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Electronic Learning Communities as a Support for Building Relationships with Students in a Statewide Virtual High School

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This qualitative case study used Wenger's (1998) communities of practice (CoP) framework to analyze how the ongoing electronic learning community (eLC) process at an established state virtual high school (SVHS) supported online teachers in building relationships with online students. 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. 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. Findings from this study suggest that online instructors should be given opportunities to build community and develop relationships with one another through repeated, ongoing collaboration. To overcome barriers due to separations in distance and time, community-building must be an intentional component of the eLC process. The eLC process provided teachers with opportunities to improve teaching in order to increase support for student learning.

INTRODUCTION

While there has been exponential growth in K-12 online learning, there exists a lack of research into best practices for K-12 online teaching and preparation for online instructors (Barbour, 2016; Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009). Specifically, the research base in K-12 online schooling leaves a gap in pedagogy and preparation for successful K-12 online teachers (Barbour, M. K., 2016; Ferdig, Cavanaugh, Dipietro, Black, & Dawson., 2009). Mayes, Luebeck, Ku, Akarasriworn, and Korkmaz (2011) argued that interaction among instructors and students is more important in online settings due to the separation in time and place. 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). In fact, the International Association for K-12 Online Learning (iNACOL) Standards for Quality Online Teaching stated that effective online instructors build community among course participants within a student-centered environment (iNACOL, 2011).

Despite the importance of interaction in online settings, designing and maintaining interactive online learning environments may be more difficult than in traditional classrooms. Successful online programs prepare 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). Research has found that student success increases in online courses that are interactive and flexible, providing multiple opportunities for learner-learner, learner-content, and learner-instructor interaction. However, many online instructors report receiving little to not support in designing these types of online environments (Hawkins, Graham, & Barbour, 2012; Ray, 2009).

Electronic learning communities (eLCs) can offer teachers a common language for communicating about teaching and learning (Chen, Chen, & Tsai, 2009). An eLC 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). The establishment of a support network for online teachers is key to sustained professional learning and can positively impact the quality of instructional support and increase student learning in traditional and virtual settings (Vescio, Ross, & Adams, 2008). According to a study of 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 (Duncan-Howell, 2010). Participation in electronic learning communities can provide opportunities for interaction and community-building, both of which are

research-based practices for effective online teaching (Cavanaugh, Barbour, & Clark, 2009; Hawkins, Graham, Sudweeks, & Barbour, 2013). Modeling adult learner support through eLCs may help online teachers implement strategies for supporting K-12 online learners. However, little research has examined ways that structures for online teacher support impact the quality of online instruction.

The purpose of this case study was to explore how the electronic learning community (eLC) process at an established state virtual high school (SVHS) supports online teachers in developing relationships with students. Wenger's (1998) Communities of Practice framework and, more specifically, Lave and Wenger's (1991) social apprenticeship model, also referred to as legitimate peripheral participation, served as a theoretical lens to explore the structure and nature of the eLC process as it relates to the support of online teachers in building relationships with students. This case study was guided and framed by Wenger's (1998) communities of practice framework, which provided a theoretical and conceptual lens for data collection and analysis. This case study explored the eLC process for online English teachers through the CoP framework to better understand how the eLC supported new and veteran online teachers and contributed to quality online teaching. The following section provides a review of related research literature and a research-based theoretical framework for this study.

LITERATURE REVIEW

According to the originator of the CoP framework, a CoP is a group of people with a shared focus, shared concerns, and shared problems who engage in ongoing interaction with one another related to a common domain (Wenger, McDermott, & Snyder, 2002). A CoP can serve as an apprenticeship model for newcomers to a profession, such as online teaching, although the CoP framework offers a more contemporary and social view of 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. 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. 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. 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, 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). Although quality teaching in traditional classrooms sometimes translates to quality online teaching (Garrison & Anderson, 2003; Journell, Beeson, Crave, Gomez, Linton, & Taylor., 2013), online teachers require additional competencies to meet student learning needs in settings where the teacher and learners are separated by time and distance (Learn NC, 2008; National Education Association, 2006; Palloff & Pratt, 2011; Redmond, 2011). Teacher preparation programs are failing to prepare online educators (Barbour et al., 2013; Journell et al., 2013; NEA, 2006), and 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). Further, 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 or knowledge of how to best support online learners (Barbour et al., 2013; Kennedy & Archambault, 2012; Kennedy, Cavanaugh, & Dawson, 2013). The current state of pre-service teacher preparation has resulted in the majority of training for K-12 online teachers being conducted by virtual schools (Ferdig et al., 2009).

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, CoPs provide a structure and process whereby novice online teachers can develop knowledge and engage with experts in a network of support as they travel along trajectories toward full participation in a journey of

becoming. In online learning environments, with teachers working at a distance from their colleagues and students, a CoP can be developed among online teachers through an online learning community. Findings from Kennedy's (2016) cross-case analysis revealed that many state virtual schools do not provide an ongoing learning community process for teachers. Most state virtual schools reporting implementation of a learning community process hold learning community meetings an average of four times per year as opposed to the monthly synchronous and weekly asynchronous collaboration required of SVHS teachers (Kennedy, 2016). Due to the new and still growing body of research on K-12 online teaching, there is great need for research into effective practices for online instruction in K-12 settings. Specifically, research is needed to identify how to best help online teachers provide support for student success. 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 (DiPietro et al., 2008).

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, Barbour, & Clark, 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-Schmertzing (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 more frequent than when they interacted little with the instructor.

This study seeks to address the gap in research between what we know about professional learning for online instructors and what we know about support for K-12 online students by exploring how eLCs can help online instructors build relationships for student support. What follows is a discussion of the methods used to design and implement this study in order to address the following research question: In what ways does the eLC process support new and veteran online teachers in developing relationships with students at an established state virtual school?

METHODS

To address this study's research question, an interpretive case study design was used, 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). While it was impossible to capture every intricacy of the experience of participants involved in the electronic learning community process, case study methods allowed for the exploration of many facets of the eLC process through multiple realities.

Setting and Participants

This case study was conducted during the spring of 2014, examining the electronic learning community process within three subject-specific eLCs at SVHS. A statewide virtual public school that was commissioned in 2005 and began offering online courses in 2007, SVHS is the second largest state-led virtual high school in the United States, enrolling 71,932 students in grades six through 12 during the 2014-15 school year, with a total of 111,634 course enrollments (Watson, Vashaw, Gemin, & Pape, 2015) and employing approximate 700 virtual teachers. State Virtual High School supports new and veteran online teachers in ongoing professional learning through eLCs, that function as part of the overall continuous professional learning program for SVHS teachers. All SVHS teachers are required to

participate actively in the eLC process, meeting regularly via synchronous online tools and collaborating asynchronously through shared online spaces and documents. According to the chief academic officer, the SVHS eLC process was designed to allow teachers to collaborate with the goal of improving teacher practice and support student learning.

Within the eLC process, all SVHS teachers who teach the same course (e.g., English I, journalism, and psychology) work collaboratively in synchronous and asynchronous formats to share teaching strategies, make suggestions for course revision, and set goals for continuous improvement. Electronic learning community members meet once each month for synchronous meetings facilitated by eLC members, eLC leaders, and other curriculum and instruction leaders at SVHS. These meetings focus on sharing effective teaching practices, implementing SVHS initiatives, and setting goals for student progress. In addition, eLC members participate in weekly asynchronous discussions via shared online documents. In these asynchronous discussions, eLC members craft responses to reflection questions provided by the chief academic officer, share examples of teaching practices used in their courses, and engage in goal-setting.

A primary focus of the eLC process, referred to as the "three pillars" of quality online teaching, provided a framework for ongoing eLC discussions and collaboration. The three pillars included teaching through announcements, teaching through communication, and teaching through grading and feedback. All SVHS teachers were held accountable for incorporating the three pillars through ongoing teacher evaluations and were provided support through eLCs for implementing the pillars.

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 Advanced Placement (AP) English Language during the spring 2014 semester. Six participants from three different eLCs within the same discipline were selected for interviews, in addition to the chief academic officer responsible for overseeing the eLC process. Along with the chief academic officer, this study included two participants representing each of the following perspectives: new online teachers, veteran online teachers, and eLC facilitators. The SVHS research coordinator selected the specific eLCs and participants for this study to ensure a balanced workload for the multiple SVHS teachers who were involved in various research studies during the spring 2014 semester. 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. Table 1 presents participant demographic information.

Table 1
Interview Participant Demographics

Pseudonym	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.

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 synchronous meetings were gathered and analyzed, and a one hour semi-structured virtual interview was conducted with each of the seven SVHS employees. Asynchronous communication among eLC members was gathered via shared online documents, which all eLC members used on a weekly basis to respond to reflection questions, set goals, and share teaching practices. In addition, all email correspondence sent by eLC leaders to eLC members during the twelve-week data collection period was gathered and analyzed. The SVHS teacher interview protocol is included in the Appendix.

Data Analysis

Initial data analysis involved multiple readings or viewings of each piece of data accompanied by note-taking and coding. A combination of researcher-generated codes identified through a review of current research literature and emergent codes were used to describe the data. Start codes derived from a thorough review of Lave and Wenger's (1991) LPP framework were used to ensure alignment with the theoretical framework for this study. Further, researcher-generated codes allowed flexibility in creating codes to describe the actual data that were collected. Following the coding process, findings were shared with fellow researchers who have experience with qualitative research in K-12 traditional and online settings to increase reliability of data

analysis for this study. NVivo data analysis software was used to code and organize all data, leading to the development of patterns of codes which became themes representing the case study. Table 2 lists all researcher-generated codes used to analyze LPP within the eLC process, while emergent codes used to examine ways in which the eLC process supported online teachers in building relationships with students are listed in Table 3.

Table 2
Start Codes for Analyzing Legitimate Peripheral Participation

Code	Evidence
Becoming	Newcomers move toward full participation, newcomers begin to identify with the community
Access	Newcomers have access to community members, activities, resources, and shared practice
Transparency	Shared practice is made transparent for newcomers so they can see the "inner workings"
Conferring legitimacy	Newcomers are welcomed as legitimate members of the community, with all that membership entails
Talking about practice	Stories; lessons learned; talk focused on memory, reflection, & membership
Talking within practice	Exchanging information necessary to the progress of ongoing activities; talk focused on engaging, focusing, & shifting attention and bringing about coordination

Table 3
Emergent Codes for Analyzing Support for Building Relationships with Students

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 c ommunication with students
Relationships	Sharing of best practices for building relationships with students; relationship-building among eLC members

FINDINGS

This section contains a discussion of findings from this case study of an electronic learning community process as a support for building relationships with students.

Legitimate Peripheral Participation

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. The following aspects of LPP 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. Table 4 includes frequencies and examples of each code related to LPP.

Table 4
Frequency and Examples of Codes for Analyzing Legitimate Peripheral Participation

Code	Example from Data	Frequency
Becoming	One new online teacher expressed feeling listened to and respected by eLC members	12
Access	Leaders within SVHS were available to eLC members during synchronous meetings	10
Transparency	Instructional leader made an effort to make sure new teachers understood purposes behind decisions	18
Conferring legitimacy	New eLC members received positive feedback from instructional leaders in weekly reflections and synchronous meetings	12
Talking about practice	eLC members shared their successes and stories of communication with particular students during a synchronous meeting	7
Talking within practice	Discussion of new expectations for communication journal during a synchronous meeting	15

Becoming

Lave and Wenger (1991) argued that 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" (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). 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. 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." 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." 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 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." 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. In an interview, Cheryl admitted to feeling disconnected from the community:

> [I feel] 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.

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.

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." 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."

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. 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.

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. Cheryl explained that she was "included in all of the emails" and that some eLC members gave her "access to their entire Google Doc full of announcements for the entire course." Further, the eLC process involved multiple opportunities for newcomers to learn as veteran teachers explicitly shared their practice, which 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." 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." Donna described the transparency of the eLC process during an interview as "really intimate in a way. You can't hide in it." 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 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."

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?" 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.

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. 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." 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.

Data from synchronous meetings and asynchronous collaboration via shared documents 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!" 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!" 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. She describe the eLC process 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."

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, they shared their biggest successes from the school year. The opportunity to hear others' stories and lessons learned contributed to the legitimate peripheral participation of new eLC members.

Teachers' 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

The act of talking within practice is 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. 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).

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. During a synchronous meeting, one English I eLC member shared that she had begun sharing feedback from student work "to highlight what the student has done well and use it as an exemplar for other students." 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. In a synchronous department meeting, the English instructional director introduced changes to expectations for maintaining records of communication with students. During the meeting, she explained, "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 talk was necessary for the ongoing joint enterprise of the community, particularly in relationship to the larger institution. Other operational topics and issues discussed included technical issues, the academic integrity policy, and the online grading system.

Support for Quality Online Teaching through Building Relationships With Students

This case study sought to explore ways in which the eLC process at SVHS supported new and veteran online teachers in teaching effectively by building relationships with students. Findings related to support for quality online teaching through building relationships with students are described in Table 5.

Table 5
Frequency and Examples of Codes for Analyzing Support for Building Relationships with Students

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
Relationship(s)	One eLC set a goal to build relationships with students and distributed a survey to gather feedback from students	21

Communities of Practice as a Way to Improve Teaching

An interesting finding throughout all data sources was the occurrence of references to eLC participation as a way to improve 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." 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."

Instructional leader Amy described in an interview that the eLC process was a process for growth at the team and individual levels. 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." 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."

Many references to improved teaching were connected to the purpose of supporting 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." 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." 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." Instructional leader Simone stated simply, "Our primary goal is to make this course the best it can be for students."

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.

- "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."
- "I'm much more involved with my students."
- "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."

Communities of Practice as Support for Teaching through Relationships

Nearly one-half of all references to quality online teaching (60 out of 128) across all data sources in this case study were related to communication and 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."

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 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.

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." 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."

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." 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!!!!"

During an AP Department meeting, chief academic officer Donna explained that communication was particularly 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." 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?

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.

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." 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."

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." 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."

DISCUSSION

This section presents a discussion of the implications of this study's findings in light of current research in K-12 online learning, situated within the Communities of Practice framework, along with a discussion of the limitations of this study.

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. 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.

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, research has also indicated that access to resources through professional development impacts teaching practice (Holmes, Signer, & MacLeod 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. Findings from this study suggest that this level of access and transparency would not have been so readily available for new SVHS teachers without the eLC process. Regular synchronous and asynchronous communication among eLC members provided access to quality online teaching practice that was not provided any other way. 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.

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, talking about practice helped new eLC members learn effective online teaching practices from veteran online teachers. However, it was the talking within practice, which represented conversations necessary for the

actual work of the eLCs, that played a more significant role in new eLC members' engagement in LPP.

Not all aspects of the eLC process were aligned with or supported by current research. For example, more important than access and transparency but more difficult to observe in this study were the elements of becoming and conferring legitimacy. 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.

Support for Teaching through Relationships

Communication and relationships were emergent codes used to describe data related to support for effective online teaching. A review of current literature revealed that interaction and communication were critical areas of effective online teaching practice. 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. 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 of quality online teaching at SVHS which are a major focus of ongoing eLC work – teaching through communication, teaching through announcements, and teaching through feedback – are in alignment with recommendations from current research about ways to do just that (Cavanaugh et al., 2009; Hawkins et al., 2013). Data gathered during this case study revealed a focus on communication for building relationships.

Interestingly, a comparison of findings from this study and current research literature revealed that one type of interaction was missing from case study data: learner-learner interaction. Findings from the current 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 (Borup, 2016; 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-Schmertzing, 2007; Journell, 2008; Rovai, 2001). Borup (2016) found that learner-learner interaction among students enrolled in a virtual high school can have positive effects on student learning in four ways: befriending, motivating, instructing, and collaborating. Similarly, 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-Schmertzing, 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.

Implications

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. An established mentoring program could 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.

Findings from this study suggest that online instructors should be given opportunities to build community and develop relationships with one another through repeated, ongoing collaboration. 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.

Individuals tasked with planning and facilitating the eLC process should 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, particularly with regard to supporting students through relationships. 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. Further, these eLC leaders should 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. This can be done through a variety of communication strategies including emails, instant messages, cards, and phone calls. This purposeful and intentional focus on celebration contributes to community development while modeling how to build community with K-12 online learners.

LIMITATIONS

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. Despite plans for gathering a wealth of data during this study, the goal was "an accurate but limited understanding" (Stake, 1995, p. 134). While this case study provides a glimpse into the nature of the eLC process, twelve weeks is not enough time to truly analyze 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.

Additionally, the selection process and number of participants limit the generalizability of these findings. While online teachers from multiple subject area eLCs were desired, this was not feasible due to other research demands placed on the virtual school. Participants for this study were selected by the SVHS research coordinator; this selection could have limited the perspectives represented in this research. Different participants from diverse eLCs may have provided alternative perspectives related to their eLC participation and its impact on relationships with students.

CONCLUSION

The current study illustrated that 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 eLC process was available (and required for all SVHS teachers) to provide continued support and a sense of belonging for new online teachers. Through the SVHS eLC process, belonging to a Community of Practice helps online teachers improve the quality of instruction and increase support for student success. The six aspects of LPP described by Lave and Wenger (1991) 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. In theory, the 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 supporting teachers in using effective online teaching practices found in current literature to positively impact student learning and course completion.

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APPENDIX
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 SVHS.
7. Tell me about your experience as a member of an eLC.
8. How is the eLC process structured at SVHS?
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. What are the areas of focus of your eLC?
11. What types of support are available to you through membership in the eLC?
12. What is expected of you as an eLC member?
13. How do you participate in the eLC? In what ways are you involved?
14. How do you communicate with other members of your eLC?
15. Tell me about relationships. How long have you been a member?
16. What kinds of relationships have you developed with other members? How have those relationships changed over time?
17. How do you see people in your eLC working together?
18. How would you describe the community of your eLC?
19. How would you say your own practice has changed, or not, as a result of being a member of an eLC?