determined that pre-assessments would need to be added and that more clarification would be needed in regard to the rigor of the course. This community also determined that there was a need for more problem-based learning and problem solving within their course. This was decided as a result of questions and issues raised by the honors portfolio process. In a weekly reflection, the English III course lead commented that the honors portfolio process “should give us some good ‘take away’

information that I'm hopeful will be really helpful in affirming what we're doing well and where we need to make improvements" (English III eLC Weekly Reflection, 3/3/14). Similarly, the English I eLC identified needed course revisions as a result of the honors portfolio process. As the AP English Language eLC worked to understand data related to their course, eLC members made the decision to distribute a student survey to determine whether students planned to take the AP exam. The following week after this decision was made, the eLC crafted and distributed a student survey. This was an example of one eLC's response to an issue raised by SVHS through the eLC process.

As evidenced above, weekly and monthly eLC responses to the eLC process often led to commitments and action steps negotiated by eLC members. On one weekly reflection document, the AP English Language eLC listed three action steps, including making a list of areas for revision, reducing the amount of completion assignments, and inserting writing tutorials into the course. Other decisions negotiated by the AP English Language eLC during the spring semester of 2014 were made in direct response to an AP eLC focus that was first shared during an AP department meeting. During the department meeting, Donna encouraged all SVHS AP teachers to consider the culture of AP courses at SVHS, the nature of AP students, and strategies for building relationships with AP students. Vignette six provides a glimpse into this synchronous department meeting. Following this meeting, the AP English Language eLC focused on connecting with their students and collaboratively setting goals to accomplish this. One goal included gathering feedback from students regarding the best ways to communicate with

and get to know them. This eLC also committed to focusing on personal connections with students by providing an opportunity each day for students to brag on their work.

While some monthly eLC topics were selected and structured by SVHS, other monthly topics were self-selected by eLCs. During those months when eLCs were tasked with choosing a focus for their work, the acts of negotiating a topic and designing an action plan were evidence of joint enterprise. For instance, Amy described in an interview that the English I eLC “decided to work on how to perfect writing celebrations in daily announcements” (Instructional Leader, 2/26/14). Although this focus was identified and agreed upon by eLC members, this choice was a response to the SVHS expectation that the “announcements/learning block should be instructional, encouraging, positive, and informative,” according to the SVHS teacher expectations document (Teacher Expectations, March 2014). Teaching through announcements was one of the three pillars of quality online teaching emphasized at SVHS. Amy, an English instructional leader, mentioned that she “challenged all my teams to aim higher with celebrations and it’s been so fun to see the growth” (Interview, 2/26/14).

Another component of Wenger’s (1998) conceptualization of joint enterprise is mutual accountability to shared practice. Through the eLC process, SVHS emphasized mutual accountability within communities by communicating expectations for participation. New teacher Wendy described this mutual accountability as “sort of like a partnership. We learn from each other, and we speak through email and occasionally we have a synchronous conversation” (Interview, 3/12/14). She further described mutual accountability within her eLC, “I’m expected to log in every week and complete the

questions, and I'm supposed to keep in constant contact with my eLC partner because we teach the same course" (3/12/14). Amy described mutual accountability as eLC members sharing "a common goal and that they're very excited to work with each other to figure out how to reach that goal. I see a lot of teamwork in that regard" (Instructional Leader, Interview, 2/26/14). Instructional leader Simone explained the responsibility of the course lead during months when eLCs determined their own plan of action.

Last week in our live meeting, our course lead was tasked with coming up with what we were supposed to do that week... We have a shared document where we post all of our announcements and real world feedback and the new post web 2.0 tools. And the group I'm in goes to that every day to get their announcement information and then personalize it for their course. And [Maggie] said, "I really feel like we need to update our real world connections together, and we need to update our web 2.0 tools." So she said, "[Simone], I need you to be in charge of unit 3 and 4. I'll do units 1 and 2. I just thought that was a great idea, and I was happy to participate in that." (Interview, 3/9/14)

Mutual accountability was also described by English I course lead Tina.

We're together. If we see a problem in the course where maybe a link isn't working or perhaps an error is made in the course or we need additional clarification in the directions, we support each other in that way. (Veteran Teacher, Interview, 2/26/14)

Further, she explained that eLC members were quick to volunteer to take on and complete tasks and were very responsive when there were things that needed to be done.

Shared repertoire. Shared repertoire, the third characteristic of community within Wenger's (1998) CoP framework, consists of "routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community

has produced or adopted in the course of its existence, and which have become part of its practice” (p. 82). A shared repertoire develops over time as community members negotiate their mutual engagement in pursuit of a joint enterprise. According to Wenger (1998), a shared repertoire is important for both historical and future purposes. The elements of a community’s shared repertoire represent the history of a community’s sustained practice while also existing as tools and resources to be applied to future situations (Wenger, 1998).

One aspect of Wenger’s (1998) definition of shared repertoire is traditions, or ways of doing things. Electronic learning communities at SVHS had developed, over time, ways of doing things that were unique to individual eLCs. Donna described in an interview that eLCs “have funny things that they do, traditions” (Chief Academic Officer, 2/26/14). Amy, who worked closely with different eLCs as an instructional leader, perceived differences in each community she worked with.

I think that each eLC I work with has a very distinct kind of community, personality. It cracks me up, because again I feel like I go into each meeting with a little bit of a different personality myself because each group works together differently. (Instructional Leader, Interview, 2/26/14)

Amy went on to describe that one eLC she was part of was very business-like, focused always on how to be the best at their work that they could possibly be. She then described a different eLC as “maybe the opposite of that,” being silly during synchronous meetings while still being productive and efficient (2/26/14).

Although each eLC had a unique personality and distinct ways of doing things, the eLC process as a whole relied on several traditions and routines. For instance, the process by which eLC topics were selected, discussed, agreed upon, and communicated to eLCs was consistent, as described by Donna during an interview. A web tool which allowed users to create and distribute online flyers was used each month to communicate the content and questions which guided monthly eLC work. Further, the process of responding to weekly reflection questions was consistent across all eLCs. Each eLC used a shared document, which was pre-loaded with questions designed by the curriculum and instruction leadership team, to respond to weekly reflection questions and engage in asynchronous discussion around important topics and issues. Through Wenger's (1998) CoP framework, the use of this structure for eLC work was important for both the history and future of the eLC process. These documents provided a historical archive of eLC discussions, decisions, and accomplishments while at the same time providing guidance and direction for future eLC work.

Another routine way of doing things in the SVHS eLC process focused on celebrations of student learning, celebrations of teacher effectiveness, and celebrations of personal accomplishments as described above. This emphasis on celebrating accomplishments served to foster mutual engagement while also contributing to the development of a shared repertoire. As a frequent synchronous meeting participant during the spring of 2014, I came to expect that every synchronous meeting would begin with participants sharing something personal or professional with the group. This tradition of celebration also involved teachers modeling and transparently sharing their

best practices during synchronous meetings. Three of the seven synchronous meetings I attended during the data collection period explicitly prioritized sharing and celebration of best practices.

The SVHS emphasis on celebration and sharing extended beyond synchronous meetings. Instructional leader Amy created a video to share her process for celebrating student learning. Her video was distributed to the entire organization, and Amy was later asked to write an article for the SVHS teacher letter. The creation of products such as this video and article served as a means of telling the story of the eLC process to current and future community members.

Practice

Vignette three: Practice. *The English I eLC gathered for a live meeting to continue their work in the honors portfolio process. Participants included new SVHS teacher Cheryl, veteran teacher and English I course lead Tina, and two other English I teachers. Tina had spent time prior to the meeting responding to questions about the English I honors course in a shared document. The questions to which she constructed responses were distributed by the curriculum and instruction team at SVHS and were related to the statewide honors portfolio initiative. The following instructions were provided to guide the work of the eLC.*

Team, you have three bullets plus five bullets below that we must provide evidence for in a written form. We will not be allowed to provide documents, only the narrative. Now is a great time for us to formulate what evidence we have and what evidence we may be missing. For this week, please list your specific evidence to show how your course meets each of these bullets. This is a brainstorm session of sorts!

During this live meeting, the team reviewed, discussed, and revised Tina's responses to the bulleted items in the shared document. One question on the document asked the team to list the types of instructional strategies used in the English I honors course along with an explanation of how those strategies differentiated the instruction between the honors and standard levels of the English I course at SVHS. Other questions pertained to the selection of instructional materials for the English I honors course and the use of data to determine students' interests, knowledge, and skills. Moving through the bulleted items one by one, Tina asked eLC members questions such as, "Do we need to add anything, delete anything, change anything?" Teachers made suggestions for minor changes and additions to some of the responses on the shared document.

One particular issue arose during a discussion of the level of rigor in the standards and honors English I courses. Tina posed a question to the group, "Do you think the regular course is too rigorous?" Two teachers typed comments in the chat box stating that they believed the standard level of the SVHS English I course to be too rigorous. Cheryl, a new SVHS teacher who was teaching a year-long section of English I during the 2013-14 school year, disagreed in the chat box. All members of the English I eLC, except for Cheryl, had only taught semester-long sections of English I. Cheryl was the first teacher to pilot a year-long version of the course. During this discussion regarding the rigor of the standard English I course, Cheryl commented that the year-long course did not seem too rigorous.

Tina, the course lead, disagreed with Cheryl, describing that she believed the thinking skills in the regular course to be too demanding for those students. She

continued by describing changes to the course that were made a couple of years prior, resulting in a more rigorous course. Two participants agreed with Tina regarding the course changes by commenting in the chat box. To this disagreement, Cheryl responded, "Okay. Sorry. As the newbie my perspective is limited and I compare to what I expect from my face-to-face students." Tina apologized and said that she did not mean to "dis" Cheryl. Tina shifted the group's focus back to the task at hand, and asked eLC members if they would rather continue to work on the shared document during the live meeting or continue the work at a later time. All participants agreed to continue the work during the live meeting in order to finish the required eLC work during the scheduled meeting time. Tina continued by reading the next bulleted item on the shared document pertaining to examples of data use and asking eLC members to provide feedback on her response. For that particular bulleted item, eLC members suggested the addition of web tools used for connecting with students, including Moodle messages, BlackBoard Collaborate, Skype, and Google Voice. The collaborative work continued as participants discussed the inclusion of effective instructional strategies aligned with specific types of content, including author's craft, author's purpose, literary terms, and academic vocabulary. Once the group finished revising the response to the final bulleted item, Tina thanked the teachers for their work and ended the meeting.

In addition to a community of members committed to a common domain, Wenger's (1998) CoP framework includes the element of practice, which is defined as "doing in a historical and social context that gives structure and meaning to what we do" (Wenger, 1998, p. 46). In other words, practice is the "doing" of a CoP. Wenger's

(1998) concept of practice can be examined through the ways in which community members explore and produce ideas together. The exploration of ideas is referred to as participation, while the production of ideas is known as reification. Further, the CoP framework includes an emphasis on the duality of participation and reification. That is, the acts of participation and reification inform one another (Wenger, 1998).

Wenger (1998) described that, over time, collective learning within a CoP results in practices that are “the property of a kind of community created over time by the sustained pursuit of a shared enterprise” (p. 45). The practice that was developed and shared by CoP members did the following:

- Provided resolutions to institutionally-driven conflicts;
- Supported a shared memory;
- Helped newcomers join the community through participation;
- Generated the ability of members to do what needs to be done; and
- Created an atmosphere in which the operational parts of the practice were woven into the traditions and rhythms of life in the community (Wenger, 1998).

Within a CoP, practice is social and includes “all the implicit relations, tacit conventions, subtle cues, untold rules of thumb, recognizable intuitions, specific perceptions, well-tuned sensitivities, embodied understandings, underlying assumptions, and shared world views” (Wenger, 1998, p. 47). Findings providing evidence of participation, reification, and their duality within the eLC are analyzed below.

Participation. Wenger's (1998) conceptualization of practice included two elements: participation and reification. Participation is defined as "a complex process that combines doing, talking, thinking, feeling, and belonging" (Wenger, 1998, p. 55). As eLCs participated in problem solving, identifying gaps, and other joint practices, their work focused on students, courses, and teachers. Again, as echoed throughout Chapter IV, students were a central focus of participation within the eLC process, supporting Donna's claim that the purpose of the eLC process was to increase teacher collaboration to improve student learning.

According to Wenger (1998), specific activities involved in participation included problem solving, requests for information, seeking experience, coordination, discussing developments, visits, mapping knowledge, and identifying gaps. Throughout all data gathered during this case study, participation was the second most frequently used code, with 81 references across all data sources. Within those 81 references, the specific participation activities described by Wenger (1998) were identified and counted. Table 12 represents the frequency with which eLCs engaged in those activities during the spring of 2014.

Table 12

Frequency of Participation Activities

Participation Activity	Frequency within Participation Code
Coordination and synergy	19
Visits	17
Mapping knowledge	15
Identifying gaps	8
Problem solving	8
Seeking experience	8
Discussing developments	7
Requests for information	7

The most frequent type of participation involved in eLC practice was coordination and synergy. Planning for and managing the ongoing work of the eLC process required a great deal of coordination among eLC members, eLC leaders, and SVHS curriculum and instruction leaders. This coordination included reminders of deadlines, scheduling of synchronous meetings, and distributing responsibilities. In an email, instructional leader Amy suggested that the English I eLC schedule an additional eLC meeting during the month of March for “the benefit of us all being on the same page” (Instructional Leader, Email, 3/6/14). English I course lead and veteran teacher Tina assigned modules to English I eLC members, tasking them with exploring two modules each and contributing to a shared document as part of the honors portfolio process. Other evidence of

coordination and synergy included explanations from eLC leaders about the processes and expectations for eLC work.

Visits were coded frequently in the “participation” data, primarily representing synchronous meetings that brought eLC members to the same space at the same time. The simple act of visiting did not necessarily imply that active participation was taking place, however. The other seven activities identified by Wenger (1998) as participation within a CoP provided more meaning to the work taking place during synchronous visits. The third most frequently used participation type, mapping knowledge, occurred frequently both synchronously and asynchronously. Mapping knowledge involved eLC members working collaboratively to document practices related to course design and instruction. Not surprisingly, the honors portfolio process facilitated eLC work with mapping knowledge, as it required them to document specific items within SVHS honors courses. For instance, instructions for the English I honors portfolio included listing “specific evidence to show how your course meets each of these bullets” (English I Honors Portfolio Working Document, March 2014). In addition, a portion of the eLC process during the spring of 2014 focused on including celebrations of student learning, web 2.0 tools, and real world connections in announcements. This work was mapped out by eLC members in shared documents.

Problem solving, seeking experience, and identifying gaps were all referenced eight times within all data coded as “participation.” Data revealed that problem solving occurred in response to eLC mandates as well as in response to eLC members’ needs. The honors portfolio process provided opportunities for problem solving as eLC teams

worked together to brainstorm strategies, practices, and evidences of the required components of the portfolio. When eLCs were allowed to choose their own focus for monthly eLC work, problem solving was involved in determining a focus to meet the needs of the eLC at the time. Other references to problem solving included phrases such as weighing in on decisions and bouncing ideas off each other, both used by eLC members during interviews. During an interview, Donna described problem solving within the eLC process from the perspective of veteran teachers.

For a veteran teacher, I think it's become woven into the fabric of who they are, so they totally expect it, and they totally expect to be able to come to an eLC and voice concerns or to find a solution for a problem, and I think they've really come for the most part to depend upon it, when it has worked really well for them.
(Chief Academic Officer, 2/26/14)

Participation identified as seeking experience primarily occurred during synchronous meetings. For example, questions were asked during synchronous meetings, directed toward someone with more experience with the particular issue. Seeking experience was evident during synchronous meetings when new teacher Cheryl asked for clarification from the instructional director as well as when eLC members asked teachers to elaborate on best practices shared. Additionally, on more than one occasion, Cheryl made references to the online teaching experience of her fellow eLC members. During a synchronous meeting, Cheryl commented to her eLC teammates, "Sorry. As the newbie, my perspective is limited and I compare to what I expect from my [face-to-face] students" (New Teacher, English I eLC Meeting, 3/10/14). In an interview, Cheryl mentioned that learning from others' experiences "for me as a newbie is really valuable,

because obviously they know a lot of stuff about it that I may not realize” (New Teacher, 3/14/14).

As eLCs engaged in the work of mapping knowledge, this work sometimes coincided with identifying gaps, particularly within the honors portfolio process. The English I honors portfolio working document included these instructions: “We will not be allowed to provide documents, only the narrative. Now is a great time for us to formulate what evidence we have and what evidence we may be missing” (English I Honors Portfolio Working Document, March 2014). Ongoing course revision work also involved identifying gaps and recording those on shared documents. As described by new teacher Wendy,

If we come across an assignment that we think needs to be adapted or completely eliminated, then we can go into the document and record it so that later we can go back at the end of the course and we have a record of what needs to be done. (New Teacher, Interview, 3/12/14).

Donna explained in a synchronous meeting that the honors portfolio process would facilitate the identification of needed revisions and lead to contracts with eLC teachers to “begin work on needed revisions to address gaps” (Chief Academic Officer, Honors eLC Meeting, 3/27/14).

Data revealed that requests for information came from eLC members and eLC leaders. Tina, in an effort to determine the best way to move forward with an eLC task, sought clarification from her instructional leader. Synchronous meeting participants used the chat box to request information from presenters and other meeting participants, as

evidenced during an AP department meeting focused on AP culture. According to Donna, one benefit of the eLC process “is that there is this collaborative group of people we can go to for help when I don’t know how to deal with this particular assignment or this particular situation with a student” (Chief Academic Officer, Interview, 2/26/14). Electronic learning community members discussed developments related to the honors portfolio process, student survey data, grading processes, and other topics. A recent change in SVHS teacher expectations was a change in documenting communication with students, parents, and other stakeholders. This development was discussed during a synchronous English department meeting.

These eight participation activities, represented in Table 12 and identified in the data above, were not distinct from one another. On the contrary, participation within the eLC process was nuanced and dynamic. Within one conversation, for example, several participation activities took place. As evidenced in vignette three, while an eLC engaged in problem solving, they also requested information and identified gaps, revealing many of these participation activities taking place during a synchronous eLC meeting. English I eLC members, during the meeting described in vignette three, engaged in problem solving, requesting information, seeking experience, coordination and synergy, visits, mapping knowledge, and identifying gaps.

Reification. Case study findings revealed that participation within the eLC process often resulted in reification, which is producing objects that transform the experiences of the eLC into “thingness” (Wenger, 1998, p. 58). While documentation provides evidence of a community’s practice, “documentation is not a goal in itself, but

an integral part of the life of the community” (Wenger et al., 2002, p. 38). Wenger (1998) described that reification could take on many forms, including such various products as smoke signals, abstract formulas, logos, arguments, statues, and even “a telling glance or a long silence” (p. 60). An analogy used by Wenger (1998) to conceptualize the function of reification in the shared practice of a CoP described reified objects as the tip of an iceberg, indicative of broad meanings “realized in human practices” (p. 60). In other words, reified objects are reflections of the practice of a CoP.

Electronic learning communities used shared documents to reify their participation. Reification was coded in 31 references across all data sources. The two most frequently used words within those 31 references were doc / document and Google, indicating that much of this reification took place in shared documents. Other frequently used words revealed that announcements, courses, and students were the focus of much reification within the eLC process.

The data revealed two major purposes of reification within the eLC process: to affect practice and to provide evidence. In an interview, Amy described that the goal is that teachers “come out of this with something valuable that you can put into practice immediately” (Instructional Leader, 2/26/14). She later reiterated, “let’s come out of these eLCs with valuable tools that can be put into action” (2/26/14). Donna expressed a similar sentiment in an interview, stating that “it truly is something that can be applied right now to improve student learning” (Chief Academic Officer, Interview, 2/26/14). After focusing on including celebrations of student learning in announcements, English I eLC members were asked to respond to the following question in the weekly reflection

document: “After reviewing celebration examples from other teachers, what might you do differently or try?” (English I eLC Weekly Reflection, February 2014). Synchronous meetings regularly involved teachers sharing their practice, and comments in the chat box revealed that meeting participants learned new techniques they could put into practice right away. During an English department meeting, several English teachers were asked to share their best practices in communicating with students and other stakeholders. As a teacher shared her best practices, another teacher commented in the chat box, “I love that idea. I am trying it out tonight!” (English Department Meeting, 3/17/14)

In addition to impacting teachers’ practice, reification also served to provide documentation and evidence of eLC work. When asked to compare face-to-face learning communities with electronic learning communities, Tina described that one benefit of eLCs was that teachers “can flip back so easily. They have it set up for us. I can go back and see what we did in eLCs in September” (Veteran Teacher, Interview, 2/26/14). She later added,

I mean, it’s very easy to, I don’t know if the word is prove, but it’s one thing to say, “Oh yeah, we’re working on that.” It’s another to say, in this document we’ve got evidence, these are our ideas, this is exactly what we’ve done, these are our actions, these are our reflections on that, this is the proof that we actually took it back to the classes. As evidence, I think it’s a good thing for the public to know that we are always trying to do our best. (2/26/14)

Reification frequently took place within the weekly reflection process and in other shared documents. For example, after synchronous meetings, eLCs were asked to return to the weekly reflection document to record what was discussed, what goals were set, and

what decisions were made during the meetings. AP English Language instructional leader Simone asked her eLC to “go back and please fill in the very last part... the goals section... that we discussed in the live meeting” (Instructional Leader, Email, 3/4/14). Other evidence of reification within the weekly reflection documents was found in the instructions for the AP English Language eLC during the month of February.

Use your remaining time to come to consensus as a team on three action steps your group would like to achieve in the next two months based on the information from this last month’s eLC work. Please have someone record these three action steps on your team’s eLC Google doc for this week. (AP eLC Newsletter, February 2014)

Shared documents contained evidence of reification, as eLCs collaboratively constructed announcements containing real-world connections, celebrations of student learning, and web 2.0 tools. The English I eLC used a shared document to share daily student celebrations with one another. Similarly, the AP English Language eLC used a shared document to update their announcements with real-world connections and web 2.0 tools. Real-world feedback was also the focus of some reification within the AP English Language eLC. As evidence of this real-world feedback, Cheryl described a specific assignment during an interview for which her eLC designed real-world feedback, connecting an ancient piece of literature with “an article about soldiers coming home from Afghanistan” (New Teacher, 3/14/14). Ongoing work with course revision took place in shared documents, providing further evidence of reification. As described by new teacher Wendy,

as we're going through the course each week, if we come across an assignment that we think needs to be adapted or completely eliminated, then we can go into the document and record it so that later we can go back at the end of the course and we have a record of what needs to be done. (Interview, 3/12/14)

Duality of participation and reification. According to Wenger et al. (2002), “Successful practice development depends on a balance between joint activities, in which members explore ideas together, and the production of ‘things’ like documents or tools” (p. 38). Wenger (1998) referred to this balance between joint activities and production as duality, and later described that “the twin goals of interacting with peers and creating knowledge products complement each other” (Wenger et al., 2002, p. 39). While participation is more closely related to doing and reification implies creating, Wenger (1998) warned against viewing this duality as a simple “distinction between people and things” (p. 69). Reification is not a mere translation of participation; rather, participation and reification transform one another (Wenger, 1998). Not surprisingly, all five of the most frequently used words within the “duality of participation and reification” code were also frequently used words within the “reification” code. This finding supported Wenger’s (1998) conceptualization of participation and reification as a cycle of shared practice. Further explanation of the cycle of transformation represented by the duality of participation and reification is provided below.

Evidence of this transformation was found throughout the data coded as “duality of participation and reification.” Within the 81 data references coded as “participation,” 19 of those references were also coded as “duality of participation and reification.” Within the 31 references coded as “reification,” 20 of those references were also coded as

“duality of participation and reification.” Table 13 includes a matrix of data that were coded in this way. Approximately one-fourth of all data coded as “participation” were explicitly or implicitly related to reification, while approximately two-thirds of all data coded as “reification” were related to participation. Data revealed that participation and reification transformed one another in an ongoing cycle of shared practice. Examples of this cycle are described below.

Table 13

Matrix of Data Coded as Participation, Reification, and Duality

Code	Total References	References Coded as Duality
Participation	81	19
Reification	31	20

SVHS teachers were required to keep documentation of all communication with students, students’ parents, local school staff, and other stakeholders. Prior to the spring of 2014, this documentation was referred to as a communication log. During an English department meeting in January, the English instructional director introduced changes to expectations for this communication log. The terminology was changed from log to journal. In addition to the change in name, the process shifted from maintaining records of contacts made to telling the story of a course. Later in Chapter IV, vignette five describes the meeting during which this change was introduced.

Two months later, during another English department meeting, several teachers were asked to share their best practices for communicating with stakeholders and maintaining the communication journal. This sharing was a continuation of the ongoing focus at SVHS on pillar three, which was building relationships with students through communication. During this synchronous meeting, participants asked questions of participations and commented that they were going to use some of the ideas shared.

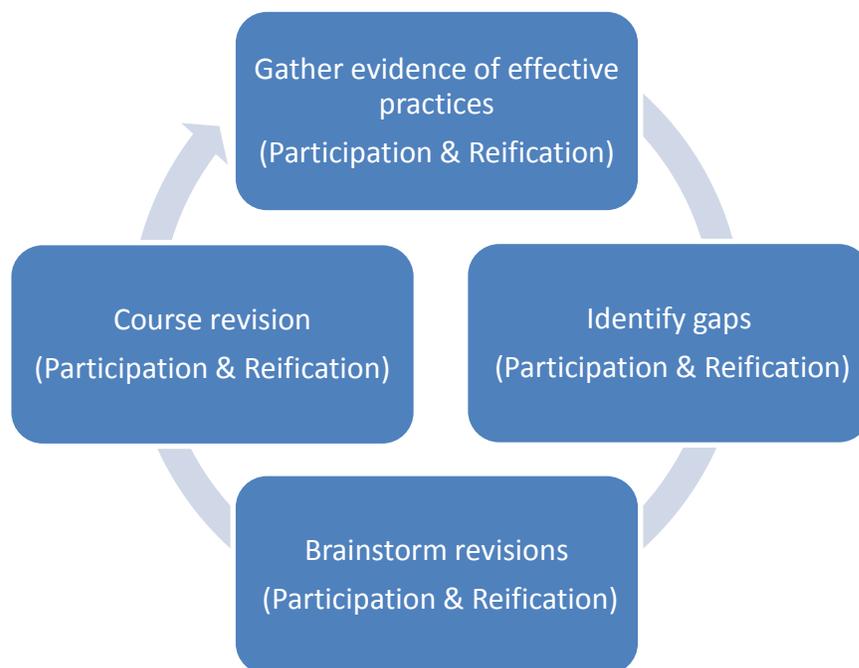
The communication journal itself was a product of reification, whereby SVHS teachers documented their practice. Further, the eLC work focusing on communication, which was evident during the two English department meetings described above, demonstrated the duality of participation and reification within the eLC process. Instructions and expectations were first provided by SVHS eLC leaders then put into action by SVHS teachers, affecting their practice as online English teachers. After implementation, effective communication practices were shared during a live meeting, providing further evidence of reification as teachers turned their practices into products that could be shared with others. At the same time, this sharing was an act of participation within the community of SVHS English teachers, with the entire community viewing, discussing, and reflecting on the practices being shared. Ultimately, according to comments made by meeting participants, the reification of effective practices impacted other teachers' practice, continuing the cycle of duality of participation and reification.

Another example of the duality of participation and reification existed in the course revision process, which was an ongoing practice engaged in by SVHS teachers and which was further facilitated by the honors portfolio process during the spring of

2014. Through synchronous meetings and asynchronous work in shared documents, eLCs gathered evidence of honors-aligned practice within their courses while also identifying gaps and needs. Each honors eLC brainstormed revisions to address the identified gaps. According to Donna, these suggested revisions would later be used by SVHS course revision teams to make changes to courses. The duality of participation and reification involved in the course revision process is represented in Figure 2 below. As you can see below, the very nature of duality implies that it is impossible to distinguish between acts of participation and reification, since the two processes “come about through each other” (Wenger, 1998, p. 62).

Figure 2

Duality of Participation and Reification



Another aspect of the communities of practice framework, beyond the three necessary elements of domain, community, and practice, is the relationship of the CoP to the institution of which it is a part. Since the eLC process selected for this case study was institutionally driven, data were gathered to better understand how the institutional nature of the eLC process influenced the relationship of the eLC process to the CoP framework. These findings are presented below.

Institutional Factors Related to Communities of Practice

Vignette Four: Institutional Factors

All honors teachers at SVHS gathered in a live online meeting room for an honors eLC meeting. Thirty-nine SVHS employees were in attendance, including Donna, the chief academic officer, who welcomed everyone to the meeting. Donna explained that the meeting would begin with all honors teachers together, after which teachers would break out into department meetings. Donna asked participants to share what most excited them about spring. Participants replied in the chat box with comments such as “spring break” and “warm weather.” Next, Donna shared a few slides to reflect the feelings of SVHS teachers working through the honors portfolio process. The first few slides displayed people with frustrated expressions. The emotions on the final few slides shifted, including smiling people and a cloud described by Donna as the silver lining. Donna then went on to say that while the honors portfolio process was a daunting task, the process would “force us to really give our honors courses the attention they deserve hopefully to make it, first of all, better for you guys but most importantly better for our kids.”

Donna continued by describing the goals and timeline for the honors portfolio process. The following goals for the portfolio process were displayed on a slide:

- Break down the three sections of portfolio guidelines to manageable pieces*
- Look at what we have in our courses to meet the indicators and what we are missing*
- Formulate a plan for attacking gaps*
- Initiate the plan*
- Be ready for the review deadline*

Following an overview of the goals for the portfolio process, Donna shared that the process would occur in three sections. As she began to describe the first section, a teacher commented in the chat box, “Thank you for breaking it down!!! So helpful!” The purpose of the first section of the process was to determine how the course differentiates and meets standards. Donna explained that teachers would be working on the first section of the portfolio after the spring semester ended. The second section, which eLCs were working on during the spring of 2014, was related to instructional materials and methods used in the courses. The third section would involve building samples after all course revisions have been made, which was scheduled to occur at the end of the portfolio process. After giving an overview of these three sections, Donna reviewed what had been shared in the meeting so far, displaying again the slides of frustrated people, the slides of happy people, and the slides with information about the three sections of the portfolio process. Donna then continued by explaining the timeline for the portfolio process, which was displayed succinctly on a slide. She described in

detail how SVHS would move through the process according to the timeline outlined on the slide.

Next, Donna introduced the second portion of the meeting, which involved all honors teachers breaking out into department meetings in online meeting rooms. Before moving to department meeting rooms, a few questions were posed to Donna in the chat box:

- *“What will the review / oversight be like?” (Veteran Teacher)*
- *“Will the eLC teams be creating the portfolio?” (Veteran Teacher)*
- *“What happens if the portfolios do not ‘pass’ the state’s standards? Will the courses be closed until they pass or is there a grace period to correct them?” (Instructional Leader)*
- *“Any idea how often we may need to revise?” (Veteran Teacher)*
- *“Will AIG training be offered for teachers who are not familiar with AIG strategies?” (Veteran Teacher)*

Donna responded to each question via audio and thanked them for asking “excellent” questions. After responding to the final question posted in the chat box, Donna asked if there were other questions, “Going once, going twice on questions.” She then asked teachers to display a green check in the meeting room if they were feeling good about the portfolio process. To support teachers in transitioning from this meeting room to the break-out rooms, instructional directors posted the locations of the break-out meetings in the chat box, and Donna sent the teachers on their way by sharing a link to a

music video in the chat box. She encouraged teachers to “click on it and watch it if you want to, and you will groove all the way to meet with your folks.”

The focus of department meetings following the honors eLC meeting was to gather feedback from all honors teachers on the portfolio process. As the English department gathered in the English department meeting room, the English instructional director provided instructions for gathering feedback. A shared document was distributed to all honors teachers, containing three columns with the following headings:

- What’s working well with the process?*
- How can we improve the process?*
- Any other thoughts?*

Teachers were asked to leave feedback in all three columns to help SVHS improve the honors portfolio process. As English teachers worked to leave feedback on the document, the instructional director commented briefly on a few pieces of feedback, agreeing with much of the feedback that was shared. After teachers were given a few minutes to leave feedback, the English instructional director thanked the teachers for their time and ended the meeting.

In order to fully answer research question one - In what ways can an institutionally-driven electronic learning community operate like a community of practice? - data were gathered and analyzed to describe how the institutionally-driven nature of the eLC influenced its relationship to the CoP framework. As described previously, CoPs can exist along a continuum from unrecognized by the institution to highly institutionalized. The eLC process selected for this case study was

institutionalized in that it was conceived and structured by SVHS. While the success of a CoP is dependent upon the engagement of members (Wenger et al., 2002), there are many ways in which organizations can support and increase the effectiveness of the work of CoPs, including: value the work of eLCs, create time and space, encourage participation, remove barriers, and connect to the organizational strategy. Findings below, organized and coded according to strategies recommended by Wenger et al. (2002), revealed efforts made by SVHS to foster the growth and development of the eLC process.

Value the Work of eLCs

Repeatedly, in weekly reflections, emails, and synchronous meetings, eLC members were thanked for their work. During a live English I eLC meeting, Donna, the chief academic officer, expressed her gratitude, “You guys have been fantastic at how you have approached it in your eLCs. We cannot thank you enough for analyzing student work in such a proactive way” (English I eLC Meeting, 3/27/14). During another synchronous English meeting, Donna told teachers, “I appreciate what you guys do so much” (English Department Meeting, 3/17/14). This sentiment was also regularly expressed within instructions for weekly reflections, which often concluded with a statement such as, “Thank you for your work this week!” (AP English Language Newsletter, March 2014). Within the weekly reflection document for AP eLCs, the following statement expressed appreciation for the work AP teachers did.

AP teachers, we appreciate you very much! Teaching an AP course that is also yearlong is not an easy task, and I am sure often feels like a demanding, thankless

job. AP courses are demanding, for both the student and the teacher, and please know how much we appreciate your work. (AP English Language Newsletter, March 2014)

In addition to overt expressions of gratitude, SVHS demonstrated that it valued eLC work in other ways. As described in several vignettes, synchronous meetings often included celebrations, both personal and professional, and recognition of effective practices used by SVHS teachers. Further, SVHS regularly gathered feedback from eLC members and used that feedback to make adjustments to the eLC process. During a synchronous meeting, all honors teachers were asked provide feedback on what was working well with the eLC process as well as suggestions for improvement. Veteran teacher Tina expressed that SVHS frequently asked, “Is this helpful? How can we make this better?” And they listened. And they still do” (Interview, 2/26/14).

Donna expressed that it was important to her to ensure that teachers felt their time was honored. “I never want the teachers to feel like their time has been wasted” (Chief Academic Officer, Interview, 2/26/14). New teacher Wendy perceived that SVHS had “done a really excellent job in making it valuable and it doesn’t take too much time” (Interview, 3/14/14). This act of honoring teachers’ time within the eLC process meant that time-intensive tasks, such as course revision, were completed outside of the eLC process and compensated with mini-contracts. During a synchronous meeting, a veteran English teacher commented, “Glad that our eLC time is being honored and that minicontracts will help with this” (English I eLC Meeting, 3/27/14). A veteran teacher and course lead, Tina expressed that she “always appreciated being treated like a

professional by [SVHS]. I always feel like they appreciate me” (Interview, 2/26/14).

Veteran teacher and instructional leader Simone described that SVHS valued her by recognizing her for her hard work and providing opportunities for growth.

So I guess I feel like I have an important role within the organization. I feel it’s the only job I’ve never had in my life where I’ve been judged based on the work that I do, and not on personalities or people trying to gain office and move up a corporate ladder. We have a lot of principals that come in and out of our schools and then move on to other things, and teachers are the same way. And sometimes that can be very much about personalities. And I have found here, 100 percent of the time, everything has been about the work on the page. And if I continue to do good work, I will continue to have a role in this organization, a valued role. And that I like very much. (Interview, 3/9/14)

Create Time and Space

The eLC structure, with weekly asynchronous work via reflection questions and monthly synchronous meetings, provided consistent, focused time and space for eLC work to happen. While Wendy felt that she did not typically like that type of structure all time, she believed that “it works in this situation, because it keeps us on track and it keeps us talking about what we’re supposed to be talking about” (New Teacher, Interview, 3/12/14). Instructional leader Simone also appreciated the structure of the eLC process, which allowed teachers to review shared practice from previous months. According to Simone, compared to face-to-face learning community work, the eLC structure was “more accessible. It’s more permanent” (Interview, 3/9/14). In addition to monthly eLC meetings, instructional leaders met more frequently, as described by Amy in an interview. “I mean, as an instructional lead, I have to meet every week and then

another once-a-month meeting so I end up having a lot of meetings, but I like them”
(Instructional Leader, 2/26/14).

Within the structure set by SVHS, there was some flexibility. For example, eLCs were allowed to use video conferencing tools for live meetings rather than the webinar-like space within the learning management system. Instructional leader Amy described that one eLC of which she was a member met frequently via Google Hangouts, which allowed all members to see and hear each other as well as see each other’s children, fostering the development of relationships and community within the eLC. Flexibility was also provided within the expectations for weekly work. During one week in March, the English I eLC chose to meet for one hour synchronously rather than working for one hour asynchronously throughout the week in order to better coordinate their work and get everyone “on the same page,” according to Amy, who felt that completing the week’s work “as a group will save us a lot of redundant work if it were done individually”
(Instructional Leader, Email, 3/7/14).

In addition to the structure of time and space for ongoing eLC work, SVHS worked to provide important content in an easily digestible format. Specifically, the honors portfolio process was broken down into small chunks of information and specific steps for eLCs to complete. In an email to the English I eLC, Amy explained that Donna had “broken it down really carefully for us and we are to move through it one week at a time” (Instructional Leader, Email, 2/24/14). Later, during a synchronous meeting, she stated that Donna had “laid out a document to walk teams through the portfolio week-by-week” (English I eLC Meeting, 2/24/14). Also, AP data were presented in an organized,

condensed format for AP teachers to use during their eLC work. The presentation of weekly and monthly information related to the eLC focus in a consistent and structured format provided evidence that SVHS created time and space for ongoing eLC work.

Encourage Participation

Wenger et al. (2002) expressed that membership in a CoP may either be assigned or self-selected. However, the level of engagement varies for each member of the community. In this way, Wenger et al. (2002) described participation as voluntary. As discussed in chapter two, the success of a CoP is dependent upon the level of commitment and engagement from within the community, not the amount of coercion or direction from outside of the community (Wenger et al., 2002). While participation can be encouraged by the organization, all members should not be encouraged to participate at the same levels. According to Wenger et al. (2002), “We used to think that we should encourage all community members to participate equally. But because people have different levels of interest in the community, this expectation is unrealistic” (p. 55).

Since regular and active participation in the eLC process was an expectation of all SVHS teachers enforced through the teacher evaluation process, participation was not voluntary. However, the levels at which members participated and contributed to both the eLC process and the organization varied. Further, eLC members were encouraged to participate at different levels of engagement. In interviews, course leads and instructional leaders described being approached by SVHS leaders and asked to assume leadership roles within the eLC process. These leaders were then provided professional development and support as they moved into leadership roles. The selection and

preparation of eLC members to take on core leadership roles within the eLC process encouraged different levels of participation. Instructional leader Amy described the professional development provided to her as a new instructional leader.

They had a great little professional development training that I took when [Donna] offered me that role. I'd always enjoyed the professional development I'd done for [SVHS] before that, but it was like the most awesome. It was eye-opening. Like, "Oh my gosh, I can do that with my feedback? Or I can do that with my announcements?" Everything that I learned in that was just shocking. So I suddenly was like, "Oh, if I had done that all these years, I could have been better before now." (Interview, 2/26/14)

In addition to course lead and instructional leader roles, eLC members were also provided additional opportunities to participate via mini-contracts for course revision. Donna explained that mini-contracts would be used to complete course revisions at the end of the honors portfolio process. Teachers expressed appreciation that mini-contracts would be used for course revision to honor teachers' time in the eLC process.

According to Wenger et al. (2002), maintaining small community sizes is one technique for encouraging all members to participate actively. Each eLC participating in this case study had either two, three, or four community members. Within these small communities, each member was encouraged and expected to contribute to synchronous and asynchronous eLC work. Other data coded as "encourage participation" included reminders and prompts to participate from eLC leaders. For instance, Amy emailed English I teachers, "If you haven't completed week 1 yet please go ahead and do so - it was due yesterday" (Instructional Leader, Email, 3/3/14). Amy described her efforts to encourage participation within synchronous meetings, particularly with one eLC that was

a “really quiet group,” as “pulling teeth” (Instructional Leader, Interview, 2/26/14). On the contrary, the other eLC in which Amy participated was very talkative and participatory. Donna also encouraged participation during synchronous meetings, as evidenced during a previously described synchronous meeting when she asked participants to be active in the conversation and avoid multi-tasking. She communicated to meeting participants that she expected them to be active in the chat.

Remove Barriers

Not surprisingly, Wenger et al., (2002) believed that geographic distance among CoP members could make it more difficult for community members to connect and build relationships with one another. According to Wenger et al., (2002), “Distance simply makes it more difficult to remember that the community exists” (p. 116). While members located within the same building or town see each other on occasion, “distributed communities are generally less ‘present’ to their members” (Wenger et al., 2002, p. 116). In a face-to-face community meeting, members can see one another and participation happens more naturally, unlike in an online synchronous meeting, where a member could remain nearly invisible without contributing to the discussion (Wenger et al., 2002). These barriers presented by distance, according to Wenger et al., (2002), require intentional effort by community members.

Within the SVHS eLC process, some data revealed that distance presented a barrier to community development, while other data showed that distance was not a barrier. According to instructional leader Amy, some eLCs used online tools such as Skype and Google Hangouts to foster community development. In this way, eLC

members were able to see and hear each other and, in addition, they got to know each other's families. Other communities were described by Amy as being more "business-like" (Instructional Leader, Interview, 2/26/14). New teacher Cheryl described that she was able to meet some of her fellow eLC members, who lived close to her, face-to-face for breakfast. She added that she was not able to meet other eLC members due to the distance between them.

Some evidence of distance posing a barrier within the eLC process was found in asynchronous work. Although eLCs participated in monthly synchronous meetings, the majority of eLC work occurred asynchronously. Members were required to post responses to weekly reflection questions then return later to the document to read one another's responses. Instructions for eLC work typically included a statement such as this one, "Wait a few days and come back to this document and read through your team's responses" (AP English Language Weekly Reflection, 1/27/14). In a face-to-face community, this discussion would take place synchronously, with community members engaging in natural dialogue, commenting on one another's thoughts, and contributing in real-time. The delayed response via asynchronous discussions added wait time to eLC conversations.

Contrasting evidence was found, supporting the notion that distance did not present a barrier to participation in the eLC process. In fact, eLC members felt that the electronic nature of the eLC process facilitated participation. Tina described that "sharing is so easy on the computer with Google Docs to actually copy / paste precisely what you did" (Veteran Teacher, 2/26/14). She went on during an interview to say,

It's one thing for a teacher in a department meeting to share, "This is what I did," and it's another thing to actually look at their document. I think that's different. I think that certainly the way we do this eLC, it's more structured probably. With the online eLC, you can flip back so easily. (Veteran Teacher, 2/26/14)

Further, new teacher Wendy preferred the eLC process to face-to-face learning communities. In an interview, Wendy described the differences between face-to-face communities and her eLC at SVHS.

Honestly, I feel like the PLCs were less effective than the eLCs, just because in the face-to-face school, it was a whole department getting together typically. There are a lot of egos and people getting off-topic. It seemed to be a place where people would vent and discuss their grievances and we wouldn't get that much done... I like the structure that they provide at [SVHS] because we know exactly what questions we're supposed to cover, what areas we're supposed to reflect on each week. (New Teacher, 3/12/14)

From new teacher Wendy's perspective, distance was not a barrier to eLC participation. Similarly, English III course lead Maggie did not perceive distance to be a barrier in the eLC process. When asked to compare the eLC process to participation in a face-to-face learning community, Maggie described,

I felt like the face-to-face was segmented. We would have a workshop here, a workshop there, but nothing meshed. It was just things we would hit on here and there. I felt like it was solely for CEU purposes. You just needed the credit. And if we didn't need the credit, I'm not sure that anybody would choose to participate. And there was no community or team building like there is now. I feel like what we're studying now has a purpose, and we're using it. It's authentic and genuine. (Veteran Teacher, Interview, 3/3/14)

SVHS worked to remove barriers created by distance through the provision of frequent opportunities for interaction among eLC members. In contrast to Wenger et al.

(2002), eLC members were not likely to forget that the community existed, as participation was mandatory and both structures and resources were provided to facilitate active participation among all members. Participation within the joint enterprise of the eLC was an ongoing part of work as an online teacher for SVHS, and communication within the eLC process was frequent, occurring via email, phone, synchronous meetings, and shared documents.

Specific strategies were employed by SVHS to remove potential barriers to participation in the eLC process. For example, all synchronous meetings were archived and posted to the shared community space. This allowed all members to participate in synchronous meetings even when there were scheduling conflicts. Also, as described by instructional leader Amy, weekly asynchronous work was broken down and organized in a way that made it manageable and easy to follow. The English III eLC leader emailed eLC members, “Because this is so nicely broken down for us, I think it will be manageable, especially working together” (Veteran Teacher, 3/3/14). English I course lead Tina also believed that the structure of eLC work made it easy for community members to look back at the work completed in previous months, making participation in the eLC process easier.

Connect to the Organizational Strategy

Wenger et al. (2002) described communities of practice that are vibrant and connected to the purpose of an organization as able to “provide the organization with the best knowledge and skills that can be found. In turn, when an organization acknowledges a domain it legitimizes the community’s role in stewarding its expertise and capabilities”

(p. 32). Successful CoPs, according to Wenger et al. (2002), exist at the intersection of “strategic relevance” to the organization and the passions of community members (p. 31). When CoPs are not intentionally cultivated by the organization, they must “depend on the spare time of members” (Wenger et al., 2002, p. 13). On the contrary, CoPs which are strategically relevant to the organization offer value to the organization, including improved skills, faster access to information, strong relationships, confidence, and a sense of belonging (Wenger et al., 2002).

Throughout all data sources, 52 references were coded as “connect eLC to organizational strategy.” This strategy was the most frequently used strategy by SVHS to support the eLC process. Consistent with much of the data in this case study, within the 52 references coded as “connect eLC to organizational strategy,” the most frequently used word was *course(s)*, which was used 32 times. The second most frequently used word within this code was *student(s)*, which was used 29 times. One way in which SVHS connected the eLC process to the organizational strategy was by determining the focus of monthly eLC work. Donna described that the eLC focus was driven by monthly results from the eLC process, with the goal of designing eLC experiences that “can be applied right now to improve student learning” (Chief Academic Officer, Interview, 2/26/14). The SVHS leadership team used the eLC process to engage teachers in work around critical issues related to the organization, which during the spring of 2014 consisted primarily of focusing on the honors portfolio process and AP data.

Vignette four described a synchronous eLC meeting during which Donna, the chief academic officer, explained the SVHS plan for working through the honors

portfolio process, further connecting the eLC process to the overall organizational strategy. During this meeting, Donna explained to teachers that “Our goal is to help you make sure you understand what it is. We want to stay focused on our goals of how we can attack this thing successfully. Most importantly, how are we bettering the course for our kids?” (English I eLC Meeting, 3/27/14). This statewide mandate was a priority for SVHS and was evidenced throughout all data sources. English I course lead Tina reminded her eLC that the honors portfolio process was “a new requirement by the state to make sure we are differentiating between the standard and the honors courses” (Veteran Teacher, Email, 3/17/14). Via email to her eLC members, Amy described that spring eLC work would be focused on the honors portfolio process, “which is mandated by DPI” (Instructional Leader, Email, 2/24/14). Amy added that SVHS “is a leader with things like this” (Instructional Leader, Email, 2/24/14). This notion, that SVHS was a leader in areas such as work with the honors portfolio, was reiterated in other data sources, as teachers shared that their face-to-face schools had not yet begun work on the honors portfolio process. In reply to a weekly reflection question about the eLC process, which asked “What information from this reading (honors implementation guide) affirms your role as a [SVHS] Honors teacher?” an English I eLC member responded,

As an honors level teacher for [SVHS] I am happy to see more structure and direction applied to the Honors Portfolio. In the past in my f2f (face-to-face) school, it was not something that was really deemed important. There was no direction for how the Honors Portfolio should be completed, so I am happy that there is more structure and guidance. (English I eLC Weekly Reflection, 2/24/14)

As described previously, for the first time in the history of the eLC process, AP eLCs were provided with a different topic for their work than non-AP eLCs during the spring of 2014. This work focused on AP data and the culture of AP courses at SVHS. Simone, the instructional leader for AP English Language, explained that in her time at SVHS, she had “never known AP to have its own PD, so this has been really nice” (Interview, 3/9/14). In an interview, Donna explained that SVHS felt that “the culture of AP is not where it needs to be. It’s not reflective of the rest of [SVHS]” (Chief Academic Officer, 2/26/14). The differentiated focus for honors, AP, and other eLCs during the spring of 2014 provided evidence of the eLC process being used to target specific components of the SVHS organizational strategy.

All SVHS teachers were required to actively participate in the eLC process, which was included in the teacher evaluation structure at SVHS and part of the SVHS teacher contract. Connecting eLC participation to teacher evaluation ensured that SVHS could extend its organizational priorities and expectations to every SVHS teacher in a systematic way. As described by Donna, SVHS “incorporated it that fall into the teacher contract so they would know we were serious about it, that we expected eLCs to be a requirement weekly” (Chief Academic Officer, Interview, 2/26/14). She later added, “I think that the eLC process puts feet to our expectations, and I think it also shows the reinforcement and the support we’re going to provide,” further revealing the strong connection between the eLC process and the SVHS organizational strategy (2/26/14).

The ways by which SVHS fostered and supported the eLC process were described above. Data revealed that the institutional factors identified by Wenger et al. (2002)

influenced the work of online teachers through the eLC process. The next two sections present findings from data gathered to explore how the eLC process supported new and veteran online teachers in using effective online teaching practices. First, in order to address research question 2, data gathered during this case study are presented through the lens of legitimate peripheral participation, a term used by Lave and Wenger (1991) to describe the journey by which new community members move toward full membership. The notion of legitimate peripheral participation provided a framework for exploring how the eLC process specifically supported new online teachers.

Legitimate Peripheral Participation

Vignette Five: Legitimate Peripheral Participation

The English department gathered in an online meeting room for the first department meeting of 2014. Amy, an English instructional leader, kicked off the meeting by introducing the new English instructional director who had recently moved into that position. Along with the English instructional director and instructional leader Amy, 13 English teachers were present. The instructional director began by asking teachers to share their greatest celebration or take-away from their work with SVHS during 2013. Cheryl, a new SVHS teacher, responded in the chat box, “No major screwup my first class!” Some other responses from experienced SVHS teachers included:

- *“Finding more ways to locate what I need to grade in Moodle!”*
- *“I got the hang of the new contact log.”*
- *“Parent who cried on the phone because I was the only teacher who reached her son to graduate.”*

- *“Two parents asked me if I would teach all subjects for their children.”*

After giving teachers a minute to share a celebration or take-away, the instructional director continued, “As we start a new semester, it is time to kind of take a look at our goals. What is our main goal... What is it that we strive to do? What are we all about?” She added, “Our goal is to do what’s best for students.” The topic of the meeting then shifted to upcoming changes at SVHS. This Chinese proverb was shared by the instructional director: “When the winds of change blow, some people build walls and others build windmills.” The meeting facilitator briefly mentioned that some major changes took place at SVHS in the fall, and she began to introduce some minor changes to the teacher evaluation expectations for the spring 2014 semester. A slide introduced changes to the following procedures:

- *scoring scale used for grading,*
- *time of day by which announcements must be posted,*
- *reporting requirement for exceptional children’s services, and*
- *expectations for frequency of communication with students.*

As the instructional director described the change to the time of day for posting announcements, a teacher used audio to share how she used the delayed posting feature in the learning management system that automatically posts announcements at midnight on the selected day. The change in communication expectations for spring 2014 required teachers to make weekly contact with each student whose grade was below 85 and bi-weekly contact with each student whose grade was 85 and higher.

Another change introduced by the instructional director was a shift from communication logs to communication journals. A slide outlined the following differences between communication logs and journals:

- Logs are for checking off a completed task and leaving short notes.*
- Journals are used to record a story and note specific details.*

Amy commented in the chat box that the shift from communication log to journal was similar to her “analogy of the grade book - it tells the story of the course for each student.” New teacher Cheryl asked a question in the chat box, “So if I put absolutely everything in my log, I’m ok?” Another teacher replied in the chat box, “As long as you don’t put in any personal student info.” The instructional director elaborated, “For instance, we can’t have student grades in our logs. We can’t have IEP, 504 identifying things in our logs. No student contact info.” Cheryl continued, “Right... I’ve removed grades, phone numbers, and references to EC mods... but I put pretty much every hello there.” Amy commented that some teachers document that information in the communication journal by typing “called to discuss confidential information.”

The conversation shifted to a different change for the spring 2014 semester related to gathering parent contact information. The meeting facilitator shared specific instructions to help teachers gather the necessary parent contact information. A few teachers asked questions about issues with parent contact information in the chat box, to which the facilitator responded via audio. The instructional director mentioned that she recently sent an email containing detailed information regarding the parent contact information issue. Cheryl commented that she had not received that email, and the

instructional director stated that she would send it again. Another teacher replied to Cheryl in the chat box, "I can forward to you if you can't find it." A couple of minutes later, Cheryl commented, "Got it! I had moved it because I didn't think I was getting a section! It was in my folder!"

As the meeting continued, the instructional director reminded teachers of the importance of documentation regarding the academic integrity policy. She shared a slide containing specific details about consequences for infractions, and in addition she posted the link to the policy in the chat box for attendees to access. The facilitator briefly described the consequences for the first, second, and third infractions. Cheryl asked, "This is archived, right?!?" The facilitator replied, "Yes, ma'am." Wendy, another new SVHS teacher, made a comment in the chat box, "I have dealt with this once last semester. It is documented, but I did not copy you or my IL in the email to the ELA. Should I forward you that message?" The instructional director replied that she would like to receive a copy of those emails. Following the discussion of the academic integrity policy, the business portion of the department meeting ended, and the instructional director shared an inspirational video. After everyone viewed the video, Cheryl commented that she had recently submitted a technology help ticket due to an issue with the grading system. The instructional director thanked her for submitting a ticket and encouraged her to continue to do that as issues arise.

Lave and Wenger (1991) described a modern, social view of the cognitive apprenticeship model, whereby new community members move toward full membership through legitimate participation in the community. According to Lave and Wenger

(1991), “learners must be legitimate peripheral participants in ongoing practice in order for learning identities to be engaged and develop into full participation” (p. 64).

Legitimate peripheral participation is not seen as a condition for membership; rather, it is “itself an evolving form of membership” (Lave & Wenger, 1991, p. 53). From a CoP perspective, “peripherality suggests that there are multiple, varied, more- or less-engaged and -inclusive ways of being located in the fields of participation defined by a community” (Lave & Wenger, 1991). The following aspects of legitimate peripheral participation within communities of practice were used as codes to facilitate data analysis in this case study: becoming, access, transparency, conferring legitimacy, talking about practice, and talking within practice.

Becoming

The real value of membership within a community does not exist in the acquisition of knowledge and skills but “lies in *becoming* part of the community” (Lave & Wenger, 1991, p. 111). Becoming requires a commitment of time, effort, and responsibility within the community, in addition to “an increasing sense of identity as a master practitioner” (Lave & Wenger, 1991, p. 111). The notion of becoming was a difficult concept to find in the data since the case study was limited to 12 weeks. In order to better understand how new eLC members become fully participating members, a longitudinal study would be beneficial. This will be discussed in the limitations section of Chapter V. However, during this case study, 12 references were coded as “becoming.” For instructional leader Simone, the eLC process at SVHS was described as “meaningful” and “helpful” for new teachers, unlike the learning community she

experienced in her face-to-face school (Interview, 3/9/14). When asked about the similarities and differences in the eLC process for new and veteran teachers, Simone replied,

I think if you're somebody like me who has not been getting good PLC time at your face-to-face school, and then you come into this job and suddenly you're getting great PLC time, that they would have a different experience because it would be their first time that they've been a part of something meaningful and helpful. (Instructional Leader, Interview, 3/9/14)

During her second semester as an SVHS teacher, Wendy expressed feeling like she was already a core member of her eLC. The AP English Language eLC, of which Wendy was a member, only consisted of two members. She described that she and her eLC partner “rely heavily on each other” (New Teacher, Interview, 3/12/14). She admitted that she relied on her partner more “because she’s more experienced and this is my first year,” but she later added, “I think we’re almost equal” (New Teacher, Interview, 3/12/14). Wendy also felt respected by her colleagues at SVHS, which fostered her sense of identity within her eLC.

I would say that right now, my relationship is more they are my mentors and I am still learning this process. But I do feel like they respect me. I’m a national board certified teacher. I’m an experienced teacher, so I’m not completely new to teaching. And I think they definitely show that respect, and they listen to what I have to say. (New Teacher, Interview, 3/12/14)

New teacher Cheryl had a different experience in the eLC process, which she described during an interview as “a bit of a challenge for me, I think because I’m a newbie and I’m teaching a course on a completely new format that has never been done

before” (3/14/14). During the 2013-14 school year, Cheryl was teaching a year-long version of English I for SVHS, which had only been taught in a semester-long format previously. The differences in the semester-long and year-long course contributed to some conflict among English I eLC members, described in vignette three. In an interview, Cheryl admitted to feeling

like a lot of the established English I teachers feel like I’m coming in and saying that the course is not good enough, not rigorous enough, and that’s not at all true on a semester format, but it’s very different for me. In year-long, my kids have two to three days for every single assignment. And especially for honors, I think that’s not as rigorous as it could be. But nobody likes to hear that what they’ve done is not the best plan. (New Teacher, Interview, 3/14/14)

Cheryl continued during the interview, “That’s not at all my intention, to tell them that it’s not the best plan. It is an amazing plan for a semester system” (New Teacher, 3/14/14). She then added, “It’s a learning curve on both sides. I have to learn English I from their perspective, and they have to try to understand the year-long situation” (New Teacher, 3/14/14). The challenge facing the English I eLC during the spring of 2014 made it observably difficult for Cheryl to move toward full membership in the community. As Cheryl described herself, “I’m the experiment in English I, and because nobody knows quite how to react to that, I think that’s kind of where that difference of opinion has come from” (New Teacher, 3/14/14). The difference in teaching English I in a semester-long and year-long format affected Cheryl’s ability to identify with the community, which Lave and Wenger (1991) described as necessary as newcomers move toward full participation.

Access

Lave and Wenger (1991) described access as “the key to legitimate peripheral participation” (p. 100). The journey toward full membership within a CoP requires access to shared practice, members, information, resources, and opportunities (Lave & Wenger, 1991). The eLC process provided new SVHS teachers access to the membership resources that were available to veteran teachers, including members in similar roles, resources, and the shared practice of the community. Arguably, this level of access would have been more difficult to provide without the eLC process. Data related to access are presented below, organized by the types of resources made accessible to new eLC members.

First, legitimate peripheral participation implies that new CoP members have access to other members who exist at various levels of participation within the community. The eLC process provided newcomers access to other eLC members as well as key SVHS personnel who could provide information and resources that were needed. In an interview, Cheryl described that having access to other SVHS leaders was valuable, particularly in synchronous meetings when key leaders were present. Cheryl was “impressed with the number of people who know what we’re talking about and are appropriately present to address the issues that they specifically are concerned with” (New Teacher, 3/14/14). She later added,

It seems that no matter what the topic is, the appropriate people are on hand to field questions and answer questions and give advice. And that’s something I’ve found pretty impressive for an organization as big as [SVHS], spread all over the state. It’s pretty amazing. (New Teacher, 3/14/14)

Similarly, new teacher Wendy felt supported by having access to others within the eLC process, which she described during an interview.

First, I have my eLC partner. Beyond that, I have my direct supervisor and then I have the department chair. And even my highest supervisor, we're sort of under her umbrella, she is still very available to me. I feel like everybody is available if I have a question. (3/12/14)

Additionally, new eLC members were granted access to resources as part of community membership. Cheryl felt that the eLC process was supportive because of the access she was given to useful resources. As she explained in an interview,

I've definitely emailed [Tina] and the freshman people before and said, 'Hey, I'm doing this year-long and I don't understand this assignment,' ... and they've been very responsive. I'm included in all of the emails. A couple of them have actually sent me access to their entire Google Doc full of announcements for the entire course. 'Here, take what you can use, anything you want to modify, modify.' So it's very supportive. I don't feel like anybody is like, 'Okay, you're on your own, you're doing your own thing.' (New Teacher, 3/14/14)

As Cheryl described, access was granted to new eLC members when requested. During a synchronous English department meeting, Cheryl posted a comment in the chat box asking for the link to a survey that was being discussed. Within a few seconds, a meeting participant posted the survey link in the chat box and another forwarded Cheryl an email with information about the survey. Another level of access was provided due to the fact that SVHS archived all synchronous meetings. Cheryl admitted to taking advantage of the archive resources and even asked during a synchronous meeting whether

that particular meeting was being archived. During an interview, English I course lead Tina described the visibility and access to resources provided to new SVHS teachers.

Sometimes, if it's your first time teaching a course, it's not as apparent what you're supposed to do. If we have any files or Google Docs that would be helpful, for example, sometimes we come together and share examples. The realistic feedback that we added to our feedback, there's a Google Doc for that. (Veteran Teacher, 2/26/14)

In addition to people and resources, ongoing participation in the eLC process provided new eLC members with access to the shared practice of the community. New SVHS teachers were given equal responsibility with eLC tasks, such as responding to weekly reflections, problem solving, brainstorming course revisions, goal-setting, and participating in synchronous meetings. Through these activities, newcomers were able to observe veteran members' practice, particularly since the online nature of the eLC process made shared practice highly visible. Further, the eLC process involved multiple opportunities for newcomers to learn as veteran teachers explicitly shared their practice. For instance, during an English department meeting, several teachers were asked to share their best practices for communication. As teachers shared their practices, they used screenshots and examples from their courses and communication journals, making their practice visible and accessible to other teachers. This level of access to shared practice was enhanced by the documentation and visibility of online teaching at SVHS and by the electronic nature of the eLC process.

Transparency

Beyond gaining access to a community and all that membership entails, transparency is required so that “the inner workings of an artifact are available for the learner’s inspection” (Lave & Wenger, 1991, p. 101). When community artifacts and practice are made transparent, “using artifacts and understanding their significance interact to become one learning process” (Lave & Wenger, 1991, p. 102). This transparency allows new CoP members to not only access artifacts and practices but also understand how, when, and why they are used within the community.

Instructional leader Amy expressed during an interview a desire to make the practice of SVHS teachers transparent for new teachers, “wanting to make sure they understand the ‘whys’ behind everything” (2/26/14). She added, “I know that my veteran teachers understand why all of the processes are in place, but I need to make sure that the new teachers understand that too” (Instructional Leader, 2/26/14). Donna described the transparency of the eLC process during an interview as “really intimate in a way. You can’t hide in it” (Chief Academic Officer, 2/26/14). Electronic learning community members, resources, and shared practice were made transparent during synchronous meetings. As teachers shared their best practices in eLC meetings, they displayed examples while explaining their purposes and techniques for using those practices. For example, a veteran teacher was asked to share her best practices for communication during a synchronous meeting. She described how she used communication with students to show empathy. She shared a specific conversation with a student and described the decisions she made in maintaining positive communication with that

student over the course of a few weeks. She went on to describe how she used her knowledge of students' interests and activities to build relationships, showcasing specific examples. For new teacher Wendy, transparency was particularly beneficial. She explained, "I've changed the way I structure my announcements through hearing what other people have done and what has worked with them" (3/12/14).

In addition to synchronous meetings, weekly reflections also made thinking and practice transparent for new eLC members. One set of weekly reflections for the English I eLC asked teachers, "Which was your best celebration? Why? After reviewing celebration examples from other teachers, what might you do differently or try?" (English I Weekly Reflection, February 2014). By asking eLC members to not only share their celebrations but explain why they were effective, new eLC members were granted access to the thinking and the purpose behind the practice of veteran eLC members. As new teacher Cheryl described,

When I post something, I get to read the feedback from everybody else teaching the same course, and then I get to hear back from the course lead and the department chair, which for me as a newbie is really valuable, because obviously they know a lot of stuff about it that I may not realize. (Interview, 3/14/14)

Conferring Legitimacy

Lave and Wenger (1991) described the significance of new community members being welcomed as legitimate members of the community, which they referred to as conferring legitimacy. More than a simple issue of access and transparency, conferring legitimacy occurs when veteran CoP members welcome new members as full members of

the community, along with all that membership entails. According to Lave and Wenger (1991), “the issue of conferring legitimacy is more important than the issue of providing teaching” (p. 91). In other words, newcomers’ relationships and membership within a community are more critical within legitimate peripheral participation than the content and skills learned within the CoP.

New teacher Wendy described feeling that her eLC members respected her and listened to her, although she was new and still learning. From Wendy’s perspective, she was participating as a full member of the eLC even though she was only in her second semester as a teacher at SVHS. During an interview, she described participation as “sort of like a partnership. We learn from each other, and we speak through email and occasionally we have a synchronous conversation” (3/14/14). She further described her place in the eLC as “almost equal” (3/14/14). English I course lead and veteran teacher Tina perceived new teachers as having a lot to contribute to the eLC process.

A new teacher is often younger, and they are so adept at doing this online, group meetings, and they’re just so savvy. And with teaching online, I think they like it and they’re learning as well with the rest of us. I learn something new every day, and they are too, so I feel about the same level. (Interview, 2/26/14)

Data revealed that new teacher Cheryl contributed to the shared practice of the community fully, just as veteran members did. When English I teachers were dealing with a technical issue with the grading system, Cheryl submitted a help ticket to the technology department describing the issue. During a synchronous meeting, Cheryl’s fellow eLC members thanked her for submitting a ticket. On multiple occasions, Cheryl

was the first member of her eLC to respond to weekly reflection questions. She also received positive feedback on her weekly reflections, as evidenced by a comment from instructional leader Amy, “I love the positive tone [Cheryl] uses in her celebrations. Motivational and caring!” (English I Weekly Reflection, February 2014). Further, Cheryl was recognized and celebrated during synchronous meetings. Once, Cheryl shared a specific instance of celebrating student work within her course. Amy commented, “That is a perfect model for what a celebration can be!” (English I eLC Meeting, 2/24/14). Despite the positive feedback and recognition, Cheryl described her struggle with the eLC process due to the differences in her year-long course format and her colleagues’ semester-long course format. The conflict Cheryl experienced within the English I eLC, evidenced in vignette three, was a barrier to full membership within the eLC. She explained during an interview that while, “The English III teachers have been amazing... I’m the experiment in English I, and because nobody knows quite how to react to that, I think that’s kind of where that difference of opinion has come from” (New Teacher, 3/14/14).

Talking about Practice

As newcomers move along a continuum toward full participation, they gain access to stories, memories, and lessons learned, which are part of the community’s history. Lave and Wenger (1991) described apprenticeship learning as “supported by conversations and stories about problematic and especially difficult cases” (p. 108). Within the eLC process, teachers were asked regularly to share successes, both personal and professional. This sharing of professional success and celebrations provided

evidence of talking about practice. As English teachers gathered for a department meeting on January 21st, they shared their biggest successes from 2013. A few of the successes shared included:

- “Finding more ways to locate what I need to grade in Moodle” (Veteran Teacher).
- “Got the hang of the new contact log” (Veteran Teacher).
- “Two parents asked me if I would teach all subjects for their children” (Veteran Teacher).
- “No major screwup my first class” (New Teacher).

During the same meeting, a veteran teacher shared two student success stories, describing that the virtual school allowed an opportunity for success where a traditional school would not have provided that opportunity for those specific students. Instructional leader Amy also shared two student success stories. The opportunity to hear others’ stories and lessons learned contributed to the legitimate peripheral participation of new eLC members.

Talk about practice sometimes took the shape of feedback from eLC members on eLC work. For instance, during an English I eLC meeting, teachers were asked to provide feedback on what was working well with the honors portfolio process as well as suggestion as to how the process could be improved. Teachers expressed that the process was well-organized and straightforward but that they needed more time to review their courses. This opportunity to step back from the process to reflect and provide feedback was evidence of talking about practice within a CoP.

Talking within Practice

Talking within practice is conversation necessary for the practice of a community. An example of talking within practice includes exchanging information needed for task completion. The difference between talking about and talking within practice is one of perspective. Talk which is necessary for ongoing mutual engagement, joint enterprise, and participation is considered talking within practice. According to Lave and Wenger (1991), “for newcomers then the purpose is not to learn *from* talk as a substitute for legitimate peripheral participation; it is to learn *to* talk as a key to legitimate peripheral participation” (p. 109).

Interestingly, the most frequently used word within the “talking within practice” code was *student(s)*, while the most frequently used word within the “talking about practice” code was *teacher(s)*. Across the 15 references coded as “talking within practice,” *student(s)* was used 57 times. The second most frequently used word was *course(s)*, which was used 31 times in data coded as “talking within practice.” This finding supported previous findings that the eLC process made students a priority. Not surprisingly, as eLC members talked about their practice, they often used the word *teacher(s)*. Table 14 lists the most frequently used words within data coded at these two codes.

Table 14

Frequently Used Words within Talking About Practice and Talking Within Practice

Word	Frequency in Talking About Practice Code	Frequency in Talking Within Practice Code
Student(s)	7	57
Course(s)	5	31
Teacher(s)	15	24
Honors	6	23
Shared	4	19

In the spring 2014 semester, eLC talk within practice was often focused on the honors portfolio process. During an English I eLC meeting, represented in vignette one, instructional leader Amy introduced the honors portfolio and fielded some questions from eLC members. At that point, the portfolio process was new and a bit misunderstood. However, this talking within practice allowed eLC members to voice their questions and come to agreement on the next steps for the eLC. As described by Amy during this meeting, “We’re all going to be learning together what they need and what things we need to put in them” (English I eLC Meeting, 2/24/14).

Talking within practice focused on the major topics and issues addressed during the eLC process in the spring of 2014. English I eLC members discussed changes they made to their processes for daily announcements and described how their students responded to those changes. This instance of talking within practice was similar to the

conversation that occurred during an English department meeting, during which teachers shared their best practices for communication. Both of these examples of talking within practice were aligned with the three pillars, which were ongoing topics of talk within the eLC process, serving to support new SVHS teachers implementing the three pillars in their courses.

Operational conversations, such as those related to processes, deadlines, and eLC activities, also represented talking within practice for new eLC members. The English instructional director, in a synchronous department meeting, introduced changes to expectations for maintaining records of communication with students. This talk was necessary for the ongoing joint enterprise of the community, particularly in relationship to the larger institution. Other operational topics and issues discussed during the spring of 2014 included technical issues, the academic integrity policy, and the online grading system.

The six aspects of legitimate peripheral participation described by Lave and Wenger within their social conceptualization of cognitive apprenticeship were evident as new online teachers participated in the eLC process. As mentioned previously, a longitudinal study would provide richer data for exploring how new CoP members move toward full membership on a journey of becoming. The next section presents findings related to the qualities of effective online teaching emphasized in the eLC process during the spring of 2014. These data were gathered to explore how the eLC process supported new and online veteran teachers in using effective online teaching practices.

Support for Using Effective Online Teaching Practices

Vignette Six: Support for Using Effective Online Teaching Practices

All teachers of Advanced Placement (AP) courses at SVHS gathered in an online meeting room for the monthly AP department meeting. Donna, the chief academic officer, welcomed the 56 participants to the meeting before asking the instructional directors, who were also present in the meeting room, to lead the group in an icebreaker. An instructional director shared the link to a video called “Twenty Ways to Be More Awesome.” After participants watched the video, the instructional director asked this question: “How can the following be applied to the AP student?” A list was displayed including phrases from the video, such as “Thank you,” “I forgive you,” “You can do it,” “I don’t know,” and “Everything is going to be okay.” Participants left comments in the chat box about ways phrases from the video could be applied to AP students. Some responses included,

- *“I say I don’t know all the time - but let’s find out together.”*
- *“They often need to hear that they can do the work.”*
- *“Everything is going to be okay... Tell them that when they get overwhelmed.”*
- *“It’s okay to make a mistake. I forgive you and will still work with you.”*

After several teachers had commented on the video and its implications for AP students, Donna informed the group that this meeting was going to be focused on reflection. She began,

This is not going to be one of those one-and-done meetings. Your directors are going to continue this and carry this through with you in meetings that you're going to have. We're doing this because we think it's just a good refresher time to bring our AP teachers back together as you've been working in your AP eLC. And we truly want that to be an awesome eLC experience for you.

She continued, "We feel so strongly that we need to reflect and make sure that we are doing what we need to do for our AP students and not forgetting who they are."

Donna explained the importance of understanding AP culture and making sure AP teachers at SVHS are "hitting the culture mark." She assured teachers in the meeting that she understands AP students well after having taught AP courses for several years. To begin, Donna took a moment to encourage participants to be actively engaged in the meeting. "Guys, I'm encouraging you now to be very active... If I'm going to ask for an hour of your time, I promise that we're going to make it meaningful." The next slide asked, "What is culture?" and included these three words: values, attitudes, and beliefs. Donna explained that there are cultures everywhere, and that there is a specific culture at SVHS. "Our culture focuses on a certain set of people." Participants were then asked to brainstorm words to describe the SVHS AP culture by leaving comments in the chat box. As participants responded, Donna added their responses to the whiteboard space in the meeting room. A few of the phrases brainstormed by the group included: high expectations, independence, communication, rigor, ownership, integrity, and student-centered.

"Thinking about all the things that we've said here, does our AP culture as a whole match the [SVHS] culture?" She then asked participants if the AP culture at

SVHS is the same as or different from the overall SVHS culture. Several participants commented in the chat box that the AP culture differed from the SVHS culture. Donna asked participants to explain those differences. A few responses included:

- *“Student support is the same but student performance is at a higher level in the AP course.”*
- *“I believe the AP students are inherently more motivated.”*
- *“Students are expected to be responsible for some of their own learning.”*
- *“Higher expectations for student responsibility.”*

Next, Donna presented this question: “Who is the AP student?” Participants commented in the chat box: self-motivated, confident, college bound, dedicated, and independent. After several responses were shared, Donna asked how the three pillars at SVHS relate to AP students. Specifically, Donna asked, “Do you believe that that third pillar is equally important with the AP student?” She followed up, “How do you feel about that communication / relationship pillar in conjunction with the AP student?” She assured participants that they were welcome to share their perspectives, even if they disagreed with the SVHS philosophy. “We are not going to send the firing squad after anyone if we disagree with your answers. We are having an open conversation.”

Several participants responded in the chat box with comments such as,

- *“Equally important, but a different role. You are more of a coach and encourager than a hovering, nagging, role.”*
- *“Communication with the students is very important with specific feedback.”*
- *“They like the relationship to go beyond just academics.”*

- *“All students want / need praise. AP students want to know how to do better too.”*

One teacher in the meeting raised his hand using the hand-raising feature of the live meeting room. He used audio to share how there has recently been a wider range of students in AP courses due to students being pushed to take more rigorous courses. “I think the kids that we have who are stretching to try to get through the AP stuff, those are the kids that we really need to focus on more so than the other ones. That’s probably not what [SVHS] wants me to say.” Donna responded,

I appreciate you saying that. The [SVHS] expectation, of course, you know that, is that we believe in relationship-building. We’ve given you the research, and every child needs it. Even the gifted kid. Based on our numbers, the majority of our AP students are still the AP kid.

She continued,

Our belief is that no matter who they send us, you guys know this because you do it every day, we are going to build relationship with that student and be there for them. My observation, first as a director, then as an interim CAO and now as a CAO, is that sometimes we tend to keep AP kids at arm’s length because we’ve made assumptions or beliefs about who we think the AP kid is and how they want to be taught. A lot of what we’re saying tonight is coming from the last year of conversations that we’ve had with AP kids, with their parents, and with their schools.

Next, Donna shared several slides containing information from research about gifted students. First, she described the purpose and rationale for this presentation.

We have an impression, I believe, as AP teachers at [SVHS], that we can treat gifted, excuse me, AP students more independently without doing the

relationship-building than we do with the traditional kid. I really believe that we have bought into some of the myths about motivation of the gifted child.

The first myth presented was, “Gifted students don’t need help; they’ll do fine on their own.” She added, “They want teachers who are genuinely interested in teaching them.” The reality, according to Donna, was that “Gifted students don’t ‘take care of themselves’.” Each slide in this presentation contained information supporting the importance of building relationships with AP students. Donna described that, based on her experience with AP students, “Some of our least engaged students are those that are hiding gifts in one or more areas. We all have seen these absolutely in our AP students.” Donna shared that she has dealt with parent concerns regarding differences between AP students’ ability to do the work and their performance in AP courses. She urged teachers not to think that “because they’re in an AP class that we keep them at arm’s length because it’s preparatory for college. They’re still high school kids.” Donna reminded teachers, “Our job is to build relationship with them.” Later, she added, “AP students need the three pillars!” The three pillars, which formed the foundation of quality online teaching at SVHS, were: Teaching through Communication, Teaching through Learning Blocks and Announcements, and Teaching through Grading and Feedback.

Another myth shared by Donna was, “All gifted students work up to their potential.” She described gifted underachievers who may not want to meet the expectations of an AP course. Several participants commented in agreement in the chat box. “We absolutely have to make sure that pillar three is happening in our classrooms.” According to Donna, AP students need the first pillar, which focused on

building relationships through communication with students, as much as or more than traditional students. Before continuing, Donna asked teachers to share whether this meeting was helpful or affirmed any practices teachers use in their classrooms. One veteran teacher used audio to share how the information presented in this meeting affirmed her practice.

In our AP art history courses, we have always had a celebration forum in the discussion area where students would post that they were finalists for the Park Scholarship, for the Morehead, or they've been accepted into this college or another college. And we build on those and, I think all of our AP art history teachers text constantly with students. So I think it's definitely affirming to know that we are building those relationships and having those connections with our students.

Donna thanked the teacher for sharing. She then thanked all teachers in the meeting for their hard work in teaching AP students. She described that she understands how difficult it is to teach AP courses and expressed her appreciation for SVHS AP teachers. Donna concluded the meeting with a discussion of the next steps for AP teachers. She encouraged teachers to work with their instructional directors to assess the culture of their specific subject areas and to be reflective and honest with themselves. Finally, teachers were encouraged to implement the three pillars, focusing specifically on the relationship / communication pillar.

Data were analyzed to better understand how the eLC process prepares new online teachers for quality online teaching. Generally speaking, I was attentive to all references to qualities of effective online teaching within the eLC process. Specifically, I was interested in how the eLC process supported new online teachers in learning to teach

effectively online. Data revealed the following five qualities of effective online teaching as emphases within the eLC process: communication, feedback, differentiation, relationships, and announcements. Findings related to each of these five qualities are presented here.

Table 15

Qualities of Effective Online Teaching

Code	References to Code Across All Data Sources	Frequency of Word Across all Data Sources
Communication	39	63
Feedback	26	76
Differentiation	24	16
Relationship(s)	21	54
Announcement(s)	18	78

Due to my focus on preparation of new teachers for quality online teaching, I used NVivo to create a matrix of the intersection between references to the five qualities of effective teaching listed above and references to or by new teachers. This matrix is represented in Table 16, which includes the number of new teacher references made to each of these five qualities of effective online teaching. While Table 16 only represents counts, the actual pieces of data represented in Table 16 are included in the findings below, which are organized by these five qualities of effective online teaching.

Table 16

Matrix: Qualities of Online Teaching Expressed by New Teachers

	References Across All Data Coded as “New Teacher”	Data from Interview with New Teacher Wendy	Data from Interview with New Teacher Cheryl
Communication	5	4	5
Feedback	8	1	6
Differentiation	8	0	2
Relationships	1	2	1
Announcements	3	2	3

An interesting finding throughout all data sources was the occurrence of references to improving teaching. When teachers or eLC leaders made references to improving their teaching via interviews, emails, weekly reflections, or synchronous meetings, that data were coded as “improve teaching.” Across all data sources, 43 references were made to improving teaching. Interestingly, and in accordance with other findings presented thus far, *student(s)* was the most frequently used word within this code, although this particular code focused on improvements in teaching. This provided further support for Donna’s assertion that the purpose of the eLC process was to collaboratively improve teaching in order to increase student learning. As Donna explained in an interview, the eLC process was designed to provide SVHS teachers with opportunities to improve teaching in order to increase student learning. Specifically, she stated that the eLC process helped teachers improve in the areas of quality teaching that

were expected by SVHS. She described that if SVHS expected teachers to “build relationships with students, then what we’re doing through the eLC process is providing opportunities and strategies for you to get better at your job, to get better at doing that” (Chief Academic Officer, 2/26/14).

Instructional leader Amy described in an interview that the eLC process was a process for growth at the team and individual levels (2/26/14). She described that eLCs “are continuing their professional development, they’re growing, they’re working together as a team. They’re constantly looking at classes to see how they can make the coursework stronger to benefit students” (2/26/14). Veteran teacher Maggie described that the weekly reflection questions, in particular, made SVHS teachers “dig deeper and figure out best practices and things we can help to improve our teaching” (Interview, 3/3/14). Opportunities for reflection through the eLC process were cited as contributing to improvements in teaching. New teacher Wendy described that the eLC process involved “taking time to reflect on our practices in order to improve” (Interview, 3/12/14). Reflection for improved teaching was observed during a synchronous meeting, as chief academic officer encouraged teachers by saying, “Don’t be stressed by the gaps you see in your courses. Just record them. It’s not a reflection on anyone. It’s a place for us to improve and grow” (English I eLC Meeting, 3/27/14). Weekly reflection questions regularly focused on improving courses and improving teaching practice, as evidenced by the weekly reflection questions below.

- After reading this material, what areas of improvement might be needed for your course (where do you see gaps?) (English I Honors eLC Newsletter, March 2014)
- After brainstorming material for all of your course bullets, what areas of improvement might be needed for your course (where do you see gaps)? (English III Honors eLC Newsletter, March 2014)

Many references to improve teaching were connected to the purpose of increasing student learning. In an interview, new teacher Wendy commented that SVHS teachers “want to be the best teachers for our students, and we want to revise the course so that it better meets the needs of the students” (3/12/14). Similarly, in an interview Maggie shared that “everybody I feel like really wants to do the best thing for their students and learn as much as they can through the eLC” (Veteran Teacher, 3/3/14). Chief academic officer Donna hoped that teachers would describe the eLC process as “well worth their time and that it did in fact impact student learning because we made changes to how we either do instruction, how we teach a concept, how we view students” (Interview, 2/26/14). Instructional leader Simone stated simply, “Our primary goal is to make this course the best it can be for students” (Interview, 3/9/14). Veteran teacher Tina believed that improvements to the eLC process had facilitated her growth as a teacher, and as a result she “became more effective, and in that way I feel like my students were more successful” (Interview, 2/26/14).

During interviews, case study participants were asked to describe how the eLC process impacted their practice. The following responses were given, demonstrating the

qualities of effective online teaching that were regularly found throughout the data and included in Table 15.

- “I’ve changed the way that I structure my announcements through hearing what other people have done and what has worked with them” (New Teacher, 3/12/14).
- “Teaching for [SVHS] has taught me tons about building student relationships, building parent relationships. I have stronger relationships with the kids and their parents now than I did when I taught face-to-face” (Instructional Leader, 2/26/14).
- “I think the specific feedback I give on individual assignments, I not only look at individual student assignments but I try to tie it more to what they should’ve learned and what they will be doing next” (Veteran Teacher, 2/26/14).
- “I’m much more involved with my students” (Veteran Teacher, 3/3/14).
- “I have to really know what the expectations are so that I can reword them or communicate them clearly with my students so that they can be successful, and that has been a huge change for me online” (New Teacher, 3/14/14).

Communication and Relationships

Nearly one-half of all references to quality online teaching (60 out of 128) in this case study were related to communication and relationships with students. These themes were aligned with the three pillars that formed the foundation of quality teaching at SVHS. Findings related to communication and relationships are combined here because

SVHS emphasized communication as a way to build relationships with students. Across data sources, many of the references to effective communication practices were described as ways to build relationships with students. According to the guidelines for SVHS teachers, “communicating with students is important in establishing one-on-one relationships to ensure students’ success in the course” (Teacher Expectations, March 2014).

Virtual teachers at SVHS were expected to maintain regular communication with students, parents, virtual colleagues at SVHS, and personnel in students’ local school districts. Those expectations were clearly communicated to teachers and were described explicitly on a document that lists all practices and expectations for SVHS teachers. “Communicate” and “communication” were used a combined total of 78 times throughout the eleven-page document. In contrast, relationship and feedback, which align to the other two pillars of instruction at SVHS, were each used 12 times in the expectations document. According to Veteran teacher Maggie, there were no requirements for communication when she first started teaching for SVHS. However, in the spring of 2014, expectations for communication included a 24-hour response time on all student contact, weekly synchronous contact with every student, a phone call to each student prior to the start of the semester, and regular contact with school personnel at the students’ local schools. In addition, all SVHS teachers were required to maintain a detailed journal of all communication with students, parents, and school contacts.

Data coded as “communication” were related to communication among eLC members as well as communication with students. According to instructional leader

Amy, communication among eLC members occurred “primarily through email, occasionally by phone, and also through Google Hangouts” (Interview, 2/26/14). New teacher Wendy explained that eLC members “bounce around ideas over email” and “occasionally we have a synchronous conversation” (Interview, 3/12/14). Veteran teacher Tina described that eLCs used email primarily but also communicated via text and instant messenger. Instructional leaders and course leads played an important role in maintaining communication within the eLC process. Simone explained, “I feel like in a lot of ways I’m the first person that they actually go to if they’re frustrated about something. I’m a good listener for them” (Instructional Leader, Interview, 3/9/14). Course lead Tina described that her responsibilities included “sending announcements and reminders of things teachers are supposed to have done by a certain date” (Interview, 2/26/14).

Instructional leaders were also responsible for supporting teachers in maintaining communication journals, which documented SVHS teachers’ communication with students, parents, and other stakeholders. Veteran teacher Maggie described that the eLC process focused on “communication with students, through phone contacts, speaking with them, and also communicating with them in feedback” (Interview, 3/3/14). Maggie added that one of the goals of the eLC process was “the ability to individualize for each student and communicate, make that connection to make sure the student is successful” (Veteran Teacher, 3/3/14). According to new teacher Stephanie,

One month we focused on student contact and how often we contact students... We looked at the difference in when we contact parents and when we don’t. We

looked at communication with the ELAs (e-Learning Advisors) at the schools, and reaching out to them for help if we have a student who isn't logging in or not doing what they're supposed to do. (3/14/14)

As evidenced by the frequency of references to communication within the SVHS teacher expectations document and within case study data, communication was a significant part of the role of online teachers at SVHS. New teacher Stephanie explained that

students are texting me through Google Voice during the day, or they're sending me Moodle messages, or they're sending me emails about questions with the content... So I have to really know what the expectations are so that I can reword them or communicate them clearly with my students. (Interview, 3/14/14)

Communication was described as a way for teachers to differentiate their instruction. During an English department meeting, the English instructional director shared that the communication journal could help teachers prepare for the next week and target their instruction for specific students. During this same English department meeting, five veteran SVHS teachers shared effective communication practices, providing visual representations of conversations with students as well as screenshots of the communication journal. One conversation shared by veteran teacher Maggie revealed that parents were appreciative of communication. A parent of one of Maggie's students commented, "Thank you for the nice email. It's educators such as yourself that inspire our students to work up to their potential" (English Department Meeting, 3/17/14). A message from a student's grandparent read, "Thank you so much. She really is enjoying

this class. She responds to praise and she feels your input. This has been so goooood for her!!!!” (English Department Meeting, 3/17/14)

New teacher Cheryl described the advantages and challenges of communicating with students and their parents as a virtual high school teacher.

[SVHS] uses Google Voice, so all of our conversations are recorded. Text messages are recorded. And even with that, they’re still very leery to let me talk to their student. They can’t put a face with a name. I’ve assured them repeatedly I am a fully licensed North Carolina teacher, I have National Board certification, I teach face-to-face. And they’re still kind of like, ‘Oh, I don’t know. If you’ll just let me know what the problems are.’ So that’s been very interesting to me. And then my juniors, it’s the complete opposite. The kids are texting me like crazy, and I can’t get hold of the parents. So it’s been really interesting to me in the online world of high school education, the complete difference in the age groups and the response of the parents to that. (3/14/14)

During an AP Department meeting, chief academic officer Donna explained that the communication pillar was important for AP students, which she described were often kept “at arm’s length because we’ve made assumptions about who the AP kid is and how they want to be taught” (AP Department Meeting, 2/18/14). Donna challenged AP teachers to communicate regularly with their students and build relationships with them. Following this meeting, the AP English Language eLC established a goal related to communication and relationship-building. To work toward this goal, the eLC created a survey to gather feedback from students. Questions on the survey included the following:

- How can I make myself more available when you need help?
- What’s the best way to communicate with you?

- How can I increase communication with you? (AP English Language Weekly Reflection, 3/10/14)

After receiving feedback from students, the AP English Language eLC commented that they “have a good grasp on where students are, particularly communication. We also have some ideas about what we need to reiterate, or clarify for students (such as office hours, communication, etc.)” (AP English Language Weekly Reflection, 3/10/14).

Data revealed that the focus on communication within the eLC process contributed to relationship-building. New teacher Wendy described in an interview her surprise at the connection she had with her online students.

I’m really surprised actually how connected you feel to the students. I thought it was going to be very disconnected, but in fact I feel like I speak to my students regularly and I know what’s going on in their lives, and I’m excited about that. (3/12/14)

Wendy went on to say that she was

... pleasantly surprised by the level of communication with students and parents. Everybody seems to be on the same page as far as trying to have a quality relationships with those students and making sure that they have a good experience in each course. (3/12/14)

In fact, Wendy felt that her relationships with students and parents were stronger as an online teacher for SVHS than when she taught face-to-face “because I make more contact than I did with my face-to-face parents” (New Teacher, Interview, 3/12/14).

Veteran teacher Maggie described that eLC members shared similar goals related to

personal connections with students. According to Maggie, “Not only do we want students to do well academically, but some of them also need that personal connection that they’re not getting maybe from someone else” (Veteran Teacher, Interview, 3/3/14). This supported the third pillar, which connected communication with building relationships. In an interview, Donna expressed the significance of the eLC process in building relationships with students at SVHS. “I want them to know that there was a teacher on the other end that absolutely cared about them. So my hope is that the eLCs are a huge contributor to making that happen” (Chief Academic Officer, 2/26/14).

Feedback

Across all data sources, the word feedback was used 76 times, with 26 separate pieces of data coded as “grading and feedback.” According to the expectations document, SVHS teachers were expected to grade and provide feedback on all assignments within twenty-four hours of assignment submission. Feedback was to be provided through grading, synchronous and asynchronous messages to students, and daily announcements in the learning block forum. Every assignment was to be viewed as a teaching opportunity. Further, progress reports were to be completed and sent to students, parents, and local school contacts every two weeks in the fall and spring semesters and every week in the summer semester. Along with documentation of all communication with students and parents, SVHS teachers were also expected to maintain documentation of all positive feedback provided to students. This positive feedback documentation was to be organized in the virtual teacher portfolio and used in the teacher evaluation process.

The eLC process emphasized the importance of feedback in online courses, as evidenced by the numerous references to feedback gathered during this case study. Just as with communication, instructional leader Simone commented in an interview that there were no SVHS requirements for feedback when she first began teaching online with SVHS. As expectations for feedback changed over the years, the eLC process was used to support teachers in using feedback effectively. Instructional leader Amy provided support for new teachers in giving feedback by creating videos about effective grading and feedback and sharing those videos with English eLCs. Amy mentioned that she learned about effective feedback through professional development designed for instructional leaders.

One focus of eLC work during the spring of 2014 was adding real world connections to student feedback. Veteran teacher Tina described in an interview that the English I eLC work on feedback improved her feedback by connecting it to specific assignments and content within the course. She explained, “I try to tie it more to what they should’ve learned and what they will be doing next” (Veteran Teacher, 2/26/14). New teacher Cheryl described that the English I eLC used a shared document to work on “the real-world feedback that we’re required to do now, so overall I think it has been a really good experience” (Interview, 3/14/14). Cheryl later explained that the English III eLC also worked on real-world connections within feedback in the spring of 2014 in order to help “students see the relevancy of what they’re studying to real world” (New Teacher, Interview, 3/14/14).

Some of this eLC work on feedback occurred through the honors portfolio process. The English I eLC documented that English I teachers provide feedback through formative assessments, assignments, emails, Moodle messages, phone calls, text messages, and forums. Tools used by the English I eLC to provide feedback included BlackBoard Collaborate sessions, FaceTime, Google Voice, instant messenger, announcements, and web 2.0 tools. Weekly reflections also facilitated eLC work with feedback, as evidenced by required weekly reflection questions such as these:

- What is the level of feedback that the student sees when completing a module post-assessment?
- Who provides this feedback - you as the teacher or built-in feedback? (AP English Language eLC Newsletter, February 2014)

In response to these questions, a veteran English III teacher replied, “Students receive specific feedback that celebrates what the student did well and what the student can improve on in order to meet the standards the post-assessment was assessing” (English III Weekly Reflection, 3/17/14). To these same questions, new AP English Language teacher Wendy replied, “They get the most feedback on their essays because they need the most individual direction to improve” (AP English Language Weekly Reflection, 2/23/14). This eLC work on real-world feedback was closely related to the other two pillars, as feedback was used to communicate and build relationships with students. This relationship between the three pillars and the eLC process was described by chief academic officer Donna in an interview.

You've got people that can say, "Let's take a look at the feedback you're leaving." Or, "This month in our eLC we've talked about pillar two, which is providing effective feedback. If you know she's looking at your feedback, how can you build a relationship through the feedback you're leaving?" (2/26/14)

Differentiation

During my pilot case study during the fall of 2013, I learned that SVHS planned to add differentiation as the fourth pillar of quality online instruction. Although the fourth pillar had not yet been established or shared with teachers in the spring of 2014, differentiation as a quality of effective online instruction was a focus of eLC work. New teacher Cheryl commented during an interview that the English I eLC talked "about ways we've differentiated instruction, even based off what is loaded as course content" (3/14/14). She added, "We looked at individual assignments. Are we differentiating enough?" (3/14/14).

Again, the honors portfolio process facilitated differentiation-focused eLC work during the spring of 2014. In an email to English I eLC members, veteran teacher Tina communicated that the honors portfolio process was "a new requirement by the state to make sure we are differentiating between the standard and the honors course" (Email, 3/17/14). The English I eLC identified differentiation as a need in the English I honors course. "While the honors course is rigorous, it does not have a lot of differentiation from the standard course... Because of this, the standard course needs to be addressed/revised to help students be more successful" (English I Honors Portfolio Working Document, March 2014). Weekly reflections aligned with the honors portfolio process required eLCs to identify gaps related to differentiation. Veteran teacher Tina

responded, “I do not know if I would call this ‘gaps,’ but there are specific areas of differentiation that could be made. I see again that some assignments should stay as is and adapt the assignment for the standard course” (English I Weekly Reflection, 3/10/14). New teacher Cheryl felt that the year-long English I course should be differentiated, responding that “for a yearlong model, there could be higher expectations for honors - since the students get 2 days for every assignment” (English I Weekly Reflection, 3/23/14).

A veteran English III teacher described an important distinction between challenging work and more assignments.

The thing that strikes me is that the document says “more challenging... difference in depth and scope...” What it doesn’t say is “more work” or “more assignments.” I think this is an important distinction, and one that we’ve been growing toward in the Honors class. I hope the development of the course will continue to take this direction, and that revisers will see the many opportunities to enhance depth and scope. (English III Weekly Reflection, 3/5/14)

When asked to identify areas of improvement for the English III honors course, English III eLC members responded in their weekly reflections during March 2014 with the following ideas:

- “I’m also thinking we don’t have true seminar-style learning, independent study, or project-based learning. I know the research unit gives students some choice, but they don’t have much voice.” (Veteran Teacher)

- “I wonder where we could add more inquiry-based learning where students answer a driving question, one that can’t be answered by Google.” (Veteran Teacher)
- “I feel like depth of assignments and better building or spiraling of assignments is needed. While we do offer multiple ways to demonstrate mastery, I think these could be more diverse in nature.” (Veteran Teacher)
- “We provide choice for some of our assignments, especially our post-assessments, but we could add more problem-based learning and problem solving.” (Veteran Teacher)

Announcements

As one of the three pillars, teaching through announcements was a topic of eLC work during the spring of 2014. During the months when eLCs were allowed to determine a focus for their work, some of them chose to focus on announcements. The English I eLC chose to focus on using announcements to celebrate student learning. English I course lead Tina described this as “shout-outs to individuals in the class to let them know what they’re doing well and to connect that to whatever lesson we’re on” (Interview, 2/26/14). According to AP English Language instructional leader Simone, the purpose of eLC work with announcements was to make them “meaningful” so that students “get something out of those announcements” (Interview, 3/9/14).

Members of eLCs shared actual announcements that could be copied and used in each teacher’s course. Both the English I and English III eLCs contributed to shared documents during the spring of 2014, sharing announcements that included celebrations

of student learning, real-world connections, and web 2.0 tools. During a synchronous meeting, English I eLC members shared ways they had changed their announcements during the spring semester. Specifically, veteran teacher Tina asked meeting participants to share how students responded to those changes. A veteran teacher shared a specific example of giving feedback to specific students and celebrating student work in her announcements, after which new teacher Cheryl commented in the chat box, “I hadn’t thought about giving specific student work” (English I eLC Meeting, 2/24/14).

During interviews, case study participants were asked to describe how the eLC process impacted their practice as online teachers. New teacher Wendy described announcements as a specific area of her online teaching that had been impacted by the eLC process. “I’ve changed the way that I structure my announcements through hearing what other people have done and what has worked with them” (3/12/14). Similarly, veteran teacher Tina described that her announcements were “more informative and teaching since we have worked on that in the eLC” (2/26/14).

These qualities of effective online teaching were the focus of eLC work during the spring semester of 2014. As represented in Table 15, these qualities echo those supported by current research literature in the field of online teaching. Gaps that existed within the eLC process in regards to effective online teaching practices will be discussed in Chapter V.

Summary

Chapter IV presented findings from a case study of the eLC process at a state virtual high school. Findings revealed that the eLC process was aligned with many of the

features of the community of practice framework (Wenger, 1998). In accordance with Wenger's (1998) CoP framework, evidence of the domain, community, and practice of eLCs was presented, along with evidence of legitimate peripheral participation as a way for new online teachers to become fully participating eLC members (Lave & Wenger, 1991). Additionally, the eLC process prepared new online teachers to teach effectively online, with data revealing qualities of effective online teaching that were prioritized through the eLC process. Finally, findings related to both the institutional nature and the electronic nature of the eLC process were presented, revealing many ways that the institution and the online nature of the eLC process supported new and veteran online teachers. In Chapter V, I will discuss these findings in light of the research questions guiding this case study and in relation to current literature referenced in Chapter II.

CHAPTER V

DISCUSSION AND IMPLICATIONS

In this case study, I used Wenger's (1998) communities of practice framework to explore how the electronic learning community process at SVHS supported new and veteran online teachers and prepared them for quality online teaching. To answer this study's research questions, data were gathered in alignment with the elements of a community of practice, legitimate peripheral participation within CoPs, and institutional factors related to the CoP framework. Further, data were collected to determine how the eLC process was used to the support of new and veteran online teachers in using effective online teaching practices. Chapter V presents a discussion of the findings and implications of this case study of three secondary English online eLCs operating within SVHS during Spring 2014, beginning with a discussion of findings related to each research question. Within this discussion, findings from this case study will be integrated with current literature related to the purpose of this case study. Next, implications for those involved with learning communities for online teachers will be presented. Finally, I will discuss the limitations of this case study and present recommendations for future research.

Findings from this case study, which were presented in Chapter IV, are discussed below in relation to this study's research questions. The first research question sought to

explore the relationship between the eLC process at SVHS and Wenger's (1998) CoP framework through multiple perspectives. Even though not every element of the eLC process was in alignment with the CoP framework, Wenger's (1998) framework served as a useful structure for analyzing the eLC process. The concepts of domain, community, and practice allowed me to analyze multiple features of the eLC process, and the framework provided a structure for weaving those multiple features together in meaningful ways. It is important to note that SVHS made no claims of alignment with the CoP framework. I selected this framework after spending several weeks observing and participating in the eLC process during a pilot study in the fall of 2013. Though findings are interpreted here through the lens of the CoP framework, the implications section later in this chapter will discuss whether the CoP framework can and should also serve as a practical framework for eLCs. As will be discussed later in this chapter, a strong theoretical framework was missing from much current research literature in the fields of online learning communities and support for online instructors. Therefore, the CoP framework was selected to provide a strong theoretical foundation for this case study.

Discussion of Findings

Research Question 1: In what ways do institutionally-driven electronic learning communities operate like communities of practice from the perspective of experienced online teachers, novice online teachers, and learning community leaders?

This first research question included two subquestions, which are used to organize the discussion of findings below.

Research Question 1a: In what ways is the electronic learning community process aligned with the communities of practice framework?

This research question was used to explore the relationship between the eLC process at SVHS and the communities of practice framework. In order to answer this research question, data were gathered according to the three elements of the CoP framework: domain, community, and practice. Findings from the eLC process during the spring of 2014 related to each of these three elements are discussed below and compared with findings from current research on communities of practice and electronic learning communities. Within each section below, data are presented to reveal ways in which the eLC process was and was not aligned with the CoP framework. It is important to note that evidence of alignment or a lack thereof with the CoP framework did not signal a strength or a weakness of the eLC process. Rather, these findings served to answer this study's research questions with regards to the CoP framework. The implications section will provide recommendations to eLCs based on these findings.

Domain

Alignment with CoP framework. According to Wenger (1998), the domain of a CoP fosters accountability to a body of knowledge necessary for developing the practice of community members. A domain consists of explicit and implicit long-standing topics, issues, questions, and understandings that are relevant to both the community and the organization of which the CoP is a part. Understandings which are shared among CoP members facilitate the development of a sense of identity within the domain. For electronic learning communities at SVHS, the domain, broadly speaking, consisted of knowledge and issues related to teaching secondary English online. More specifically, according to the CoP framework, the domain of the eLC process should include critical concepts and skills necessary for eLC members to develop their practice as online secondary English teachers. Findings revealed that the improvement of teaching was a focus during the eLC process in the spring of 2014. This notion of the eLC process facilitating the improvement of teaching is aligned with Wenger's (1998) view of domain as the body of knowledge necessary for developing practice. Participants expressed that the eLC process led to improvements in their practice, which was in alignment with the notion of developing practice through the domain of communities of practice. Similarly, in a study of online learning communities, Chen et al. (2009) found that participation in online learning communities contributed directly to improving teachers' instructional practices.

The three pillars of teaching that were advanced by SVHS through the learning block and announcements, teaching through grading and feedback, and teaching through

communication were defined by SVHS as the foundations of quality online teaching. These three pillars were long-standing topics, issues, and understandings within the domain of the eLC process during the spring of 2014. Similar to findings from Chen’s et al. (2009) study, the use of the three pillars through the eLC process offered SVHS teachers a common language for communicating about teaching and learning. Although Wenger et al. (2002) distinguished between topics and issues, questions, and shared understandings as the three functional components of a domain, in reality, these three elements were closely interrelated during this case study, with the three pillars serving as the thread weaving these three elements together. A single issue, such as how to use communication to improve relationships between teachers and students, existed in data coded as topics and issues, questions, and shared understandings. This example of the interwoven nature of the three components of domain with the eLC process in the spring of 2014 is represented by the examples in Table 17.

Table 17

Interrelated Nature of Domain Elements within the eLC Process

Topics and Issues	Questions	Shared Understandings
“I have stronger relationships with the kids and their parents now than I did when I taught face-to-face because I make more contact than I did with my face-to-face parents”	“Is the third pillar equally important in AP courses, less important, more important?” (Chief Academic Officer, AP Department Meeting, 2/18/14).	“The communication journal should tell the story of your work with students and their stakeholders” (Instructional Director, English Department Meeting, 3/17/14).

(Instructional Leader,
Interview, 2/26/14).

In alignment with the CoP framework, the example of communication as a way for building relationships with students provided evidence that the domain of the eLC process consisted of both long-standing and current topics, issues, questions, and understandings. Wenger et al. (2002) described a domain as “not merely a passing issue” (p. 31). The three pillars were an ongoing focus at SVHS, as evidenced by past and current eLC work as well as data from my pilot study conducted in the fall of 2013. However, the three pillars continued to be refined and used to address current issues that arose during the spring of 2014. According to Wenger et al. (2002), a domain is not fixed. Rather, it “evolves along with the world and the community” (p. 30). Further, the questions and issues addressed by a CoP should include both open questions, such as “How can we improve communication?” and burning questions, such as “How can AP teachers increase communication to build relationships with their students and address the gaps identified by current data?”

From a CoP standpoint, topics and issues should be broad enough to connect the community to the larger domain yet narrow enough to meet the specific needs of community members and the organization (Wenger et al., 2002). In this case study, the eLC process focused on broad issues, namely the three pillars of quality online teaching, while doing so in the narrower, subject-specific context that I studied (secondary English online). Nevertheless, during the spring of 2014, eLCs were given the opportunity to

select their own foci that addressed their immediate needs as communities. Wenger et al. (2002) described that the domain of a CoP allows the community to “decide what matters” (p. 30). During the spring of 2014, eLC members frequently made decisions about what matters within the domain of teaching secondary English online. For instance, when eLCs were given the opportunity to determine a focus for their work, each eLC involved in this study selected a focus that was aligned with the vision and ongoing work of the organization. Further, the focus areas selected by eLCs during those months were ones that later were described by eLC members as areas of improved practice due to the eLC process. Additionally, decisions about what matters were made within the honors portfolio process, as eLC members identified strengths and areas for improvement in their courses, determining action steps for continual improvement.

Mismatch with CoP framework. In addition to contributing to the development of practice within the eLC process, the CoP framework suggests that the domain of a community connects the community to a larger domain beyond just the CoP and its organization. In other words, according to Wenger’s (1998) framework, members of the eLC process should be connected to others who share an interest in the domain beyond the SVHS eLC process. These connections could exist in the form of membership in professional organizations and participation in professional learning opportunities outside of SVHS. Wenger et al. (2002) described that the most successful CoPs are ones that exist at the intersection of community members’ interests and organizational strategy. During this study, evidence of these connections was not found.

Findings from current research in the field of online teaching revealed that online teachers needed support in content, pedagogy, and technology (Journell et al., 2013; Kennedy & Archambault, 2012a). Ferdig et al. (2009) recommended the use of Mishra and Koehler’s (2006) technological pedagogical content knowledge (TPCK) framework to help teachers transition from traditional to online teaching. Integrating content, pedagogy, and technology is particularly important for online instructors who must use technology in pedagogically effective ways to help students learn content. Therefore, I argue that the domain of the eLC process should include issues related to all areas of the TPCK framework. Findings from this case study revealed that the eLC process included an emphasis on teachers’ pedagogical and technological knowledge but lacked an equally robust focus on teachers’ content knowledge. Table 18 represents data to support this claim.

Table 18

TPCK within the eLC Process

TPCK Component	Examples from Case Study Data
Pedagogical Knowledge	<ul style="list-style-type: none"> <li>• References to pillar one: Teaching through the learning block and announcements <li>• References to pillar two: Teaching through grading and feedback <li>• References to pillar three: Teaching through communication <li>• Work to differentiate instruction in standard and honors level courses <li>• Sharing effective communication practices during a

	synchronous meeting
	<ul style="list-style-type: none"> • Including real-world connections in feedback on student learning • Discussing strategies for building relationships with students • Addressing myths related to teaching AP students
Technological Knowledge	<ul style="list-style-type: none"> • Using web 2.0 tools in announcements • Using multiple modes of communication with students (email, text, Moodle messages) • Using Google Hangouts for face-to-face online meetings • Using learning block tool to schedule daily announcements • Sharing HTML code for announcements • Discussing the online grading system
Content Knowledge	<ul style="list-style-type: none"> • In an interview, new teacher Cheryl mentioned that the eLC process previously explored implementation of the Common Core State Standards • One week during the spring of 2014, honors portfolio work included brainstorming strategies for teaching content concepts

Aside from the above two specific instances during the spring of 2014, missing from this case study were data related to teachers' content knowledge. Due to the course-specific nature of the eLC process, teachers within each eLC shared the same content focus. Thus, the case could be made that content was an implicit focus of the domain of the eLC process. However, Mishra and Koehler (2006), Shulman (1986), and Ferdig et al. (2009) would argue that professional learning opportunities for teachers should explicitly link content, pedagogy, and technology. Again, this is arguably more

important for online teachers than face-to-face teachers. From a TPCK perspective, a focus on content knowledge was a missing element of the domain for online secondary English teachers at SVHS.

Community

Alignment with CoP framework. As CoP members engage with one another over an extended period of time, they develop a sense of belonging and coherence within the community and within the larger domain. Community, the second element of a CoP, consists of three components: sustained mutual engagement, commitment to a joint enterprise, and the development of a shared repertoire (Wenger et al., 2002). Findings from this case study revealed that these three components of community were evident within the eLC process. Membership within the eLC process facilitated the development of supportive relationships. According to Wenger (1998), mutual engagement, which consists of community maintenance and relationship development, is as important as a community's work with important topics and issues. Holmes et al. (2010) found that social presence was the greatest factor influencing teacher learning and satisfaction in professional development. In this study, participants described participation in the eLC process as supportive, and data revealed support was provided through positive feedback, notes and phone calls, and sharing of personal celebrations. Also, a culture of celebration was fostered through regular sharing of personal and professional celebrations in synchronous meetings, leading to a sense of belonging within the eLC process. Musanti and Pence (2010) found that community building required a long process of learning to collaborate, further adding that peer-to-peer interactions led to interdependence and

individual and collective growth. The culture of celebration developed through the eLC process contributed to the process of learning to collaborate described by Musanti and Pence (2010).

Trust was also used to describe relationships within the eLC process at SVHS. As CoP members engage in ongoing practice with one another, they develop mutual trust and respect (Wenger et al., 2002). Hord (2009) identified trust as a relational condition necessary for the development of effective professional learning communities. Similarly, in a study of online learning communities, Parr and Ward (2006) found that mutual respect and trust were preconditions for the development of learning communities. Yeh (2010b) identified several relational factors that influence the success of eLCs, including trust, cooperation, and sociability. Likewise, Rovai (2001) found trust to be one of four dimensions of building a sense of community online. These findings supported instructional leader Amy's insistence that trust comes before academics within the eLC process. Trust was an apparent component of relationships within the eLC process in the spring of 2014, as teachers depended on one another for weekly and monthly eLC work. According to veteran teacher Tina, trust developed over time. Through shared documents, eLC members developed and shared announcements and real-world feedback, for example, which the teachers then copied and used in their own courses. Trust was necessary for this level of transparency in the sharing of teachers' work.

Through prolonged engagement, a CoP responds to the needs and demands of the organization and domain. This negotiated response is the ongoing work of the CoP and is referred to as joint enterprise. Each week during the spring of 2014, eLCs worked to

negotiate responses to needs of the community and SVHS. Examples of joint enterprise included identifying strengths and areas for improvement within the honors portfolio process, brainstorming suggestions for course revision, revising announcements to include student celebrations and web 2.0 tools, and using feedback to make real-world connections. Although some of this work was initiated within eLCs and some was mandated by SVHS, each of these instances of joint enterprise represented a response from eLCs. The use of weekly reflections, shared documents, and synchronous meetings facilitated joint enterprise by providing resources and spaces for this work to happen.

Over time, a CoP develops routines, traditions, and ways of doing things that are unique to the CoP. These ways of doing things make up the community's shared repertoire and serve the community from both a historical and future perspective, connecting the community to its past and guiding the work of the community in the future. Instructional leader Amy described that each eLC with which she worked (English I, English II, and Journalism) had a unique personality along with different routines and traditions. These differences were apparent in the way eLCs chose to meet (Google Hangouts or learning management system), the mood of synchronous meetings (casual or business-like), and the way topics and tasks were determined (assigned by eLC leader or self-selected). Beyond differences in personalities and ways of working together, the eLC process exhibited a shared repertoire in the traditions and routines of how eLC work was accomplished. The structure of weekly reflections and synchronous meetings and the use of shared documents for creating artifacts of eLC work, for

example, provided evidence of alignment with Wenger's (1998) notion of joint enterprise within the overall eLC structure.

Wenger et al. (2002) advocated for different levels of membership within a CoP, which was evident within the eLC process during the spring of 2014. Two levels of formal leadership existed within the eLC process: instructional leaders and course leads. Instructional leaders worked closely with instructional directors and the chief academic officer to connect SVHS priorities to eLC work. These instructional leaders were responsible for communicating topics and instructions for eLC work with course leads and eLC members across multiple eLCs. Course leads were responsible for leadership within individual, course-specific eLCs. This leadership involved keeping eLC members informed as well as scheduling, planning for, and facilitating ongoing synchronous and asynchronous eLC work. Aside from leadership roles, all SVHS teachers were required to participate in weekly and monthly eLC work. This work was distributed equally. For instance, all members of the English I eLC were responsible for revising a specific number of announcements and sharing that work with the rest of the team. However, varying levels of engagement were evident outside of the eLC process, as some eLC members elected to engage in work done outside of the structured eLC process, such as course revision.

Mismatch with CoP framework. Wenger et al. (2002) argued that membership within a CoP could be self-initiated or mandated, but the level of participation for each member is voluntary, with some members choosing to take a more central role in the COP while others may choose to remain on the periphery. Although Wenger et al.

(2002) expressed that CoP membership can be forced, mandatory eLC participation made it difficult to determine whether a member's commitment to and engagement in the eLC process indicated a genuine commitment and a true sense of belonging as opposed to mere compliance because participation in the eLC process was required. The teacher evaluation process at SVHS included participation in the eLC process, which meant that all teachers were required to respond to weekly reflection questions, participate in synchronous meetings, and contribute to ongoing eLC work. Existing on the periphery of the eLC process was not an option for SVHS teachers hoping to renew their contracts. In this case study, mandatory participation posed a barrier to alignment with the CoP process by requiring equal levels of participation from all members.

Wenger et al. (2002) envisioned community leadership developing from within the CoP. He described that the health of a CoP “depends primarily on the voluntary engagement of their members and on the emergence of internal leadership” (p. 12). While external leadership is important in order to connect CoPs to the organization, internal leadership must exist with CoP members who have legitimacy within the community (Wenger et al., 2002). Further, leadership within a CoP is distributed (Wenger et al., 2002). Data revealed that leaders within the eLC process were selected and trained by curriculum and instruction leaders, namely the chief academic officer. Course leads and instructional leaders were selected based on the leadership and skill they exhibited as SVHS teachers. This selection process for eLC leaders blurred the lines between internal and external leadership, as eLC leaders served in leadership roles for both SVHS and their respective eLCs. Further, Wenger et al. (2002) argued that CoP

leaders serve to maintain connections between the organization and others outside of the community. The eLC process did not provide evidence of eLC leaders serving in this role, connecting SVHS to others beyond the organization. These connections may have existed; however, they were not evident within data gathered during the spring of 2014.

While intimacy within a CoP is desired, high levels of intimacy can pose a barrier to new members, new ideas, and new ways of doing things. This was evidenced in the conflict that arose in the English I eLC as new member Cheryl taught a year-long version of English I while other eLC members taught semester-long versions. During a synchronous English I eLC meeting, Cheryl offered a different perspective on the level of rigor within the standard English I course than the rest of her teammates. The English I course lead and other eLC members audibly disagreed with Cheryl, referring to their experience with the English I course over the past few years. Cheryl then apologized, stating that she was a “newbie” and that her “perspective is limited” (English I eLC Meeting, 3/10/14). Later, in an interview, Cheryl expressed that being a member of the English I eLC had been challenging for her due to differences between the semester- and year-long courses. She felt that “a lot of the established English I teachers feel like I’m coming in and saying that the course is not good enough, not rigorous enough” (New Teacher, Interview, 3/14/14). Further, she described herself as “the experiment in English I” (3/14/14).

Over time, members of a CoP develop a shared repertoire which, according to Wenger et al. (2002), is necessary for community development. However, in this particular instance, the shared repertoire acted as a barrier to diverse perspectives. New

teacher Cheryl attempted to engage eLC members in a conversation about rigor and the differences between the semester- and year-long courses, but veteran members ignored her perspective. A comment that could have potentially led to a beneficial conversation for English I teachers and students was dismissed because it did not fit with the existing way of doing things within that eLC. Wenger et al. (2002) warned CoPs about this pitfall, stating that the strengths of a CoP, such as a strong identity and a shared repertoire, can “hold it hostage to its history and its achievements” (p. 140).

Practice

Alignment with CoP framework. The element of Wenger’s (1998) CoP framework with which the eLC process was most closely aligned was practice, which is defined as “doing in a historical and social context” (Wenger, 1998, p. 46). Within a CoP, practice does not occur in isolation. Rather, it is the social, sustained pursuit of a shared enterprise situated within the context of the community’s domain. Through the eLC process, the practice of SVHS teachers occurred within a social and historical context. The collaborative nature of asynchronous and synchronous eLC work, through shared documents and online meeting spaces, provided a social context for improvement in teaching, improvement in courses, and other eLC efforts. Additionally, the use of shared spaces for eLC work and provided a historical archive of the shared practice of each community. Case study participants found value in the ability to return to previous eLC work.

Wenger (1998) conceptualized practice as consisting of two processes that complement one another: participation and reification. Findings from Schlager and

Fusco's (2003) literature review of professional development, technology, and communities of practice revealed that teachers learn much of what they need to within the context of practice. In my pilot study conducted during Fall 2013, teachers learned the beginnings of what they needed to learn in order to be successful online teachers at SVHS. Then, during the spring of 2014, these teachers continued to learn critical skills and competencies through the eLC process, building on the foundation that was established during new teacher orientation at SVHS. For instance, implementation of the three pillars was a continuous focus of both the orientation and the eLC process. In addition, use of the three pillars was incorporated into the SVHS teacher evaluation process. Therefore, it was essential for SVHS teachers to develop skills related to the three pillars in order to be successful. Through participation in the eLC process during the spring of 2014, SVHS teachers learned strategies for building relationships with students through communication, using announcements to celebrate student work, and providing feedback containing real-world connections.

All eLC members were expected to participate actively in synchronous and asynchronous work. New teacher Cheryl described that teachers were not allowed to "just sit back and chill and listen" (Interview, 3/14/14). Similarly new teacher Wendy commented that the eLC process depended on the contributions of everyone. Participation in the eLC process involved activities such as problem solving, coordination and synergy, and mapping knowledge. These activities were related to key topics and issues within the domain and occurred in cycles, through weekly reflections and monthly synchronous meetings. Veteran teacher Tina described that SVHS teachers had come to

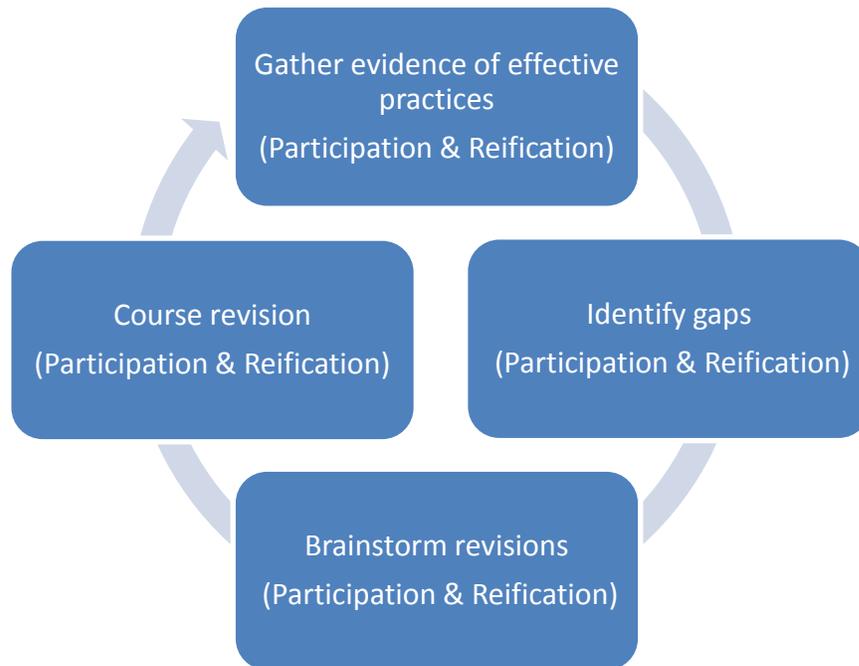
depend on the eLC process for providing an avenue for problem solving with technical difficulties, course revision, specific assignments, and issues with students.

Reification refers to the creation of products from a CoP's participation. Not only is reification a reflection of practice, but it also transforms practice. Within the eLC process, reification served to affect teachers' practice and provide evidence of eLC work. Case study participants described ways that their teaching improved due to participation in the eLC process. One specific way in which reification impacted teacher practice was through the public sharing of effective practices. Further, the historical nature of practice within the CoP framework was evident in the eLC process, as shared documents and shared spaces provided evidence and artifacts of each eLC's shared practice. Production of artifacts such as these was aligned with the historical and social nature of Wenger's (1998) CoP framework and provided evidence of reification.

The transformation of practice through the production of artifacts was described by Wenger (1998) as the duality of participation and reification. Waltonen-Moore et al. (2006) identified five stages of online group development: introduction, identification, interaction, involvement, and inquiry. The highest level, inquiry, was used to represent groups that learned collaboratively and put what they learned into practice. This view of inquiry as the highest level of online group development was aligned with Wenger's (1998) notion of practice within the CoP framework, with community participation and reification transforming one another through practice. An example of duality in this study was found within the course revision process, represented in Figure 3.

Figure 3

Duality of Participation and Reification



The English I eLC gathered evidence of effective practices in their course, identified gaps between the course and honors portfolio expectations, brainstormed revisions, and designed a plan for future course revision. This cycle of duality revealed the interrelated nature of domain, community, and practice within the CoP framework. That is, this cycle of eLC work could be used to represent elements of the domain of the eLC process, the community of the eLC process, and the ongoing practice of the eLC process. For example, topics and issues (domain) related to differentiation were involved in the work of course revision. Additionally, the English I eLC negotiated a response to the honors portfolio mandate, otherwise known as joint enterprise (community). Finally, the identification of strengths and gaps led to revisions in the course, revealing the duality

of participation and reification, which is the key to shared practice within the CoP framework. No gaps were found in the alignment of the eLC process with Wenger's (1998) notion of practice.

Findings related to research question 1a revealed that the eLC process was in some ways aligned with the CoP framework but not others. Evidence of the elements of domain, community, and practice were found in this study, with practice being the element of the eLC process most closely aligned with the CoP framework. Implications based on these findings will be presented later. Next, findings related to research question 1b, which concerns the institutionally-driven nature of the eLC process, will be discussed.

Research Question 1b: In what ways does the institutionally-driven nature of the electronic learning community process influence its relationship to the communities of practice framework?

To answer this question, data were gathered related to five strategies identified by Wenger et al. (2002) as ways for an organization to support and increase the effectiveness of the work of CoPs: value the work of eLCs, create time and space, encourage participation, remove barriers, and connect to the organizational strategy. These strategies were used as codes to analyze data gathered in the eLC process during the spring of 2014. Findings revealed that these strategies did, in fact, support and increase the effectiveness of the eLC process in many ways. However, findings also revealed that the institutionally-driven nature of the eLC process also posed a barrier to the alignment of the eLC process with the CoP framework. These findings are discussed below, in light

of recommendations from Wenger et al. (2002) and current research on communities of practice.

Institutionally-Driven Nature Aligned with CoP Framework

Wenger et al. (2002) emphasized the notion of reciprocity within the CoP framework. Individual CoP members should benefit from membership in the community, while the community also benefits from the contributions of individual members. On a larger scale, the organization should benefit from CoPs, while communities should benefit from the process as well. In this case study, the eLC process brought value to all three levels – individual, community, and organization. As described previously, teachers expressed ways their teaching improved due to participation in the eLC process. Case study participants also described finding value in relationships built through the eLC process. Additionally, leaders within the eLC process expressed gratitude for opportunities to take on leadership roles.

Just as teachers benefited from participation in the eLC process, the communities themselves were enhanced through the eLC process. Each eLC was made up of teachers who taught the same course, and often the eLC process engaged these teachers in efforts to improve their courses. The contributions of each eLC member led to the improvement of courses, and ongoing interactions among community members strengthened the community and practice of the eLCs. The shared practice of each eLC was a reflection of the contributions of each member, as all members were required to participate actively on an ongoing basis. Further, the eLC process brought value to the organization. During the spring of 2014, SVHS was required to provide documentation of rigor in honors level

courses in order to meet a mandate by the state department of public instruction. The eLC process provided an avenue for this work to occur. Because of the eLC process, SVHS teachers were already adept at engaging in the kinds of work required by the honors portfolio – discussing teaching practices, working in shared documents, and identifying areas for course revision.

Wenger et al. (2002) described that successful CoPs existed at the intersection of “strategic relevance” to the organization and the passions of CoP members (p. 31). In the case of the honors portfolio process, in particular, the eLC process did exist at the intersection of the needs of SVHS and the ongoing interest of eLC members in improving their practice and their courses to meet the needs of students. At a broader level, the intersection of organizational relevance and eLC members’ passions existed in a focus on students. Chief academic officer Donna described the purpose of the eLC process as “our ability to be collaborative among teachers to improve student learning” (Interview, 2/26/14). Case study participants, including teachers and eLC leaders, also described student learning as a focus of the eLC process. Findings revealed that students were the major focus of the eLC process, with the word *student(s)* being the most frequently used word across all data sources. The word *student(s)* was used 104 times during interviews, although no interview questions asked about students. Had interview questions asked participants about students, this finding would be expected. However, case study participants were asked to discuss their work within the eLC process, and they discussed students more frequently than any other topic.

This emphasis on students revealed alignment between SVHS teachers and the organization through the eLC process. Further, a focus on students provided a lens for analyzing the relationship of the institutionally-driven nature of the eLC process to the CoP framework. Through the eLC process, SVHS communicated the importance of student learning. The eLC process, then, provided a way for teachers to collaborate and improve their teaching and their courses to increase student learning. Organizational competence, particularly with teaching practice and student learning, was increased through the eLC process.

Mismatch with CoP framework due to institutionally-driven nature. One way in which the institutionally-driven nature of the eLC process posed a barrier to alignment with the CoP process was related to mandatory participation. Wenger et al. (2002) argued that participation within a CoP could be mandatory, but the level of participation must be voluntary. Further, Parr and Ward (2006) found that teachers must first perceive a need, and then recognize that an electronic learning community can be a solution to that need. In the case of the SVHS eLC process, curriculum leaders at SVHS perceived a need and believed that the eLC process would meet that need. Chief academic officer Donna described in an interview that curriculum and instruction leaders were discussing ways to get teachers to collaborate with one another to address low pass rates in their courses. According to Donna, “we decided, well we know that PLCs have a great purpose behind them, so let’s do an eLC” (Interview, 2/26/14). She further explained, “So that was how the eLCs came to be, out of a desperate need to have teachers collaborate and talk with each other” (2/26/14). While the leadership of SVHS

recognized this need and believed strongly that eLCs were the solution, it is difficult to say whether teachers themselves perceived this need and believed in the eLC process as a way to meet that need.

Lock (2006) found that eLCs can build capacity by giving teachers ownership of their learning. Lock also argued that the power and direction of eLCs comes from members. The institutionally-driven nature of the eLC process leads to questions regarding who owns and directs the learning. Instructional leader Simone expressed that early on in the eLC process, eLC leaders had more say in the topics and issues addressed through the eLC process than they did in the current model of the eLC process during the spring of 2014. Aside from the month when eLCs were allowed to choose their own focus, the topics and issues addressed through the eLC process were selected by the curriculum and instruction leadership team. Although chief academic officer Donna explained that the leadership team selected topics based on the current needs of SVHS teachers and students, the argument can be made that the institutionally-driven nature of the eLC process prevented teachers from owning and directing their learning.

Summary of Communities of Practice as a Framework for Understanding the eLC Process

The use of Wenger's (1998) CoP framework to study the electronic learning community process at SVHS revealed several key findings. First, every learning community is not a community of practice. Terms such as community of practice and professional learning community are often used incorrectly to describe communities that do not align with the critical elements of the CoP or PLC framework. Educators and

researchers must use these terms carefully. Misuse causes the terms and the concepts behind them to lose their meaning. It is important for educators interested in CoPs to become familiar with theoretical and empirical literature to develop an understanding of the inner workings of the framework. I discuss this issue later as a recommendation for future research.

In this case study, the eLC process functioned in many ways as community of practice for SVHS teachers. The practice of teachers involved in the eLC process was closely aligned with Wenger's (1998) description of practice within a CoP. In particular, Wenger's (1998) conceptualization of the duality of participation and reification served as an exemplary model of the ongoing work of the eLC process. In my experience with face-to-face learning communities, reification of communities' practice does not often occur. It is difficult to document and reify the participation of members in a face-to-face learning community. On the contrary, the eLC process provided many structures and tools that made reification a natural part of participation, which is how Wenger (1998) conceptualized the duality of participation and reification. In turn, the duality of participation and reification within the eLC process influenced the practice of teachers, leading to improvement in teaching practices, improvements in courses, and overall improvements in the organization.

There are, however, a few ways in which the eLC process could evolve in order to more closely align with Wenger's (1998) CoP framework. These recommendations are discussed later in this chapter. Specifically, the elements of domain and community revealed areas for adjustment to more closely align the eLC process with the CoP

framework. First, the institutionally-driven nature of the eLC process led to a professional learning system that was contained within the organization of SVHS. To be true to Wenger et al.'s (2002) discussion of domain, eLCs must be connected to others outside of SVHS who share the domain of online secondary teachers. Second, the mandatory nature of the eLC process posed barriers to alignment with Wenger et al.'s (2002) description of domain and community. In a true CoP, the level of engagement is determined by members, as are the focus and direction of the CoP.

Three case study participants described negative experiences with professional development in their face-to-face schools. They described previous professional development experiences, including face-to-face learning communities, as segmented, unproductive, and disconnected from students. On the contrary, the eLC process was described by these teachers as authentic, genuine, accessible, and student-centered. For these teachers, the eLC process served as ongoing, productive professional learning that was focused on improving teaching to increase student learning. While the institutionally-driven nature of the eLC process posed some barriers to alignment with the domain and community elements of the CoP framework, case study participants expressed that the eLC process impacted their practice and connected them to colleagues with which they could collaborate and problem solve. Multiple references were made to improvements in teaching practice as a result of the eLC process, which presumably led to increased student learning. Requiring mandatory participation in the eLC process served to support SVHS teachers and students while also supporting the overall organization. Had SVHS not mandated participation in the eLC process and provided a

consistent structure for ongoing eLC work, I argue that the beliefs and practices of these online teachers, particularly the new online teachers, would have been very different.

Research Question 2: In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices at an established state virtual school?

To address the second research question, I first used Lave and Wenger's (1991) construct known as legitimate peripheral participation, which refers to the participation of new community members as they move toward full participation in the community. This concept served to help me analyze ways in which new eLC members learned effective online practices through eLC membership. Second, I used emergent codes to gather and analyze data related to support for effective online teaching within the eLC process. Findings for answering research question 2 are discussed below within the context of current literature on learning communities and quality online teaching.

Legitimate Peripheral Participation

Of particular interest in this case study was the use of the eLC process to support new SVHS teachers in becoming effective online teachers. A study of disconnection in a virtual school revealed that when K-12 online teachers were left to fend for themselves, they lacked confidence and felt isolated (Hawkins et al., 2012). Hawkins et al. (2012) recommended learning communities as a way to facilitate the transition from face-to-face teaching to online teaching. According to Lave and Wenger (1991), the value of community membership for new members is not in gaining knowledge or skills but in becoming part of the community. The goal, according to Lave and Wenger (1991), is not

learning *from* talk but rather learning *to* talk as a key to legitimate peripheral participation. This distinction highlights the importance of participation within a CoP as a way for new members to become full members. In a review of literature on professional development, technology, and CoPs, Schlager and Fusco (2003) found that teachers learned to be effective by engaging with work from inside practice. The eLC process at SVHS allowed new online teachers to develop their skills as online teachers by engaging with that work from inside the practice of the eLCs. Lave and Wenger (1991) identified six important elements of legitimate peripheral participation, which were used as codes to analyze data in this case study: becoming, access, transparency, conferring legitimacy, talking about practice, and talking within practice.

Alignment with LPP. Findings related to the elements of legitimate peripheral participation (LPP) revealed that access and transparency were particularly important for new eLC members to engage in LPP. Similarly, findings from a mixed methods study found that access to resources through professional development impacted teaching practice (Holmes et al., 2010). Shared practice through online documents and online meeting spaces was accessible to new members and made transparent through regular sharing and discussion of practices and processes. I argue that this level of access and transparency would not have been so readily available for new SVHS teachers without the eLC process. Virtual teachers working for SVHS were separated from each other and their students by distance and time. Gaining access to the practice of other SVHS teachers without the eLC process would have been a challenge. Within the eLC process, new SVHS teachers had access to veteran online teachers and their practice along with

access to resources, opportunities, information, and the organization itself. Each of these types of access was critical for the development of practice for new SVHS teachers who not only were new to online teaching but were also new to this large, complex organization.

Talking about and talking within practice were used by Lave and Wenger (1991) to describe conversations within the shared practice of CoPs. In this case study, more instances of talking within practice were recorded than talking about practice. Lave and Wenger (1991) expressed that talking within practice was the ultimate aim of LPP. Talking about practice often involved SVHS teachers making their practice public by sharing stories and examples during asynchronous and synchronous eLC work. In this case study, talking about practice helped new eLC members learn effective online teaching practices from veteran online teachers. However, it was the talking *within* practice, not talking *about* practice, that played a more significant role in new eLC members' engagement in LPP. Talking within practice represented conversations necessary for the actual work of the eLCs and was evident in discussions related to differentiation in honors level courses, problem solving around issues related to communication and relationship-building, and effective ways to use announcements to celebrate student learning.

Mismatch with LPP. More important than access and transparency but more difficult to observe were the elements of becoming and conferring legitimacy. As described in Chapter IV and discussed later in this chapter, the limited time spent observing the eLC process during the spring of 2014 made it difficult to gather and

analyze data related to the act of becoming. According to Lave and Wenger (1991), the act of conferring legitimacy was more important than teaching within a CoP. That is, it was more important for eLC members to be accepted as fully participating members than to be taught effective practices by veteran eLC members. In the spring of 2014, there was little data to confirm the act of conferring legitimacy from veteran eLC members. Both new teachers participating in this case study expressed during interviews that they felt listened to and respected. However, within the English I eLC, new teacher Cheryl experienced conflict as she attempted to participate as a full eLC member. Her perspective was not valued as a full member due to the differences in perspective between teachers in the semester- and year-long sections of English I. Although instructional leader Amy regularly provided positive feedback and encouragement to new teacher Cheryl through synchronous and asynchronous communication, Cheryl did not receive the same level of support from veteran teachers within the eLC.

Support for Effective Online Teaching

My second research question focused on supporting online teachers in using effective online teaching practices. In order to answer that question, data related to quality online teaching were gathered and analyzed using emergent codes. In this discussion of research question 2, current literature on the characteristics of effective online teaching serves as a lens through which to discuss findings from this case study.

Alignment with quality online teaching. Communication, feedback, differentiation, relationships, and announcements were emergent codes used to describe data related to support for effective online teaching. A review of current literature

revealed that interaction, feedback, and communication were critical areas of effective online teaching practice. Interaction was found to be the most commonly discussed quality of effective online teaching in current literature in the field. The highest percentage of literature related to effective online teaching in K-12 environments was related to interaction between learners and instructors (Cavanaugh et al., 2009). According to Cavanaugh et al. (2009), quality learner-instructor interaction included the use of active learning strategies and providing feedback to students. Journell (2008) found that high school students enrolled in an online history course preferred frequent feedback and frequent interactions with the instructor. Findings from Journell's (2008) study also led to recommendations that online instructors use multiple means of communication, including email, synchronous and asynchronous discussions, and virtual office hours. Kerr (2011) identified effective online teaching practices, including timely and consistent feedback, learner-learner interaction, and clear communication of learning goals. Results from a survey conducted by Hawkins et al. (2013) revealed that an increase in learner-instructor interaction led to increased course completion rates.

As SVHS chief academic officer Donna described in an interview, the eLC process came to be through a conversation about strategies for increasing course completion rates. Interestingly, the three pillars – teaching through communication, teaching through announcements, and teaching through feedback – are in alignment with recommendations from current research about ways to do just that. Through the eLC process, SVHS teachers were supported in maintaining regular communication with students through multiple means and providing timely and descriptive feedback. During

the spring of 2014, eLCs worked to improve their feedback by including real-world connections and maintain documentation of all feedback to students. Also, data gathered during this case study revealed a focus on communication for building relationships and instructing students. Communication and feedback occurred in multiple ways: through daily announcements, text messages, emails, phone calls, and the grading system in the LMS. Further, all teachers maintained a communication journal to document interactions with students. The eLC process supported teachers in how to communicate effectively as well as how to organize documentation. In fact, case study participants admitted that they communicated more frequently with their online students than they did with their face-to-face students.

In theory, the three pillars of quality online teaching at SVHS were aligned with recommendations from researchers in K-12 online teaching. In practice, the eLC process served as a method for instructing and supporting teachers in using effective online teaching practices found to positively impact student learning and course completion in current literature.

Mismatch with quality online teaching. A comparison of findings from this study and current research literature revealed that one type of interaction was missing case study data: learner-learner interaction. Findings from this study revealed that SVHS valued learner-instructor and learner-content interaction, particularly evident in the three pillars. However, the eLC process did not emphasize learner-learner interaction. Kerr (2011) conducted a multiple case study of three online high schools. Findings revealed three key qualities of effective online instruction: timely and consistent feedback, learner-

learner interaction, and clear articulation of learning goals. Other studies revealed a focus on learner-learner interaction for quality online teaching (Garrison et al., 2000; Journell, 2008; Rovai, 2001), although findings from these studies were mixed. In studies conducted in K-12 and higher education settings, interaction between learners and the instructor was found to be more important than learner-learner interaction (Herring & Clevenger-Schmertzling, 2007; Journell, 2008; Rovai, 2001). However, findings from Kerr's (2011) K-12 study confirmed the importance of learner-learner interaction, although learner-instructor interaction may be more important (Herring & Clevenger-Schmertzling, 2007; Journell, 2008). Whether or not SVHS students interacted with one another in their online courses was not explored in this case study. However, learner-learner interaction was not emphasized through the eLC process nor was it included in the three pillars.

Summary of The eLC Process as Support for New and Veteran Online Teachers

Through the lens of legitimate peripheral participation, eLCs can serve as a process for providing new online teachers with access to and transparency of resources, the opportunity to talk about and within practice, and the chance to become fully participating members through the conferring of legitimacy from veteran members. This is particularly so at SVHS, where the 18-week orientation and practicum served as a way to orient new online teachers to the organization, to their learning communities, and to effective online teaching practices. In my pilot study in the fall of 2013, I found the new online teacher orientation to be in alignment with current research on recommendations for preparing new online instructors for quality online instruction. Following

participation in the orientation, the eLC process was available (and required for all SVHS teachers) to provide continued support and a sense of belonging for new online teachers. However, the reality was that the act of becoming and learning to talk through legitimate peripheral participation were not found to be abundantly evident in the eLC process in the spring of 2014. As I have mentioned before and will discuss later in this chapter, the 12-week data collection window limited my ability to gather data related to the notion of becoming as well as the act of conferring legitimacy, both of which are critical for new community members to move toward full participation. The data that were gathered actually suggested that the eLC process may not be the most effective way to confer legitimacy on new online teachers.

Wenger et al. (2002) warned that the strengths of a CoP, such as the shared repertoire developed over time to serve historical and future purposes, could act as barriers to new ideas and new members. In the case of the SVHS eLC process, the shared history of the English I eLC limited the ability of new teacher Cheryl to become a fully participating member and feel a sense of belonging as a new online teacher for SVHS. This is not to say that eLCs cannot function as a structure for legitimate peripheral participation; however, case study findings suggested that the shared repertoire of the eLC process posed a barrier to LPP. The eLC process was, however, a good structure for providing new online teachers access to resources, including exemplary teaching practices, organizational resources, and key people within the organization. Membership in the eLC process also provided new online teachers with the ability to talk

about and talk within practice while learning from veteran members' talk, which served to help new and veteran online teachers improve their practice.

I also argue that the eLC process served as a better support for veteran online teachers than it did for new online teachers. Veteran eLC members, who were familiar with the shared repertoire and ongoing joint enterprise of the community, already felt a sense of belonging to their respective eLCs. These veteran online teachers did not depend on others to confer legitimacy. The time they had invested already in the shared practice of the eLC provided them with the legitimacy that was needed by new online teachers but not received. As veteran SVHS teachers engaged in ongoing work within the eLC process, they continued to strengthen their relationships and build trust with teammates. These veteran teachers had proven themselves time and again through weekly and monthly eLC work, while only a handful of these opportunities had been made available to new eLC members. While the eLC process was supportive for veteran SVHS teachers, according to the elements required for LPP, it was in some ways supportive for new eLC teachers but lacking in other ways.

Implications for Practice

Findings from this case study revealed implications for electronic learning communities for new and veteran online teachers. This case study used the CoP framework to analyze data gathered during the eLC process at SVHS. Therefore, these implications are grounded in the CoP framework as a structure for electronic learning communities. As discussed in more detail below, the CoP framework can serve useful

theoretical and practical purposes for eLCs. However, there are ways in which eLCs may function more effectively apart from the CoP framework.

First, in order for the SVHS eLC process to be more closely aligned to the CoP framework, the eLC process should serve to connect SVHS teachers to the broader community of online secondary teachers. The domain of the eLC process could potentially be strengthened by connections with others outside of SVHS in multiple ways. Crossing eLC boundaries to connect with others could provide a way for the eLCs to stay current with topics and issues in the broader domain. From this viewpoint, eLC members and SVHS alike would benefit from connecting the eLC process to others within the domain but outside of the organization. While SVHS used the eLC process for SVHS-specific data, expectations, and processes, connections to the work of others in the domain could maintain a sense of relevancy within the eLC process. Further, the barriers posed by the historical nature of the eLC process could be lessened by strong connections between the eLCs and others outside of SVHS. That is, a continuous relationship with others within the domain but outside of SVHS could serve to reduce the dangers of a strong shared repertoire and help the eLCs to maintain a sense of openness to diverse perspectives. These connections could be made through supporting and encouraging eLC members to participate in professional organizations and external professional learning opportunities with the expectation that they would bring new ideas back to the eLCs.

A second implication that arose from findings within to the domain of the eLC process is related to a focus on content, pedagogy, and technology. Findings from this case study and recent research studies on professional learning for online teachers

revealed that a balance of content, pedagogy, and technology support are needed (Ferdig et al., 2009; Journell et al., 2013; Kennedy & Archambault, 2012a). I make the recommendation that eLCs for online teachers use the TPCK framework to guide the work of course development and teaching practice. Harris, Mishra, and Koehler (2009) recommended using what is referred to as “activity types” to build teachers’ TPCK. They argued that the activity types approach can help teachers authentically and successfully integrate technology as well as increase flexibility and fluency with pedagogy, technology, and content. Activity types were based on Shulman’s (1986) conceptualization of pedagogical content knowledge and Mishra and Koehler’s (2006) TPCK framework. For example, an activity type in the secondary English framework is sequencing, which involves students sequencing their ideas as a pre-writing strategy. Technologies available for sequencing include word processing software, mind-mapping software, and storyboarding software. The activity types approach reinforces the notion that tools cannot be removed from content and learners. The use of the activity types framework could be particularly useful in the eLC process, since findings revealed a lack of focus on content knowledge. Instructional leaders and course leads were assigned to lead eLCs based on their areas of expertise and the courses they had previously taught. Therefore, these instructional leaders and course-specific eLC leaders, who had developed their own content knowledge, an understanding of effective online teaching practices, and technological skills, would arguably be qualified to facilitate eLC work focused on developing teachers’ TPCK through the activity types model.

In order to maximize the value of the eLC process for LPP while avoiding barriers to LPP, additional supports may be needed. Marek (2009) found that an established mentor program could provide the support online teachers need. Likewise, Eliason and Holmes (2010) found that formal mentoring programs can provide systematic and consistent support, particularly in the early stages of online teaching. Supplementing the eLC process with a mentoring program may compensate for the difficulty posed by the history and traditions developed within an eLC over time. As recommended by current researchers, an established mentoring program can reduce isolation and provide support for new online teachers (Eliason & Holmes, 2010; Marek, 2009). A mentor could provide the much-needed conferring of legitimacy for new online teachers and facilitate the development of a sense of belonging, while the eLC process offers support such as access, transparency, and talking about and within practice. Where the eLC process or a mentoring system alone may not be able to provide all of the needed support for new and veteran online teachers, a combination of eLCs and mentoring could accommodate for the weaknesses and potential pitfalls of each process.

Although SVHS did not include the CoP framework in their planning and implementation of the eLC process, Wenger's (1998) framework could serve as a model to guide the work of the eLC process and a tool for ongoing assessment and evaluation of the process. Further, the CoP framework could provide theoretical and practical support for self-initiated and institutionally-driven eLCs. For self-initiated eLCs, the CoP framework could serve to provide a system of checks and balances. One challenge of maintaining CoPs lies in balancing the three necessary elements of domain, community,

and practice. If an eLC were to spend a substantial amount of time and energy on developing and maintaining community, for example, at the exclusion of addressing topics and problems of importance to members, the eLC could cease to serve a purpose for members. I argue that the CoP framework could help eLC leaders and members evaluate their work in each of the three areas, identifying strengths and gaps and devising solutions to identified areas of need. For institutionally-driven eLCs, Wenger et al.'s (2002) recommendations and strategies for supporting and maintaining effective eLCs could be particularly useful. The support strategies used in this case study to analyze data related to the institutionally-driven nature of the eLC process could serve to increase the likelihood that true reciprocity exists in the eLC process, whereby community members and the organization find value in the eLC process.

Those involved in planning, leading, and facilitating eLCs should beware potential pitfalls of working as a CoP, including a strong identity and shared repertoire, which can be a barrier to new ideas and new members, even if it is not their goal. To meet this need, the CoP framework could serve as a protocol for guiding and evaluating the work of the eLC. It may benefit eLCs and organizations such as SVHS to determine which aspects of the CoP framework, if any, they value for their organizational purposes. Those elements that are prioritized can then be implemented and assessed according to guidelines from Wenger et al. (2012), while other areas of the framework can be revised to meet the needs of the organization and its members.

For instance, while I do not believe veteran online teachers purposefully held new online teachers at arm's length to prevent them from moving toward full membership,

findings revealed that this was an unintentional effect of the shared repertoire of the eLC process. This could potentially be avoided by talking openly about the strengths and pitfalls of working as a CoP and using the CoP framework to evaluate the ongoing work of the eLC process. Honest conversations among all eLC members about potential consequences as well as strategies to avoid pitfalls could serve to help eLCs remain open while also maintaining their sense of identity and building on the strengths evidenced by the communities' histories. As discussed previously, maintaining open connections between the eLC process and others outside of the eLC process, such as professional organizations, could also serve in this way.

The institutionally-driven, mandated nature of the eLC process served as a barrier to alignment with the CoP framework while also acting as a strength of the professional learning system at SVHS. While the institutionally-driven nature of the eLC process meant that the direction and focus of the eLC process were more often than not selected outside of the eLCs themselves, mandatory participation in the eLC process provided new and veteran online teachers with support where it may not have existed otherwise. In this way, mandatory participation acted as a strength of the institutionally-driven eLC process at SVHS. Had SVHS left the eLC process to chance, allowing teachers to opt in or out and negotiate their own levels of engagement, it is not difficult to imagine how the eLC process would have been different than observed in the spring of 2014. Leaders at SVHS had a vision for a professional learning structure that would support all teachers while improving the overall quality of teaching and learning at SVHS. Mandatory eLCs were the answer, and data suggest that the eLC process is serving that purpose.

Further, the institutionally-driven nature also allowed the eLC process to concurrently offer value to the organization itself. The argument can be made that the supports provided the eLC process by SVHS, which were recommended by Wenger et al. (2002), allowed the institutionally-driven nature of the eLC process to act in more positive than negative ways in regards to the CoP framework. That is, the use of strategies such as valuing the work of eLCs, removing barriers, and connecting the eLC process to the organizational strategy served to facilitate alignment with the CoP framework and overcome some of the potential disadvantages of an institutionally-driven eLC process. Therefore, I recommend that organizations follow guidelines from Wenger et al. (2002) to provide support for eLCs, including valuing the work of eLCs, creating time and space, removing barriers, encouraging participation, and connecting the eLCs to the organization's strategy.

One final recommendation is related to the selection of topics and issues for eLC work. Historically, curriculum and instruction leaders selected topics for the monthly eLC focus. However, during the spring of 2014, eLCs were allowed to select their own topics for one month of eLC work. This proved to be a decision that tightened the alignment of the eLC process with the CoP framework by allowing eLCs to direct and own their learning. Findings revealed that when eLCs were allowed to choose their own topics, each eLC engaged in work that was aligned to the overall focus of the eLC process and the organizational strategy. I believe that if SVHS were to continue to provide regular opportunities for eLCs to direct their own work, this pattern would continue, maintaining connections between the eLC process and the organizational

strategy while allowing each eLC to be a true CoP, in which the work of each community exists at the intersection of the goals of the organization and the passions of its members.

Recommendations for Practitioners

Recommendations for organizations implementing eLCs. Provide opportunities for connecting the eLC process with professional organizations and professional learning opportunities outside of the organization. This could include providing funding for attendance at regional and national conferences, purchasing subscriptions to print or online publications, and providing access to online resources made available via professional organizations.

Design professional learning focused on the TPCK framework to help online teachers make choices about pedagogy and technology that are appropriate for their content. This professional learning could include opportunities for teachers to become familiar with the activity types taxonomy. This taxonomy takes a practical approach to the TPCK framework and makes content-specific decision-making about pedagogy and technology more accessible.

Implement a mentor program to support new online teachers. The mentor program can serve as a supplement to the eLC process by matching new online teachers with veteran online teachers. Mentees should be given regular opportunities to interact with their mentors, synchronously and asynchronously. The mentor program can provide new online teachers a safe space to ask questions, seek information, and gain confidence in their own practice. Due to the potential pitfalls of shared repertoire within eLCs, it

may be helpful if the new and veteran online teachers within a mentor/mentee partnership belong to different eLCs.

Build a culture of celebration. To overcome barriers due to separations in distance and time, community-building must be an intentional component of the eLC process. Professional learning opportunities could be provided to help eLC facilitators develop skills and processes for community-building within the eLC process. Further, during organization-wide synchronous and asynchronous interactions, organization leaders can model community-building efforts.

Use a framework to guide and evaluate the eLC process. Organization leaders can collaborate to select and adapt a framework, such as the communities of practice framework, in order to ensure a consistent and systematic approach to the eLC process across the organization. Each organization should adapt the selected framework to meet the specific professional learning needs of its teachers. The revised framework can then be used to monitor and evaluate eLC implementation.

Recommendations for eLC facilitators. Create a protocol for considering new perspectives and ideas that may run counter to the community's history. When a new or divergent idea is brought to the group, a protocol can be used to ensure that the idea is fairly considered and discussed. For instance, the protocol could include adding the idea to a shared document and providing time for each eLC member to weigh in on the idea. After ample time has been provided for thoughtful reflection, the idea could then be discussed in a synchronous eLC meeting.

Ensure that decisions about pedagogy and technology are made in the context of discipline-specific content. Using the TPCK framework, eLC facilitators can help teachers make a good match between content, pedagogy, and technology. When online teaching practices and technologies are shared or discussed, eLC facilitators can focus the discussion on weaving together content, pedagogy, and technology. Further, eLC facilitators can utilize the activity types taxonomy to facilitate content-specific decision-making about teaching practices and technology.

Be explicit about modeling effective online teaching practices through eLC participation. Through synchronous and asynchronous participation, the eLC process can model what effective online teaching looks like. For example, the eLC process provides opportunities for interaction and community-building, both of which are research-based practices for effective online teaching. Facilitators within the eLC process can be explicit in modeling effective practices and helping eLC members reflect on ways to apply those practices to their own teaching.

Create opportunities for eLC members to share personal and professional celebrations. Synchronous and asynchronous interactions can include time and space for celebration, leading to a culture of celebration and contributing to community-building within the eLC. Additionally, eLC facilitators should intentionally work to build a personal relationship and establish trust with each eLC member through emails, instant messages, cards, and phone calls.

Use shared documents to maintain artifacts of eLC participation, which can serve historical and future purposes for the eLC. Create purposeful opportunities for reviewing

past eLC work and setting goals for future eLC work. The facilitator could also provide feedback on ideas shared by eLC members via shared documents to model effective use of feedback.

Limitations of this Case Study

One limitation of this case study arose from the selection of participants. An SVHS employee who was responsible for working with external researchers selected the eLCs and participants for this study. During the spring of 2014, there were several researchers studying different aspects of SVHS. Therefore, the SVHS research coordinator worked to ensure that teachers were not asked to take on a lot of additional time commitments by participating in multiple research studies. I originally set out to study one eLC with at least two new members and two veteran members. The research coordinator could not identify such an eLC for me, so I worked with multiple eLCs in order to obtain the participants I needed: two new eLC members, two veteran eLC members, and two eLC leaders. Additionally, the individual participants for my study, other than the chief academic officer, were selected for me by the SVHS research coordinator. I had hoped to recruit participants by sending out a recruitment email. However, with the multiple studies occurring during the spring 2014 semester, the six participants listed above were selected for me. This poses a limitation to this study, since these participants may not be representative of the rest of the population of SVHS teachers and leaders. These participants may have been selected because they demonstrated positive traits that were recognized by the research coordinator, therefore skewing my data. Additionally, there may have been members of these eLCs who would

have been interested in participating and had insights to share but were not given the opportunity to do so.

Another limitation related to participant selection existed in the selection of veteran teachers. I hoped to interview two veteran eLC members and two instructional leaders, envisioning that the roles of the veteran members would be that of participant while the roles of the instructional leaders would be that of eLC facilitator. However, the two veteran eLC members selected for me were both course leads, which meant they were responsible for facilitating the work of their respective eLCs. This leadership role taken on by both veteran teacher participants provided a limited perspective for my data, leaving the typical veteran teacher's perspective missing from this study.

As mentioned previously in Chapter IV, the limited time spent observing the eLC process was a limitation to this study. Data were gathered during twelve weeks of one semester, although the eLC process has been ongoing since 2010. While this case study provides a glimpse into the nature of the eLC process, twelve weeks is not enough time to truly determine alignment with the CoP framework. Additionally, twelve weeks was not long enough for me to gather data related to new eLC members' journeys toward becoming fully participating members. In order to explore issues related to identity and trajectories within the eLC process, a longitudinal study would be needed, and perhaps different interview questions, observation protocols, or data analysis methods. Further, the statewide honors portfolio mandate to which SVHS responded during these twelve weeks posed a limitation to my findings. Out of necessity, the eLC process was used to engage in work related to the mandatory honors portfolio. Without this mandate, I may

have been able to observe more SVHS-specific eLC work in the place of the work related to the state initiative.

Finally, my own biases posed limitations to this case study. My past experiences with online learning and learning communities were a lens through which I observed the eLC process during the spring of 2014. Through my experiences and my research, my bias is that professional learning experiences can impact the quality of online teaching, particularly through a learning community approach. To guard against my biases and minimize limitations, I gathered multiple perspectives, used techniques such as triangulation and member checking to validate findings, and grounded data collection and analysis firmly in current research literature, particularly related to the CoP framework. At the recommendation of my committee, I also maintained a research journal throughout this case study, writing entries frequently throughout the process of collecting and analyzing data. The journal and the use of NVivo, a computer-assisted qualitative data analysis program, served as an audit trail, providing documentation of decisions made, questions asked, and reflections on my findings. Rich descriptions, presented in vignettes throughout Chapter IV, also served to minimize limitations posed by my biases. These vignettes presented thick descriptions of the data, which served to help readers reach their own conclusions.

Recommendations for Future Research

Findings and limitations from this case study led to several recommendations for researchers interested in exploring electronic learning communities. These recommendations include: 1) ground research in a theoretical framework; 2) determine

effective teaching practices in K-12 online environments; 3) determine effective practices for preparing and supporting K-12 online teachers; 4) use design research to improve educational practice; 5) design longitudinal studies; 6) employ multiple case study methods; and 7) explore the impact of eLC participation on online teaching practice. Each of these recommendations is described in more detail below.

Ground Research in a Theoretical Framework

First, the use of the CoP framework served to ground this study in research and provided a useful structure for organizing and analyzing data. I encourage researchers to use a theoretical framework as the foundation of future studies exploring eLCs, and I recommend the CoP framework as one possibility. In this case study, I used the CoP framework to design research questions, structure the data collection process, create processes for data analysis, and interpret my findings. This consistency grounded my findings in a strong theoretical foundation, which is needed in current and future research. Having such a framework also exposed findings that were either a match to the theory or not a match, thus revealing in this case how the eLC process at SVHS was and was not like a community of practice according to Wenger (1998).

Determine Effective Teaching Practices in K-12 Online Environments

While the majority of research on effective online teaching was conducted in higher education settings, there is a newer and still growing body of research on K-12 online teaching. However, much of the existing research on K-12 online education compares student achievement in traditional and online settings (Barbour, 2010; Bernard et al., 2004). There are problems with much of this research base due to low retention

rates in online courses and lack of consistency in measuring and reporting findings. Nevertheless, it has been established that effective teaching has less to do with the medium and more to do with the instructor, the learner, and strategies used (Barbour, 2010; Bernard et al., 2004; Journell et al., 2013; Rice, 2006). It follows, then, that researchers should focus more on identifying effective online teaching and learning strategies and less on comparing traditional and online education (Barbour, 2010). Cavanaugh et al. (2009) identified the establishment of best practices for online teaching as the most pressing need for future research. We have seen that learner-instructor and learner-learner interaction are essential components of effective K-12 online learning environments (Cavanaugh et al., 2009; Hawkins et al., 2013; Kerr, 2011). What is needed is research into the types of interaction that are most effective and best practices for interaction in K-12 online environments (Cavanaugh et al., 2009).

Determine Effective Practices for Preparing and Supporting K-12 Online Teachers

Furthermore, in order to support K-12 online teachers in using best practices and supporting student learning, researchers need to determine effective practices for training and supporting K-12 online teachers. Teacher education programs are failing to prepare pre-service teachers for their potential future work as online teachers (Barbour et al., 2013; Journell et al., 2013; NEA, 2006). Research is needed to facilitate the shift in teacher education toward preparation for K-12 online educators and to support schools, districts, and state programs in providing effective professional development to online teachers (NEA, 2006). This study adds to that body of research, but more is needed.

Use Design Research to Improve Educational Practice

Perhaps more important than the content of future research is the design, implementation, and reporting of this research (Barbour, 2010). According to a review of the research on K-12 online learning conducted by Barbour (2010), most current literature in the field of K-12 online education has been based on personal experiences rather than systematic research. One of the leading researchers in the field, Michael Barbour (2010) recommended that researchers use a design research approach to conduct research in K-12 online education settings. Design research is a methodology that is systematic yet flexible enough to be practical for dynamic K-12 online environments. The purpose of design research is to improve educational practice through a cycle of analysis, design, development, and implementation conducted collaboratively among researchers and practitioners in authentic settings. Through design research, researchers and practitioners work together to identify problems then design, implement, and test possible solutions. This process is repeated until solutions are designed which address the problems. Finally, the researcher and practitioners generate a theory to explain why the solutions were effective. In contrast to traditional research, the goal of design research is not to generalize findings to other settings but to collaborate with members of the research site to solve their problems (Barbour, 2010). This change in research methodology is needed to provide design recommendations for effective K-12 online teaching and learning environments (Barbour & Reeves, 2009).

Design Longitudinal Studies

As I have previously discussed, a longitudinal study would be useful for researchers interested in how new eLC members move toward full membership. A longitudinal study would also allow researchers to explore the concepts of identity, belonging, and movement through trajectories within CoPs. Further, spending a longer amount of time observing electronic learning communities would provide a richer picture of eLCs within the CoP framework, or another theoretical framework selected by the researcher. Case studies such as this one could provide a framework and a starting point for such longitudinal studies.

Employ Multiple Case Study Methods

A case study approach worked well in this study, allowing me to use multiple qualitative data collection methods, including interviews, observations, and document analysis. A strength of case study is that this methodology allows the researcher to explore a case in its everyday context (Stake, 1995; Yin, 2014). Based on findings from this case study, the field of research into eLCs for online teachers would benefit from a multiple case study approach. Multiple cases could represent different eLCs within a single organization, such as SVHS, or multiple eLC processes across different organizations. For instance, a multiple case study approach could be used to explore an organization with an eLC process and another organization with a combination of support including eLCs and mentoring. Additionally, a multiple case study approach would allow researchers to select multiple online teachers as cases, exploring their professional learning and growth as online instructors. A longitudinal multiple case study could

follow multiple teachers through their journeys toward becoming online teaches and fully participating eLC members.

Explore the Impact of eLC Participation on Online Teaching Practice

Finally, one important issue that was not explored in this case study was the impact of online teachers' participation in the eLC process on their teaching. Future research could explore the impact of eLC participation on online teaching practice, providing insight for eLC leaders and teachers. A study such as this would require the researcher(s) to dig deeper than the eLC process, gaining access to courses and students. To best explore the impact of eLC participation on online teachers' practice, a longitudinal study would again be useful. Research could observe eLC participation and online teaching practice over time, exploring the relationship between the two. Studies seeking to understand how eLCs impact online teaching practice could offer valuable recommendations to online teachers, online schools, teacher educators, and those tasked with providing professional learning opportunities for online teachers.

Conclusion

The purpose of this case study was to explore how the electronic learning community process at SVHS supported and prepared new and veteran online teachers for quality online teaching. Wenger's (1998) communities of practice framework provided a theoretical lens through which to explore the structure and nature of the eLC process. Findings revealed that the eLC process functioned in many ways as a CoP, although there existed gaps and areas for improvement in order to more closely align the eLC process with the CoP framework. Specifically, the eLC process embodied Wenger's (1998)

notion of the duality of participation and reification within a CoP. The institutionally-driven nature of the eLC process both supported and limited the professional learning of teachers, providing access to and transparency of critical resources while also limiting the connection of eLC members to the broader domain of online secondary teachers.

Implications from this case study can guide the work of practitioners in K-12 online learning environments, those tasked with designing, facilitating, and participating in electronic learning communities, and researchers interested in exploring eLCs as a way to support online teachers.

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APPENDIX A

NEW ONLINE TEACHER INTERVIEW PROTOCOL

1. How old are you?
2. How many years have you taught in face-to-face classrooms?
3. Have you previously taught online courses?
4. Do you currently teach in a face-to-face classroom?
5. Tell me about your online learning experiences.
6. Tell me about your experience as an online teacher for NCVPS.
7. Tell me about your experience as a member of an eLC.
8. How is the eLC process structured at NCVPS?
9. Have you participated in a face-to-face learning community? If so, how is participation in the eLC similar to or different from participation in a face-to-face learning community?
10. How do you think the eLC process looks to an outsider?
11. What are the areas of focus of your eLC?
12. What types of support are available to you through membership in the eLC?
13. What is expected of you as an eLC member?
14. Would you say that members of your eLC share similar goals and values?
15. How do you participate in the eLC? In what ways are you involved?
16. What would you say is your place in the eLC? Would you describe yourself as a core member, someone more on the edges, or somewhere in between?

17. Do you believe that new and veteran teachers experience the eLC in the same way or differently? Please explain.
18. What expectations do eLC members have of each other?
19. How do you communicate with other members of your eLC?
20. Tell me about relationships. How long have you been a member? What kinds of relationships have you developed with other members? How have those relationships changed over time?
21. How do you see people in your eLC working together?
22. How would you describe the community of your eLC?
23. How would you say your own practice has changed, or not, as a result of being a member of an eLC?
24. Is there anything else you would like to tell me about your role at NCVPS?

APPENDIX B

VETERAN ONLINE TEACHER INTERVIEW PROTOCOL

1. How old are you?
2. How many years have you taught in face-to-face classrooms?
3. How many years have you taught online? Has all of that experience been at NCVPS?
4. Do you currently teach in a face-to-face classroom?
5. Tell me about your online learning experience.
6. Tell me about your experience as an online teacher for NCVPS.
7. Tell me about your experience as a member of an eLC.
8. How is the eLC process structured at NCVPS?
9. Have you participated in a face-to-face learning community? If so, how is participation in the eLC similar to or different from participation in a face-to-face learning community?
10. How do you think the eLC process looks to an outsider?
11. What are the areas of focus of your eLC?
12. What types of support are available to you through membership in the eLC?
13. What is expected of you as an eLC member?
14. Would you say that members of your eLC share similar goals and values?
15. How do you participate in the eLC? In what ways are you involved?

16. What would you say is your place in the eLC? Would you describe yourself as a core member, someone more on the edges, or somewhere in between?
17. Do you believe that new and veteran teachers experience the eLC in the same way or differently? Please explain.
18. What expectations do eLC members have of each other?
19. How do you communicate with other members of your eLC?
20. Tell me about relationships. How long have you been a member? What kinds of relationships have you developed with other members? How have those relationships changed over time?
21. How do you see people in your eLC working together?
22. How would you describe the community of your eLC?
23. How would you say your own practice has changed, or not, as a result of being a member of an eLC?
24. Is there anything else you would like to tell me about your role at NCVPS?

APPENDIX C

INSTRUCTIONAL LEADER INTERVIEW PROTOCOL

1. How old are you?
2. How many years have you taught in face-to-face classrooms?
3. How many years have you taught online? Has all of that experience been at NCVPS?
4. Do you currently teach in a face-to-face classroom?
5. Tell me about your online learning experience.
6. Tell me about your experience as an online teacher for NCVPS.
7. Tell me about your experience as an instructional leader at NCVPS.
8. How would you describe your role as the eLC leader?
9. How is the eLC process structured at NCVPS?
10. How do you communicate with the members of your eLC?
11. What is expected of you as an eLC leader?
12. What preparation did you receive in order to be an instructional leader?
13. How would you describe the community of your eLC?
14. Would you say that members of your eLC share similar goals and values?
15. You described the eLC process from your perspective. How do you think an eLC member would describe the eLC process?
16. How do you think the eLC process looks to an outsider?
17. What expectations do eLC members have of each other?

18. How would you say your own practice has changed as a result of being an instructional leader?
19. In what ways is your role different for new online teachers and experienced online teachers?
20. Tell me about the similarities and differences you see in new and veteran teachers participating in the eLC.
21. Tell me about the teacher evaluation process at NCVPS.
22. Is there anything else you would like to tell me about your role at NCVPS?

APPENDIX D

CHIEF ACADEMIC OFFICER INTERVIEW PROTOCOL

1. Tell me about your experience with electronic learning communities.
2. What is an electronic learning community?
3. What is the purpose of the eLCs?
4. How well do you believe the eLCs are serving that purpose?
5. How did the eLC process originate?
6. How are the eLCs structured?
7. Who facilitates eLCs?
8. What preparation and support is available for eLC leaders?
9. How are eLC focus topics selected?
10. How are eLC procedures communicated to eLC leaders and members?
11. How do you think an eLC member would describe the eLC process?
12. How do you think the eLC process looks to an outsider?
13. How would you describe the community of an eLC?
14. Would you say that members of eLC share similar goals and values?
15. What expectations do eLC members have of each other?
16. Do you feel like the eLC experience is different for new online teachers versus veteran online teachers?
17. How do teachers respond to the eLC process? What sort of feedback have you received?

18. How does the eLC process build on what new teachers learn during the induction?
19. What are future goals for the eLC process?
20. Are there any areas of improvement for the eLC process?
21. How would you say your own practice has changed as a result of being the CAO?
22. Is there anything else you would like to tell me about your role at NCVPS?

APPENDIX E
OBSERVATION PROTOCOL

Observations will be conducted during three synchronous meetings of one electronic learning community at NCVPS. Each synchronous meeting will be archived and transcribed. Throughout each synchronous meeting, the researcher will focus on the study’s research questions. The following observation protocol will be used to take notes during each synchronous meeting.

Research Question 1a: In what ways is the electronic learning community aligned with the communities of practice framework?

CoP Framework	Evidence	Researcher’s Thoughts
Domain: Topics and issues		
Domain: Questions		
Domain: Shared Understandings		
Community: Mutual Engagement		
Community: Joint Enterprise		
Community: Shared Repertoire		
Practice: Participation		
Practice: Reification		
Practice: Duality		

Other / Outlier

Research Question 1b: In what ways does the institutionally-driven nature of the electronic learning community influence its relationship to the communities of practice framework?

Institutional Factors	Evidence	Researcher's Thoughts
Connect to Strategy		
Create Time and Space		
Encourage Participation		
Remove Barriers		
Value eLC Work		
Other / Outlier		

Research Question 2: In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices at an established state virtual high school?

Legitimate Peripheral Participation	Evidence	Researcher's Thoughts
Becoming		
Access		
Transparency		

Conferring Legitimacy

Talking About Practice

Talking Within Practice

Other / Outlier

APPENDIX F

FREQUENCY OF CODES BY RESEARCH QUESTION

Table 19
Frequency of Codes for Research Question 1a: In what ways is the electronic learning community process aligned with the communities of practice framework?

Category	Code	Example from Data	Frequency
CoP element: Domain	Topics & issues	English I eLC chose to focus on celebrating student work through daily announcements in February	92
CoP element: Domain	Questions	Weekly reflection questions held teachers accountable for discussing and reflecting on monthly topics	52
CoP element: Domain	Shared understandings	The three pillars of quality online teaching at SVHS represented shared understandings	21
CoP element: Community	Mutual engagement	eLC members maintained frequent contact with one another via email, phone, text, and Moodle messages	51
CoP element: Community	Joint enterprise	Weekly reflections and synchronous meetings facilitated the negotiation of action steps	74
CoP element: Community	Shared repertoire	Shared documents provided historical archive and direction for future eLC work	19
CoP element: Practice	Participation	eLC members brainstormed suggestions for course revision as they worked through honors portfolio process	81
CoP element: Practice	Reification	Weekly reflection documents included evidence of ongoing eLC work	31
CoP element: Practice	Duality of participation & reification	Honors portfolio process facilitated the gathering of evidence and discussions about course revision	20

Table 20

Frequency of Codes for Research Question 1b: In what ways does the institutionally-driven nature of the electronic learning community process influence its relationship to the communities of practice framework?

Category	Code	Example from Data	Frequency
Institutional factor	Value eLC's work	Regular recognition and celebration of effective teaching practices in synchronous meetings	25
Institutional factor	Create time and space	Shared documents and synchronous online meeting rooms provided space for eLCs to engage in ongoing work	24
Institutional factor	Encourage participation	Participation was mandated for all teachers, while opportunities for increased engagement were provided	20
Institutional factor	Remove barriers	Frequent opportunities were provided for interaction among eLC members	16
Institutional factor	Connect eLC to organizational strategy	Separate focus for AP eLCs during spring 2014 due to recently collected data from AP courses	52

Table 21

Frequency of Start Codes for Research Question 2: In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices at an established state virtual high school?

Category	Code	Example from Data	Frequency
LPP	Becoming	One new online teacher expressed feeling listened to and respected by eLC members	12
LPP	Access	Leaders within SVHS were available to eLC members during synchronous meetings	10
LPP	Transparency	Instructional leader made an effort to make sure new teachers understood purposes behind decisions	18
LPP	Conferring legitimacy	New eLC members received positive feedback from instructional leaders in weekly reflections and synchronous meetings	12
LPP	Talking about practice	eLC members shared their successes and stories of communication with particular students during a synchronous meeting	7
LPP	Talking within practice	Discussion of new expectations for communication journal during a synchronous meeting	15

Table 22

Frequency of Emergent Codes for Research Question 2: In what ways does the electronic learning community process support new and veteran online teachers in using effective online teaching practices at an established state virtual high school?

Code	Example from Data	Frequency
Improve teaching	Interview participants described specific ways their teaching had improved due to the eLC process	43
Communication	Veteran teachers shared effective practices for communicating with students during a synchronous meeting	39
Feedback	eLCs created shared documents to share real-world feedback with one another	26
Differentiation	eLCs brainstormed ways to differentiate work in standard and honors level courses	24
Relationship(s)	One eLC set a goal to build relationships with students and distributed a survey to gather feedback from students	21
Announcement(s)	eLCs used shared documents to revise announcements to include real-world connections and web 2.0 tools	18