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The Dissertation Committee for Amber J. Carpenter-McCullough certifies that this is the final approved version of the following electronic dissertation: “Wikis as Communities of Practice: A Case Study in Higher Education.”

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WIKIS AS COMMUNITIES OF PRACTICE:
A CASE STUDY IN HIGHER EDUCATION

By

Amber Jean Carpenter-McCullough

A Dissertation

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ABSTRACT

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This dissertation was an instrumental case study that explored the experiences of graduate students when using online software, more specifically, a wiki, in a graduate course. This study also concentrated on the formation of a “community of practice” within a course wiki. Symbolic interactionism, situated learning, and communities of practice theories guided this inquiry.

Field notes, e-observations, student-created documents, a focus group interview, and six individual interviews were coded and categorized to elicit the perceptions of the participants. From the data, I created codes, which led to categories and to themes. Findings from the analysis of the data sources exposed the following five themes when exploring the experiences of graduate students with online learning: (1) wiki experiences, (2) meaningful discourse, (3) egalitarian, (4) community engagement, and (5) collaborative learning processes.

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CHAPTER 1: INTRODUCTION

“Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Wenger, 2006).

This study focused on the perceptions of graduate students as they interact online and create a collaborative learning environment. The purpose of this case study was to explore how graduate students in a specific teacher education course experience online pedagogies and form a “community of practice.” Using a case study methodology and purposeful sampling, I observed, interviewed, and analyzed artifacts from 25 graduate students that participated in the study.

Background Information

Online education in higher education continues to grow at an astonishing speed. Allen and Seaman (2009) assert that “more than one in four higher education students now take at least one course online” (p. 5). Along with the increased student enrollment in online courses is the increased demand for online courses (Allen & Seaman, 2009). The effects of the Internet on higher education are numerous and consequently affect student learning outcomes (Ahem & El Hindi, 2000; Davidson-Shivers, Tanner, & Muilenburg, 2000; Kanuka & Anderson, 1998).

The pedagogical nature of online teaching paralleled with student online interactions have been researched with primarily positive results (Ahem & El Hindi, 2000; Kanuka & Anderson, 1998; Davidson-Shivers, Tanner, & Muilenburg, 2000; Wang, Chen, & Levy, 2010). Some professors are actively utilizing web tools to engage students. Oftentimes, these professors create authentic learning tasks that help students

gain knowledge of technology as well as the subject matter and are directly influencing teaching practices in higher education institutions today (Owen, Grant, Sayers, & Facer, 2006).

Vito (1998) contends that community interaction and collaborative learning are essential when considering effective learning strategies for positive learning outcomes in higher education. Studies conducted by Ellis and Hafner (2008) and Blau and Caspi (2009) have indicated that online collaboration is beneficial for student learning outcomes. This affirms the suggestion that online communities that enhance scholarship and provide a basis for collaboration while simultaneously promoting an active learning community create an environment ideal for engaging students (Bruns & Humphreys, 2005; Forte & Bruckman, 2006; Elgort, 2007).

Kim and Bonk (2006) reveal that institutes of higher education are beginning to focus on online learning as an active pedagogy to facilitate collaboration. Kezar and Lester (2009) affirm the need for higher education to consider online collaborative learning tools, stating that due to “declining resources, institutions are looking for ways to maximize their resources while continuing to be effective. Collaboration is always a key strategy for leaders to consider in hard financial times for achieving goals with fewer resources” (Kezar & Lester, 2009, p. xv)

Problem Statement

Research concerning communities of practice in online environments is critical for instructors in higher education to gain an understanding of online collaborative software. Even though indicators concerning Internet use in higher education reveal that strategies that focus on community interaction and collaboration will ensure online

learning processes are effective, faculty acceptance and training of online pedagogies has changed little since 2002 (Allen & Seaman, 2009). Experiences described by the participants in my study will contribute to the existing literature relating to communities of practice, online learning, and effective collaboration tools.

Researcher

At the time of this study, I was both an instructor and a doctoral student at the university research site where the study was conducted. Through my own experiences as a student and instructor in higher education, I have become aware of the incongruities between the students' experiences and those of the instructors. When enrolled in courses that were either completely online or partially online, I did not enjoy participating with the online aspects of the course. The instructional practices were not interesting or captivating; therefore, I was not engaged. With the changes occurring in higher education and my continued use of technology in courses, I have become interested in effective pedagogies for online courses.

Definition of Terms

The terms used in the study and their definitions are as follows (Nichols, 2009, pp. 5–6):

Asynchronous: Communication that does not require same-time interaction. For example, email is asynchronous, in that email correspondence does not require the recipient of the message to be involved with the message as it is being prepared (unlike synchronous telephone conversations, for example, where the generator and recipient of the message are both involved at the same time). By using asynchronous techniques such as letters, email, and discussion or bulletin boards, you can communicate across time.

Asynchronous online discourse is not limited to text. You can easily record audio and video from your desktop, and upload the files into your LMS (perhaps as attachments to discussion board messages) or an online repository service such as YouTube.

Chat: A synchronous, text-only activity, in which two or more people type messages to one another in an online application in the same virtual space. Messages are typically revealed by their writer one comment at a time.

Collaboration: A group of people work toward a common goal, drawing from the input of all group members. Such a group may include an online instructor, but the group shares responsibility for the outcome. Further, the outcome is not pre-determined. This term is often used in contrast to cooperation.

Cooperation: Individuals work with others, with the direct facilitation of an online instructor, who is central to the process. Each participant may perform the separate tasks for a wider group, or each participant may contribute in a highly structured and pre-defined way. This term is often used in contrast to collaboration.

Discourse: Purposeful conversation or dialogue.

Discussion or bulletin board: An Internet-based application that makes it possible for people to communicate asynchronously. A discussion or bulletin board accepts posts from group members and displays them online for others to read and respond to. Some discussion or bulletin board applications automatically email new posts out to participants.

Emoticon: A graphic designed to show emotions that cannot otherwise be displayed in a text-only format. Some discussion or bulletin board software provides users with a set of emoticons to indicate the mood of the message writer. You can also

use text emoticons such as ;-), :-), :-P and :o). You need to read these from a 90-degree angle.

Forum: An area where online discourse takes place. You might set up a forum for a particular topic or theme. Participants make posts within a forum as responses to these posts build up, different threads of discussion may emerge. A forum is usually facilitated through a discussion or bulletin board application.

Instant Messaging (IM): A form of synchronous communication that is more user-centered than chat. IM users contact each other privately (point to point) through a client application, rather than contacting others through a more public interface on a webpage. The term usually implies text-only interaction, but most IM software also enables participants to share webcam images and voice.

Online discourse: Asynchronous or synchronous dialogue and conversation that is mediated through online (internet) tools. Non-internet technologies such as the telephone, facsimile, or videoconferencing through ISDN hubs are not considered to be online. The medium of online discourse is determined by the technologies used in mediation; for example, audio-conferencing uses the spoken word. Most commonly in the literature cited in this e-primer, the term online discourse assumes the written word.

Online instructor: A person who oversees activity in online discourse.

Post: A message added to an asynchronous discussion forum, either at the beginning of a new thread or in response to another message.

Reflection: Considered thought on an idea or experience in such a way that inferences are drawn, resulting in new knowledge.

Synchronous: Communication that requires same-time interaction. A face-to-face conversation is synchronous because both people must be involved with the conversation at the same time for it to take place. The contrasting term to asynchronous.

Thread: A branch of asynchronous discussion taking place in a forum. Because any person's post can form the basis for discussion at any stage, the same post can give rise to further conversations in a variety of different directions. The posts of each new direction form a new discussion thread. Discussion or bulletin

CHAPTER 2:

LITERATURE REVIEW

Online learning has come to the forefront of teaching pedagogies. Universities and colleges expect students to know how to access and use the Internet in order to register for classes, conduct research, check email, and complete and submit online assignments.

According to Shelley, Swartz, and Cole (2009):

E-learning and e-pedagogy continues to grow in importance in the delivery of higher education, due in part to the cost of higher education, a changing student profile, scarcity of traditional classroom space, and the recognition that distance learning has created a genuinely new paradigm of instruction. To respond to the changing student demographics, working adults, students in the military and residents of rural communities as well as of other countries, more and more universities are including online (internet-based) course offerings to their core offerings. (p. 76)

The perceptions of university students concerning technology integration is an important aspect of research for higher education. By exploring these experiences, universities will be able to adjust and provide for all students who attend. Therefore, in order to fill this gap in the academic research, it is important for academics to consider the perceptions of students by exploring their experiences through qualitative inquiry.

The “communities of practice” theory has been used as a guide to create learning communities in higher education. Broadly using symbolic interactionism and situated learning but focusing on communities of practice, I will attempt to understand graduate students’ experiences when participating in online learning and community formation using wikis.

In an attempt to explore how graduate students understand and interpret the meaning of online pedagogies, I examined a specific case that focused on the following research questions:

1. What are the participants' perceived experiences when utilizing wiki as an online pedagogy?
2. How does the process of using wikis generate communities of practice?

Symbolic Interactionism

Symbolic interactionism was the macro theory for this study. The assumptions of symbolic interactionism include: (1) human interactions are based on meanings things have to them and (2) meanings derive from social interactions (Blumer, 1986). Social reality and social interactions are essential concepts that underlie social interactionism. Star (1996) suggests that symbolic interactionism has similar characteristics concerning knowledge construction and interaction and can be utilized to understand situated learning and therefore communities of practice. Also, Plummer (1996) advocates for communities of practice within symbolic interaction as a structure for understanding group interaction.

Situated learning. Situated learning contends that what is learned is dependent on the situation where the learning takes place. "The theory of situated learning claims that knowledge is not a thing or set of descriptions or collection of facts and rules. Human knowledge should be viewed as a capacity to coordinate and sequence behavior, to adapt dynamically to changing circumstances" (Clancey, 1995, p. 49). Lave and Wenger (1991) describe situated learning as a social phenomenon where social interaction is the key component. The primary assumptions of situated learning include:

(1) authentic context for learning and (2) learning requires social interaction and collaboration (Lave & Wenger, 1991). Lave and Wenger (1991) emphasize the social context of learning processes and regard knowledge construction as socially constructed. Lave and Wenger (1991), when discussing situated learning, initiated the term “communities of practice.” Wenger, as a protégé of Lave, later published the book *Communities of Practice: Learning, Meaning, and Identity*, elaborating on the theory of communities of practice.

Communities of Practice

This study examines the experiences of graduate students when using technology to collaborate and complete online assignments therefore creating a community of practice. Communities of practice “are formed by people who engage in a process of collective learning in a shared domain of human endeavor” (Wenger, 2006, para. 3). The structure of a community of practice, as described Wenger, encompasses the three principles of (1) domain, (2) community, and (3) practice. Wenger, McDermott, and Snyder (2002) describe domain creation as the aspect that forms the community identity by establishing environments where participants have mutual understandings of familiar topics. Wenger, McDermott, and Snyder (2002) articulate that “the community constructs the guidelines for interaction based on reciprocal trust and admiration, and practice is a collection of ideas, artifacts, documents, and other sources that the community cultivates” (p. 28).

Domain in a community of practice is the shared identity of a group or “network of connections between people” who share a common purpose of inquiry (Wenger, 2006, para. 6). The domain is also the shared responsibility of the group and sets the boundaries

of the community (Wenger, 1998). Interaction concerning the central common interest among participants creates the domain. For communities to generate a domain within the context of communities of practice, the community must have the desire to accumulate knowledge concerning the common interest (Gray, 2004).

Wenger (1998) asserts that *community* in a community of practice encompasses three elements that are critical for community development: “mutual engagement, a joint enterprise, a shared repertoire” (p. 73).

1. Through mutual engagement, participation and reification can be seamlessly interwoven.
2. A joint enterprise can create relations of mutual accountability without ever being reified, discussed, or stated as an enterprise.
3. Shared histories of engagement can become resources for negotiated meanings without constant need to “compare notes”. (Wenger, 1998, p. 84)

When defined by Wenger (1998), “practice highlights the social and negotiated character of both the explicit and the tacit in our lives” (p. 47). Participating in practice gives the community an organizational strategy to share knowledge, both spoken and unspoken. The *practice* element organizes the interaction for the community giving “structure to what we do” (Wenger, 1998, p. 47).

It is the combination of these three elements—domain, community, and practice—that make up the critical aspects of a community of practice. Consequently, by developing these three elements at the same time, communities of practice are cultivated (Lave & Wenger, 1991).

To better understand the development of such a community Wenger provided a list of characteristics:

Indicators that a community of practice has formed would include:

1. Sustained mutual relationships—harmonious or conflictual
2. Shared ways of engaging in doing things together
3. The rapid flow of information and propagation of innovation
4. Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
5. Very quick setup of a problem to be discussed
6. Substantial overlap in participants' descriptions of who belongs
7. Knowing what others know, what they can do, and how they can contribute to an enterprise
8. Mutually defining identities
9. The ability to assess the appropriateness of actions and products
10. Specific tools, representations, and other artifacts
11. Local lore, shared stories, inside jokes, knowing laughter
12. Jargon and shortcuts to communication as well as the ease of producing new ones
13. Certain styles recognized as displaying membership
14. A shared discourse reflecting a certain perspective on the world. (pp. 125-126)

Communities of practice embody group collaboration while negotiating meanings through community participation. In other words, communities of practice are learning environments that encourage knowledge-sharing in arenas where learning processes are

synonymous with community membership (Buysse, Sparkman, & Wesley, 2003; Davenport, 2001; Ellis, Oldridge, & Vasconcelos, 2004; Gray, 2004).

Virtual Learning

Although students may not enroll in online or distance learning classes, they are often delegated assignments that require knowledge of online resources and the Internet. Many research studies have been conducted concerning the pedagogical nature of online tools and the interactions of students when using computer technology with varied results (Ahem & El Hindi, 2000; Bhati, Mercer, Rankin, & Thomas, 2010; Davidson-Shivers, Tanner, & Muilenburg, 2000; Domine, 2006; Kanuka & Anderson, 1998; Lee & Tsai, 2010; Ng & Cheung, 2007). Hill, Song, and West (2009) concluded that “Internet technologies are an integral component of the learning process in formal and informal contexts” (p. 100).

Lonsdale, Deery, White, and Skyring (2009) assert that essential to understanding online learning is the tenet that online participants believe that knowledge sharing is virtuous:

This represents a shift from an older model of knowledge as the prerogative of experts to a more democratic model that recognizes the expertise of potentially any contributor to an online community. This assumption is consistent with the shift enabled by the Internet for consumers to become producers; that is, for users of the Internet to be able to write as well as read in order to disseminate a message, express an opinion or share knowledge. (p. 13)

Virtual environments encompass community of practice principles and encourage collaboration regardless of geographic location. Although traditional communities are based on locale and customs that create boundaries for membership, virtual communities are based on beliefs and connections rather than location. These characteristics allow for an online egalitarian community that encourages corroboration and communication.

Therefore, online networking has become the primary recourse for creating learning communities in institutes of higher education (Palloff & Pratt, 2005).

Online Communities of Practice

Zhang and Watts (2008) found that members of an online community actively engaged in knowledge sharing and met the characteristics of community of practice creation. Cuddapah and Clayton (2011) revealed that the interactivity was important for community of practice formation. Groups of people who engage in online information sharing can meet the requirements for generating communities of practice. Online communities of practice have been successfully used for supporting authentic teaching practices (Barab, MaKinster, & Scheckler, 2004). Breu and Hemingway (2002) reported findings from their research that participants within communities of practice organizations want to contribute to the shared knowledge of the group. Norton (2004) discussed using communities of practice to connect teachers with experts online in order to facilitate technology integration into K-12 classrooms. Gray (2004) found that learning was facilitated through online connections.

Webb (2005) supports the pedagogical nature of technology in teaching and learning. Participants established and learned through a community of practice:

The way in which participants engaged collaboratively in their professional learning demonstrated the characteristics of communities of practice: There was a high level of participation; participants were engaged in developing and sharing a body of knowledge; they shared a sense of being a purposeful group [community]; they collaborated to develop a repertoire of practices with respect to their chosen focus. (p. 629)

Communities of practice have been established online and have created collaborative learning environments (Barab & Duffy, 2000).

Communication

Web tools that are used by students and professors involve a wide range of technology and communication. Included in this genre are online course software, electronic portfolios (e-portfolios), discussion boards, e-mail, chat rooms, online whiteboards, and social software among others. Online software includes programs such as WebCT and Blackboard, where the assignments are displayed with the instructors and students communicating through the Internet software. E-portfolios, a virtual environment for students to assemble assignments, collages, or anything else, are becoming increasingly useful in many colleges. E-mail is the most common form of communication in higher education, but social software programs, which include Facebook, MySpace, formspring.me, Twitter, and tumblr, are all making an impact in technology and communication.

Synchronous and asynchronous communication tools provide effective avenues for interaction. Asynchronous communications between community participants' were meaningful, and conversations arose through threaded discussions (Ng & Cheung, 2007; Wang & Woo, 2007). Synchronous communication tools are useful for immediate interaction or brainstorming issues (Martin, 2005). Computer-mediated communication "has at least two key functions in online education, it contributes to community, provides the social dimension to education that has been evidenced over the years by people gathering together in groups. Synchronous communication provides this more immediate social bonding" (Motteram, 2001, p. 144).

Social Software

Social software enables users to communicate through sending or posting messages, photos, documents, or emoticons (cartoon images) on the Internet either instantaneously or through a personal Web page. Similarly, Wiki software enables users to communicate, collaborate, share files, and edit the content of their own and possibly other websites. Wiki exploration for use in higher education has recently become integrated in university settings and university coursework (Bower, Woo, Roberts, & Watters, 2006; Parker & Chao, 2007; Tsinakos, 2006). A wiki is a Web site or database developed collaboratively by a community of users that allows any user that has gained permission to add and edit the content by using basic wiki software (Wikipedia, 2006). Wiki Web pages are referred to as a type of social software or groupware that include other web-based applications such as MySpace, instant messaging programs, Facebook, and Weblogs (Chawner & Lewis, 2006).

Anderson (2008) differentiates between the types of tools used for online interaction as those that “facilitate joint production” and those that “facilitate interaction and networking” (p. 5). Tools that encourage collaboration toward jointly produced artifacts would be tools such as Web pages, note-taking tools, and wikis. Tools that encourage interaction tools that are used to facilitate interaction and networking are asynchronous and synchronous communication tools such as instant messaging, blogs, chat rooms, and discussion boards.

What is a Wiki?

Ward Cunningham developed wiki between 1994 and 1995 for computer programmers to encourage open discussions concerning software innovation (Chawner &

Lewis, 2006). When Cunningham was asked about his purpose for creating wiki in an interview with Bill Venners in 2003, he replied:

My specific purpose for the first wiki was to create an environment where we might link together each other's experience to discover the pattern language of programming. ...I also had more general goals for wiki. First, I think there's a compelling nature about talking. People like to talk. In creating wiki, I wanted to stroke that story-telling nature in all of us. Second, and perhaps most important, I wanted people who wouldn't normally author to find it comfortable authoring, So that there stood a chance of us discovering the structure of what they had to say. (p. 4)

Wikis are a social network that allow people to interact online and include a wide range of software for users. Wikis can be used in the document mode to create collaborative documents or in the thread mode in which users can post messages and reply to posts (Leuf & Cunningham, 2001). Social networking applications do not require expertise; instead, the software is user-friendly, allowing the wiki-minded to easily edit, transfer files, upload photos, and divulge knowledge through the use of the World Wide Web (Luce-Kapler, 2007; Tonkin, 2005). Wikis are valuable communication and collaboration tools that can be used to encourage group interactions. Wiki spaces can be personal Web pages, but most have been formed for specific purposes “with a set group of allowable users” (Goodwin-Jones, 2003 p. 15; Schwartz, Clark, Cossarin, & Rudolph, 2004). Users, who have been allowed access to the wiki site, have the ability to view the history of changes made in entries and users can also edit entries. All changes are noted and can be viewed from the main page. Oftentimes, wiki users create links to other sources that can reinforce the views of the group or individual concerned with that particular topic.

Creators of wiki spaces are often topic-specific, encouraging wiki collaborators to contribute meaningful entries to the arena. Wikis focus on an identifiable subject and are

structured around the collection of entries the wiki users generate. Wikis are “communities of practice” that allow users to collaborate, edit, discuss, and contribute to the reservoir of knowledge produced and constructed by the group (Goodwin-Jones, 2003). Subjects such as technology education, English literature, creative writing, library studies, philosophy, and engineering have incorporated wikis into some courses, and wikis have been used for group projects, annotated bibliographies, encyclopedias, tutoring, writing instruction, online textbook construction, and lecture notes.

Students have generated encyclopedias, textbooks, and annotated bibliographies through the use of wiki technology. Online encyclopedia has formed repositories of information that are used by students and perhaps published online (Augar, Raitman, & Zhou, 2004a; Bruns & Humphreys, 2005). New students have the ability to access and add content to the existing assemblage of knowledge (Bruns & Humphreys, 2005). Students in a computer language course once worked together to create an online textbook that facilitated deeper understandings of the material and left a resource for the next students (Evans, 2006). Wikis are often used to assist in writing instruction, support collaborative writing, and generate e-portfolios (Lamb, 2004; Schaffert et al., 2006; Tonkin, 2005). Instructors can introduce and teach the writing process through wiki authoring with guidance and instructor support (Duffy, 2006). Wikis can be used as “interactive writing books” that allow students to work together to construct stories or essays (Schaffert et al., 2006). Students who participated in a science-writing wiki engaged in document creation and revision that improved their own writing ability (Forte & Bruckman, 2006). E-portfolios, a collection of the students learning and work experiences, can also be constructed using wikis (Schaffert et al., 2006).

Choy and Ng (2007) and Bruns and Humphreys (2005) implemented wiki collaboration tools to assist tutors and students in a computer networking course and a communication course (Bruns & Humphreys, 2005; Choy & Ng, 2007). The tutors who assisted in the Choy and Ng study (2007) found that the wiki was “useful” for disseminating course resources and that it “benefited communication between the tutors” but that it did not facilitate communication between the students and the tutors (Choy & Ng, 2007). Bruns and Humphreys (2005) stated that for tutoring, the wiki was essentially utilized as a means of communication to aid in finding contributors to the wiki with common ideas. “The social value of face-to-face discussion can be partially replaced through the use of social software” (Liccardi et al 2007, p. 10). And wikis can facilitate authentic learning through group collaboration and the application of wiki technology to the real world.

Typically, wikis have been used in higher education for student organizations, university happenings, and conferences (Farabaugh, 2007). More recently, university wikis have been developed as a collaborative tool for undergraduate and graduate students to introduce themselves (Augar, Raitman, & Zhou, 2004b). Professors have been using wikis to distribute coursework through the use of student wikis as a separate but inclusive part of the class or as an entity upon itself.

Today, wikis are employed by higher education for online discussion, online teaching, collaborative writing, collaborative resource sites, and for creating and maintaining collaborative annotated bibliographies (Duffy & Bruns, 2006). Professors and students can create unique homepages with links to examples of their work and other resources (Loudermilk & Hern, 2006). Professors can implement wikis as a tool to

facilitate learning experiences through generating online textbooks or by having students submit journal entries or reflections through wikis (Evans, 2006; Tonkin, 2005). Students have the ability to assist one another, brainstorm ideas, create research projects and presentations, write collaboratively, and evaluate courses (Duffy & Bruns, 2006; Loudermilk & Hern, 2006). Professors and students can also cooperate to generate “collaborative lecture notes” (Ozkutuk, 2006).

Students have reported positive results when discussing wiki use for university course work (Coutinho & Bottentuit, 2007). Wikis enhanced learning experiences and deeper understandings, and for some students, the wiki made it possible for them to enjoy group projects (Coutinho & Bottentuit, 2007; Elgort, Smith, & Toland, 2008). Some students also felt that through the use of wiki, they had learned more about how to use technology (Bruns & Humphreys, 2005). Involvement in projects by individual group members was facilitated and equalized through wiki use, and many students preferred online work rather than attending classes in person (Elgort, 2007). One of the most important attributes of wikis, according to students, is the ability to view what had been edited and by whom as well as the collaboration tools that enable them to exchange ideas (Bower et al., 2006). Students reported that when designing e-portfolios with wikis, reflective entries deepened their learning experiences (Chen et al., 2005). Entries to wikis enabled students to “exchange ideas and to facilitate the dissemination of information” (Augar, Raitman, & Zhou, 2004b, p. 95; Bower, 2006).

Wiki as Communities of Practice

Some research has focused on utilizing wiki software to create learning communities of practice that allow users to become actively engaged in the creation,

propagation, diffusion, and construction of the content and atmosphere of the wiki (Baird & Fisher, 2005). By cultivating learning environments that are group-oriented and student-centered, collaborative communities of practice have formed, transforming wikis into online democracies. Wiki software is collaborative because the students work together and democracies form because the students drive the discussions under the direction of the moderator (instructor). Students are in charge of the interaction, creating a student-centered rather than a teacher-centered learning environment. Instructors can moderate the wiki for a particular subject or task but allow the wiki group members to have the freedom of expression that is often lacking in actual classroom environments. Wiki online classrooms are user-friendly, requiring no formal internet training, and students are generally already familiar with the workings and structure of wiki or other groupware programs and open communities that allow input from all users who have been given access to the particular wiki site (Luce-Kapler, 2007; Tonkin, 2005). Therefore, students are able to brainstorm, collaborate, argue, discuss, and edit responses and input from the entire group (Clarke, 2009; Tonkin, 2005).

Through the use of wiki software, students have the ability to create egalitarian collaborative environments (for students from diverse backgrounds) and can draw influences from outside a particular discipline (Farabaugh, 2007). A heterogeneous group of students can collaborate and create communities of discourse from any area of the world (Schaffert et al., 2006). Compared to typical college pedagogy, wiki software provides other academic disciplines and people on the periphery with the ability to connect, view, and possibly influence the direction and flow of the wiki (Farabaugh, 2007). Students have the ability to comment on or discuss ideas that arise either during

class or after class by entering the course's wiki site (Farabaugh, 2007). Rendering opportunities for student interactions, wikis create documents that are viewed publically, create discourse, and influence the writing ability of each of the other participants (Forte & Bruckman, 2006). Students in large classes have the ability to interact with the instructor through wikis whenever and wherever they are without the constraints of the lecture hall and receive feedback in a timely manner (Bower et al., 2006). Hollenbeck suggests that the online environment "can allow for greater democracy in the availability and practice of education" (Hollenbeck, 1998, p.12).

The academic world is beginning to appreciate the value of wiki software for use in higher education (Jones, 2007). One motivation, as noted by Jones (2007) for using wikis in course design for higher education is the ease of use of the collaboration tools. Other instructors noted that the ease of use, instant access, and the tracking of who changed what in the documents were all advantageous for designing courses (DePadro et al., 2006; Bower et al., 2006). The community interaction supports an arena where experiences are discussed. Although wiki group work was often seen as an ordeal for the students, the fact that the work "reflected the realities of a modern working environment" was important to some instructors (Elgort, 2007, p. 205).

The full potential of wikis for use in higher education is still untapped (Byron, 2005; Carpenter & Roberts, 2007; Chen et al., 2005; Elgort, 2007; Farabaugh, 2007). Even though higher education institutions still lag behind other professional arenas concerning wiki use, recent research indicates that some institutions are encouraging wiki use for collaborative and meaningful learning activities (Blair, Liaupsin, Umbreit, & Kweon, 2006; Elgort, 2008; Evans, 2006; Parker & Chao, 2007).

Sener (2007) suggests that “the role of student-generated content is highly marginalized in contemporary educational practice” (para. 5). Products, such as assignments, that are created by students have been utilized to increase learning effectiveness and student engagement (Sener, 2007). Even though wiki software has been utilized in some colleges and universities to provide online access for students to many aspects of university life, many institutions are yet to explore wiki use for courses. However, wikis, when used as the “student-generated content,” may prove valuable to facilitate instruction when used as a tool to facilitate a course’s community of practice. Therefore, the purpose of this study is to explore the perceptions of graduate students in an urban community in the mid-south region of the United States concerning wiki use in a teacher education course. The students were enrolled in a graduate course that implemented wiki use as part of the course assignments.

CHAPTER 3:

METHODOLOGY

New technologies such as the Internet have extended the reach of our interactions beyond the geographical limitations of traditional communities, but the increase in flow of information does not obviate the need for community. In fact, it expands the possibilities for community and calls for new kinds of communities based on shared practice. (Wenger, 2006, para. 22)

Pedagogies that encourage collaboration in college courses have been utilized by college professors to encourage critical thinking and problem-solving skills. Projects and assignments that involve small groups of students have been proven to be effective for encouraging student engagement with the learning process (Sener, 2007). Many online tools, including blogs and discussion boards, have been used to create online communities. Although many universities have wiki software available for professors and students, the potential for community interaction and collaboration has yet to be fully exploited in higher education (Byron, 2005; Carpenter & Roberts, 2007; Chen et al., 2005; Elgort, 2007; Farabaugh, 2007;). To fill this gap concerning wiki software in higher education, the purpose of this study was to explore community creation and collaboration by using a class wiki in a graduate course.

Research Design

This study focused on the perceptions of graduate student participants as they interacted in an online learning environment. This research was also based on a personal interest in online learning and communities of practice theory. Research concerning communities of practice in online environments is critical to help instructors in higher education gain an understanding of online collaborative software. Experiences described

by participants in my study will contribute to the existing literature relating to communities of practice, online learning, and effective collaboration tools.

Qualitative research methods are most appropriate for an in-depth exploration of participants' experiences. Corbin and Strauss (2008) ascertained that qualitative methods can be used to better understand any experience in which little is yet known or to gain new perspectives concerning things we think we know. Qualitative methods allow for the study to take place in a natural setting, while utilizing multiple forms of data collection to ensure the context of the research. Denzin and Lincoln (1994) described qualitative research as:

...multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials case study, personal experience, introspective, life story interview, observational, historical, interactional, and visual texts-that describe routine and problematic moments and meaning in individuals' lives. (p. 2)

Therefore, to understand the perceptions of students enrolled in a graduate-level teacher education course that required the use of online technology, qualitative methods were applied to observe students in their natural environments and to analyze these students' interactions, while simultaneously collecting various types of data to get a complete picture.

Pilot Study

During the spring academic semester of 2006, a pilot study was conducted using an interpretivist design and phenomenological interviews. Interpretivism is an attempt to understand and explain meaning-making interpretations within social reality.

Phenomenology, on the other hand, is the study of the essence of an experience (Crotty, 1998).

Those who participated in the pilot study were students enrolled in a graduate-level research methods course. (At the time of the pilot study, the course had not yet been offered online nor had it included an online component.) The project included 25 participants working on 2 separate group assignments through the use of the course wiki. The experiences and perspectives of 2 of the student participants were explored through the phenomenological interview processes.

The findings of this pilot study revealed that performance anxiety, difficulties with the lack of structure, and technological anxiety were factors that impeded the students' involvement and interaction with wikis. Participants' performance anxiety was centered on the expectations of the professor and whether or not he or she would be able to perform to the professor's satisfaction. For example, a participant from the pilot study said, "Mostly the anxiety was from a traditional student-faculty perspective, how would I do as a student? Would I do well enough to please the teacher?" (Pilot study transcript). Another issue that produced angst among the interviewees was the lack of technology training. Understanding how to effectively use and navigate within unstructured wiki technology was difficult for some of the students who were not cyber-savvy or not accustomed to the less stringent wiki format.

Based on the findings of the pilot study, the wiki Web pages were adjusted according to the participants' reflections and suggestions. Some of these adjustments included additional support for wiki use and some design changes. Documents were also added, including a rubric to address all areas of wiki expectations, clear "how-to"

instructions, and a tutorial page. In addition, the format and the layout of the wiki were adjusted to facilitate easier user navigation.

Theoretical Framework

According to Crotty (1998), a theoretical framework facilitates “the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria” (p. 3). Symbolic interactionism is the theoretical framework that guided the current study by aiding the interpretation within the context of the meanings assigned and the knowledge constructed by the participants. Perspectives embedded in symbolic interactionism suggest that “people create shared meanings through their interactions, and those meanings become their reality” (Patton, 2002, p. 112). Blumer (1986) suggested three major principles of symbolic interactionism: (1) Human beings act toward things on the basis of the meanings that things have for them; (2) The meanings of things arises out of the social interaction that one has with one’s fellows; and (3) The meanings of things are handled in and modified through an interpretive process used by the person in dealing with the things he encounters (p. 2).

Case Study

Instrumental case study as a methodology informed the current exploration of students’ experiences when using wiki software in a graduate course. A case study is the most appropriate methodology for answering questions of “how” or “why” and when the phenomenon to be studied is in a real-life context (Yin, 2008). While there are different types of case studies, an instrumental case study is the most appropriate for attempting to understand a particular situation. Stake (1995) suggests conducting an instrumental case study when the intent is to gain insight and understanding of a particular situation or phenomenon. Accordingly, an instrumental case study allows the focus of the study to be

on the phenomena and the interaction of the participants within the context of the case (Yin, 2008). Creswell discusses three characteristics of case study methodology: (1) multiple sources of evidence (interviews, observations, documents, and artifacts that encompass multiple perspectives), (2) thick descriptions with in-depth contextual data, and (3) research that is framed within the selected case (Creswell, 2007). Stake (1995) states that:

...the major conceptual responsibilities of the qualitative case researcher are as follows: (1) Bounding the case, conceptualizing the object of study; (2) Selecting phenomena, themes, or issues-that is, research questions-to emphasize; (3) Seeking patterns of data to develop the issues; (4) Triangulating key observations for interpretation; (5) Selecting alternative interpretations to pursue; 6) Developing assertions or generalizations about the case. (p. 155)

The Research Case

To completely define the case, the actual environment, the virtual environment, and the participants will all be described. The 25 participants were graduate students enrolled in a required MAT (Master of Arts in Teaching) special education course. The setting was a university located in an urban mid-south environment. Virtually, the students participated in the learning community through “wikispaces.”

Context of Research. Describing the context of the environment in a case study is a strategy that presents reader(s) with the circumstances surrounding the study, allowing them ownership of their interpretations of the study (Firestone, 1990). The context of the current study is two-fold. Although the participants existed in a real-world university environment, the primary object of study was virtual. Even though the actual “place” where the students created meanings was important, an instrumental case study focused on the phenomena of the research. Therefore, I describe the “real” environment

and the actual participants; I also provide details regarding the virtual environment created by the wiki.

University. The university is situated in the center of a city that embraces many historically “southern” characteristics, such as traditional gender roles, openly Christian beliefs, and predominantly conservative politics, although it houses a diverse ethnic population (Beck, Randall, & Frandsen, 2007). Many of the buildings on the campus have unattractive veneers, but recent additions, such as a new student center, are improving the aesthetics of the campus. The campus is surrounded by a small urban community that is adamant about improving the appearance of the architecture as well as designing more locations that will integrate the community with the university (University Neighborhood Partnership, 2008). Students who attend the university are primarily commuters who are often originally from towns and cities located in areas surrounding the main campus. Although the College of Education on the campus is comprised of four different departments, over half the students currently enrolled are pursuing degrees to teach K-12 grade levels or seeking some type of teaching licensure. The MAT course used in this study is a typical teacher education course that requires students to contribute to class discussions and involve themselves in an active learning environment.

The Virtual environment. Although the sociocultural aspects of the urban environment are important for understanding the study’s context, the virtual environment in which participants collaborated must also be considered and described, since an online community was examined in this study. Screen shots of the actual wiki site that play a vital role in this case study are also included.

The site of the research is the wiki that I, the researcher, created online via the Internet. A Web site (www.Wikispaces.com; referred to as Wikispaces) provided free space online for anyone to create a wiki and for the creator to control the permissions of the users. In other words, the creator decides who will be allowed to change, add, or view the material on the wiki. Compared to other free wikis, Wikispaces is user-friendly and easy to manipulate. The Web page is easy to navigate, and the wiki software allows the users to format text, insert images and files, add widgets, and link pages together through the use of a toolbar similar to that used in a word-processing program.

Wikispaces has other toolbars that are useful for uploading images, documents, audio files, or videos directly to a specific user's wiki page. All users can also create links to other Web pages and to other resources that they find valuable or to each other's pages on the project wiki. Wikispaces permits an unlimited number of pages and unlimited discussion posts.

As the administrator, another benefit of choosing Wikispaces is the monitoring program that provides a way to oversee wiki activity, track changes being made, keep all original pages as well as new pages resulting from changes, and send e-mail updates when something has been changed. The monitoring program also allows other researchers to view the progress on the wiki and provide valuable input concerning its use. The title of the wiki for this research project was "TEP6000," which is the official number and abbreviated name of the course. Appealing and friendly colors were selected for the wiki, and a notebook theme was used to enhance the wiki's layout. The first page of the wiki, as illustrated in figure 1 and figure 2, contained instructions and a link to a tutorial on the right side of the screen that was accessible from all pages of the wiki site.

A link to the instructor's personal page appeared within this content, along with a hyperlink to the instructor's e-mail address a problem arose or help was needed. (Also featured on the main page was an explanation for the project as well as a list of expectations for the wiki.)



Figure 1. Main page of a Wikispaces course site.

In order to provide more structure to the study and based on the findings from the pilot study, links to a list of various pages were added on the right side of the computer screen. To allow easy access, links to other pages on the wiki, such as announcements, course syllabus, sample project, resources, and a grading rubric, were also added to the main page. This page also included the names of each student, the instructor (myself), and the course professor, which were all hyperlinked to each personal page.

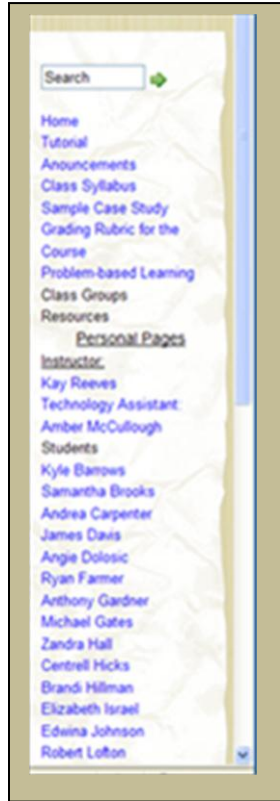


Figure 2. Hyperlinks on the right side of the main Wikispaces page.

The students had personal pages where they were able to express themselves through photos, collages, videos, and any other elements they desired to decorate their Wikispaces pages as illustrated in figure 3. Some of the participants included pictures of family members and pets.

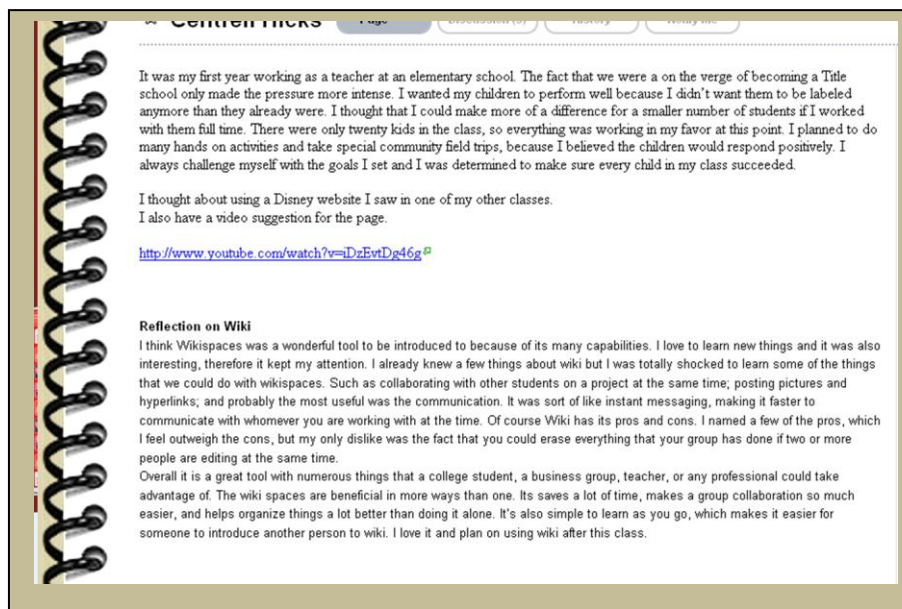


Figure 3. Example student Wikispaces page.

Participants

Sampling. Purposeful sampling was used to understand the experiences of graduate students in a wiki-based collaborative learning environment. Purposeful sampling was based on the supposition that I desired to gain insight pertaining to a particular object or phenomena; therefore, I “must select a sample from which the most can be learned” (Merriam, 2009, p. 77). Such sampling required me to establish the criteria that would be crucial when selecting the participants because the sampling criteria will guide the purpose of the study (Merriam, 2009).

The sampling selection criteria for the participants in this case included (1) being admitted into the MAT program, (2) enrollment in the TEP6000 course, and (3) a willingness to participate in the study. For students to gain admittance into the MAT program, they had to first meet the admission requirements for The Graduate School at the University and the Teacher Education Program (TEP). Requirements for graduate

school admission include official transcripts indicating completion of a baccalaureate degree with a minimum of a 2.5 GPA from an accredited institution and a sufficient score on the Graduate Records Examination (GRE). Admission requirements for the TEP include passing scores on the Praxis I (reading, writing, and math) and Praxis II (content knowledge) examinations, a successful criminal background check, and participation in an interview process conducted by professors from the College of Education. Once all requirements were met, students were then allowed to enroll in MAT courses. Students agreed to participate in the study by signing a consent form.

Participant description. The case for this study consisted of a group of 25 graduate students enrolled in a required MAT course and attending an urban university in the mid-south. Some participants were practicing teachers, while other participants were preservice teachers. Students enrolled in the MAT degree program may follow several different courses of study to obtain his or her Master's degree in a specific area, which include early childhood education, elementary education, middle school education, secondary education, or special education. Once students are accepted into the program, they are given a generic program of study that lists the classes needed for degree completion. Strategies for Students with Disabilities, TEP6000 (a pseudonym), is a required course for all MAT students. Students' enrollment in this course confirmed their status as graduate students that are interested in completing a Master's degree and obtaining teacher licensure.

Although the syllabus issued to the students for TEP6000 included the wiki assignments as part of the course, consideration was given to students who did not want to participate. Study participants attended an information session that explained the study

and gave a brief overview of the wiki. All participants signed consent forms, following guidelines of the Institutional Review Board at the University. If a student decided not to participate, he or she was given an equivalent assignment that did not involve the course wiki.

Once the participants had agreed to participate in the study, they each completed a brief sketch of their online experience on their wiki page. This questionnaire included details such as what each person knew about wikis, the types of technologies they currently use, how active they are online, and any other information concerning technology that they wished to reveal. At the time of the study, 13 of the 25 participants were 30 years of age or younger, 9 were between the ages of 30 and 45 years, and 3 identified themselves as over 45 years of age. All participants reported that they use their university e-mail accounts. When participants were asked about their use of online technologies, 18 reported that they engaged in instant messaging, 16 participants reported that they download online content, and 14 reported that they access the university library's Web site.

Layout of Course Wiki

The layout of the course wiki included the entrance page where participants were able to log in to their accounts and other Web pages that contained information about the course (e.g., syllabus, assignments, contact information), group pages for student collaboration, instructional pages, and other pages. In addition to group pages, each student had their own wiki page that could be accessed through the main page. Since research (Moore & Barab, 2002) has indicated that students prefer small groups for online projects, the students were divided into groups of four, which facilitated the

creation of collaborative online communities. Within each assigned group, participants decided who would function in the roles required for completing class assignments, including case study design and links to outside resources. The students were essentially in charge of their own groups, and each group of five students had a group page. Rough drafts and collaboration took place on any of the students' pages, on the discussion boards, and in chat rooms, but the final draft of the assignments were posted on the group page. The wiki also had a discussion tab in which students could discuss topics and share ideas.

Participants were asked to create a group project and repositories of information that future teachers would find helpful; multiple sources of data were utilized to create the repositories. Some groups posted videos and links to other Web sites; other groups posted photos and information directly onto their group's wiki page. Students were required to reference the material and to follow guidelines set forth by the American Psychological Association (APA style) for academic citations.

Data Collection

This study was designed to explore participants' experiences using qualitative case study. Therefore, detailed data was collected to reveal information about the participants' perceptions through the methods previously mentioned. The primary purpose of case study is to "collect data about actual human event and behavior" (Yin, 2008, p. 98). Multiple sources of data were accumulated that, according to Yin (2008), increased the depth of the data. Several types of sources were used as evidence for case studies, such as participants' documents, semistructured interviews, and virtual observations.

Interviews. To clarify the perceptions of the participants in the study, I used semistructured interviews as the primary data-collection method. The interviews, conducted with 6 of the participants, were 1-on-1 and approximately 60 minutes long. There were also accompanying focus group sessions. Data was collected from individuals as well as group discussions to ensure that insight was gained not only from an individual's perspective but also from the collective knowledge of the group.

In an attempt to fully understand the graduate students, in-depth interviews included questions pertaining to their experiences when using wiki technology while participating in the course. Semistructured interviews accomplished the research goal by attempting to understand the meanings of the phenomena from interviewees' perspectives (Kvale & Brinkmann, 2009). Before the interviews began, the topics were outlined that were to be included throughout the process (Patton, 2002). The semistructured interview approach was chosen to "increase the comprehensiveness of the data" while allowing for a conversational tone (Patton, 2002, p. 342). Therefore, the interaction between the researcher (me) and each interviewee flowed somewhat freely. This semistructured approach granted access to broad examination of the research topic.

The interviews were synchronous and took place in real time through the Internet, and multimedia, music, and emoticons could have been included in chats, producing archived discussions and text. Online interviewing requires techniques that are different than their terrestrial counterparts. Madge and O'Conner (2004) suggest three essential elements of synchronous online interviews, including "engagement, interaction and communication" (p. 6). Other aspects that are considered when conducting online interviews included typing skills, technical expertise, and the ability to "nurture and

direct on-line relationships and create interpersonal bonds,” which were key skills required for conducting synchronous online interviews (Gubrium & Holstein, 2003, p. 87). In other words, the online interviewer must be able to entice and engage the interviewee by asking pertinent questions that correlate to their responses while actively listening. Online interaction should be pleasant and more often than not instantaneous while still elucidating the interviewee to reply.

My thoughts about the transcripts were noted in the margins. (A copy of the semistructured interview guide that was followed is found in Appendix A.) Oftentimes, when probing an interviewee for the answer to one question, the answer to a different question yet to be asked was obtained. Because of this, questions from the guide that had already been answered in some other part of the interview were not asked.

Focus group sessions were conducted online and followed several of the principles suggested by Kruegar (1998), including “keeping the interviews conversational, the questions clear, allocating enough time for responses, and “establishing a climate for communication” (p. 6). An interviewer should be able to type well and to work out any technical problems that may arise on either end of the online interviewing process (Gubrium & Holstein, 2003). Typing speed and the ability of the facilitator to maintain the group’s adherence to the discussion topics from a virtual space are important abilities for online focus group moderators (Stewart & Williams, 2005). Also, the use of online interviewing requires an online researcher to become reflexive and accustomed to the fast-paced online interviewing environment (Stewart & Monica, 2005).

As the moderator of the focus group discussions, a series of questions, called the “questioning route,” were used to guide the discussion (Kruegar, 1998, p. 9); this method

enabled the moderator to intentionally address each theme. Open-ended questions, which enabled the interviewees to decide the direction of their response, assisted in revealing students' perceptions when using wiki technology in a graduate course. Questions that were reflective about their use of wiki in the course helped facilitate responses that were based on personal experiences. The fundamental component of synchronous online focus group interviewing, as described by Clapper and Massey (1996), "is dependent on the creation of an environment that *facilitates* group interaction" (p. 49). Morgan (1998) contends that online focus groups share the same essential elements of qualitative methods including "(1) exploration and discovery, (2) context and depth, and (3) interpretation" (p. 12). Even though focus group interviews took place in a virtual environment, Krueger's suggestions are still appropriate and have been utilized in other online focus group studies (Chen & Hinton, 1999; Klein, Tellefsen, & Herskovitz, 2007; Tainsh, 2007). Interview data was gathered through the use of chat room sessions in through the interaction of me and the group members interacted.

Documents. Documents, such as student reflections, wiki-based entries, and participant dialogues, were included in the analysis. Reflections written by the students on their personal wiki pages provided insight into their perceptions of the collaboration within the course wiki. Wiki-based entries included group discussions of the project assignments, documents such as the actual assignments, group wiki pages, and personal wiki pages. Through participant dialogues via online discussions and chat rooms, group reactions and dynamics were examined.

Observations. Electronic observations (e-observations) focused on the exchange of ideas in the wiki arena and interactions between participants and collaboration

techniques. E-observations are different from document analysis in that the observations will have entries that note the times of the interactions and a record that lists all the changes to the wiki, including the participants, when something was changed, and what was changed. Online observations will actually take place as analysis of the interactive texts in which the participants' assignments materialized, and they can generate valuable insights into the ways in which people interact (Markham & Baym, 2009). Online discussions and online written reflections, as well as wiki-collaborative assignments, served as observation tools and as the documents for analysis. E-observations, such as wiki "participation, discussion, and assignments" will be "observed and recorded" (Liang, n.d., p. 4). Since the research centers around interpreting the experiences of participants in an online environment, gaining "first-hand experiences, views, and actions of the instructors and learners" was essential (Liang, n.d., p. 5). Therefore, although the participants knew that their interactions were being noted, I was a silent observer in the wiki online arena, which was critical to obtain an understanding these graduate students' experiences.

Process of Analysis

Data collected from this study were analyzed using social interaction and learning premises that structure communities of practice theory. Throughout my analysis, I identified themes that coincided with communities of practice assumptions. Significant evidence was discovered, asserting that the participants created and shared a community of practice within the dimensions of my case study, although this evidence cannot be generalized. During the creation of the “wiki community of practice,” the participants were engaged in both the subject matter and the learning process.

Data collection and data interpretation are simultaneous actions, meaning that the researcher starts the data collection and analysis processes at the same moment. Therefore, data analysis is an ongoing process that starts at the initial phase of the study and continues throughout the duration of the study in conjunction with participants at the research site as well as data analysis conducted amid the stages of data collection (Erlandson, Harris, Skipper, & Allen, 1993). To understand this instrumental case study, data was categorized to create understandings of the phenomena (Stake, 1995). Bogdan and Biklen (1998) define qualitative data analysis, categorizing it as “working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others” (p. 157).

Based on Yin’s (2008) suggestions for collecting and analyzing data for case study designs, a database was created that kept a log of how, where, and when the multiple forms of data were collected. To simplify data arrangement, access, and storage, a database was created using ATLAS.ti, a program that allowed me to organize the data

easily and create of backup copies. This database allowed me to organize the data easily and to create backup copies.

To become fully acquainted with the transcripts, each raw data source was read a minimum of three times. Not only did this action increase familiarity with the content, but it also allowed insight of the commonalities and themes within the data.

Drawing from the views of LeCompt (2000), my qualitative analysis consisted of five overarching procedures: tidying up, finding items, creating stable sets of items, creating patterns, and assembling structures (pp. 148–151). My first step was to “tidy up” or manage the raw data. Computers not only became an important aid in creating the units of meaning within my data but also an important part of the management and storage of my data. Computers can at times become uncooperative; therefore, the first step I performed when managing my data was to create several copies of the data including online file management, an external hard drive, and a printed copy. Because of the large amount of documents and the necessity for me to stay organized, I used ATLAS.ti, a qualitative data software program. Once I was able to convert and view the documents, I began the process of arranging the raw data files into easily readable documents. This step involved congregating the raw data and formatting the text into uniform documents. The files I created were cataloged and separated by type of data. While organizing data, I was aware of my research questions and was constantly “comparing them against the data collected” and looked for missing data to determine if I would be able to answer to my research questions with the data I had collected (LeCompt, 2000, p. 148).

I began “finding items” by closely rereading all data sources repeatedly, a minimum of three times each (LeCompt, 2000, p. 148). By repeatedly reading the transcripts, memos, collaborative writing, artifacts, and observations, I systematically looked for items relevant to my research questions. I looked for sections of material that corresponded to category schemes I had anticipated as well as unanticipated concepts and anything that was distinctive. This “in vivo” coding procedure revealed the “meaning units” that were concealed within the text. Segments of text were occasionally coded for more than one specific category, while other segments were coded into more general categories. When coding the data, I read over the data a minimum of three times and looked for things relevant to answering my research questions.

“Creating stable sets of items” and “creating patterns” were the next processes for data analysis (LeCompt, 2000, p. 149). By comparing and contrasting items, I was able make distinctions and to cluster similar items together creating codes. After I had completely clumped items into similar groups, I looked for meaningful patterns within the data and identified similar characteristics within the data. Patterns began to emerge through the descriptive and interpretive codes through my data analysis. I continued line-by-line coding, aware of the original labels for various sections of data from my memos. After rereading the transcripts several times, I adjusted the codes and then assigned “chunks” of data to categories. I also did an additional close reread for missed coding and then developed themes around my research questions. I looked for chunks of data that confirmed other information and created categories, and I realized that some of the categories could be combined; therefore, I collapsed similar codes into larger categories.

I continued “assembling structures” from the data categories I had generated to create themes (LeCompt, 2000, p. 149). This involved arranging and selecting essential sections of the data to aid in analysis. In other words, this process prepared the data by organizing it into a sharpened form. This allowed me to focus on the essential parts of the data so that I would be able to draw conclusions based on my analysis.

Once I had created 11 themes that corresponded to my research questions, I began looking more closely at the data I had collected. Although I had combined common categories with seven themes emerging, I finally decided that five categories were sufficient.

Concurrent with data collection, data was interpreted, and I attempted to understand various aspects of the data. This not only allowed a glimpse of the data as it was created but also allowed me to become closer to the data. Therefore, in the early stages of data analysis, themes were already being constructed based on observations and interactions with the research participants (Erlandson, Harris, Skipper, & Allen, 1993).

Procedural notes allowed me to record patterns and connections that I saw within the data and to note sections to explore further. Therefore, I was able to see consistencies and patterns form from the participant’s experiences. I also realized that probing questions helped me to elicit responses that I might not have obtained if I were to have simply had the participants complete a questionnaire. While repeatedly studying the documents, I noted my thoughts about the transcripts in the margins.

Data Display

LeCompte suggests that visual displays facilitate analysis by showing the relationships between and within data patterns (LeCompte, 2000). Data displays help

guide conclusions by providing a visual means for showing relationships within the data. Novak (1998) advocates visual displays, saying that “concepts maps generated from the interview process can help to interpret the meaning of the qualitative data” (p. 105). Visually displaying the data was helpful and allowed me to view the data from a new perspective while uncovering the meanings hidden within the data. The data displays became an important part of the process of exploring the experiences of the participants. An example of a visual representation of codes, categories, and theme creation is presented in Figure 4.

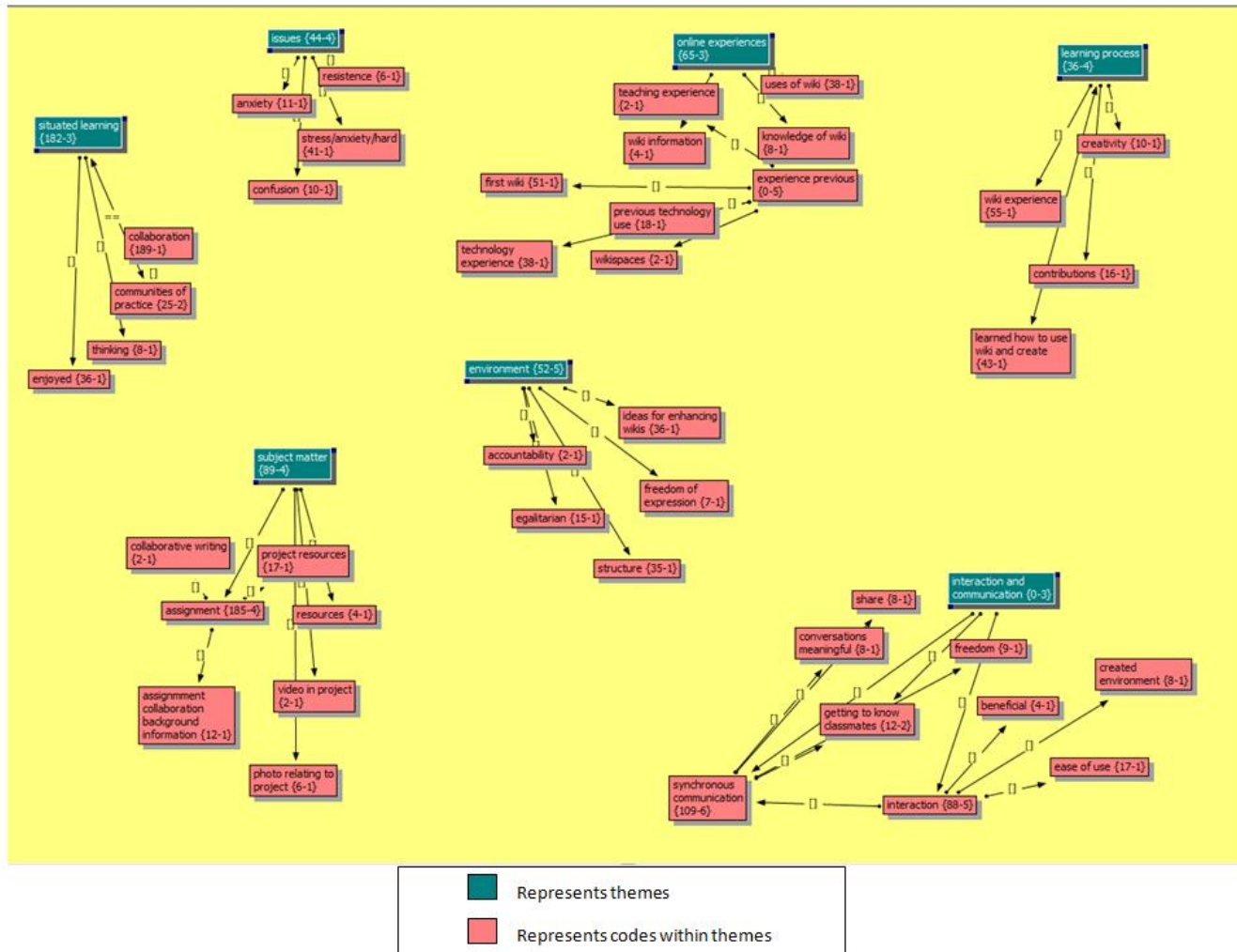


Figure 4. A visual representation of codes, categories, and theme creation

Conclusion Drawing and Verification

The research questions guided data coding by determining what was important and what was not, and this coding led to general categories. Next, themes were developed by arranging the coded material into larger sections. After separating the data into themes, I identified connections and relationships that were within and between the data. Finally, conclusions were drawn from the convergence of the data and interpretations were checked against the original data. Although findings are presented in this chapter and results are presented in Chapter 5, data analysis was a spiraling process that involved all aspects of data analysis procedures (Miles & Huberman, 1994).

Trustworthiness

Many strategies exist for validating qualitative research. The idea of validity depends of the epistemology of the researcher (myself). As recommended by LeCompte (2000), there was continuous reflection on my personal understandings and conclusions concerning data analysis. Peer debriefing, negative case analysis, triangulation, and member-checking served as validation tools (Creswell, 2007; Stake, 1995). My observation notes were compared to my peer's observational notes and were openly discussed to check for discrepancies. As previously mentioned, I was aware of data that did not fit the ideas presented in the current study and advanced my inquiry based upon those discoveries. Triangulation of the data occurred through the use of several data sources, including interviews, a focus group session, online observation, and participant-created documents. Throughout the duration of the study, data was collected from 6 individual interviews, 1 focus group session, 4 chat room sessions, 25 personal reflections, and 5 collaborative writing samples. I also requested that participants review

the data to authenticate my findings, which is a critical element for establishing trustworthiness (Lincoln & Guba, 1985).

Summary

I conducted this research at an urban university in the mid-south, exploring the experiences of graduate students when utilizing wiki as an online pedagogy. My research also concentrated on the formation of a community of practice within the course wiki. Field notes, e-observations, artifacts collected from the course wiki, a focus group interview, and six individual interviews were coded and categorized to elicit the perceptions of the participants.

My research questions guided the coding by determining what was important and what was not. This coding led to general categories. Next, I developed themes by arranging the coded material into larger sections. After separating the data into themes, I identified connections and relationships situated within and between the data. Finally, I drew conclusions from the convergence of the data and checked my interpretations against the original data. A visual representation of the codes and categories that I created helped provide evidence for the themes I created in order to answer my research questions (Creswell, 2007). I will present these themes in Chapter 4 and illustrate my findings through sections of the transcripts and documents produced by the participants.

CHAPTER 4:

FINDINGS

The purpose of this case study was to explore how graduate students experience wiki as an online pedagogy and form a community of practice. This research is also based on a personal interest in online learning and communities of practice theory. Research concerning communities of practice in online environments is critical to instructors in higher education understanding online collaborative software. Experiences described by participants in the current study will contribute to the existing literature relating to communities of practice, online learning, and effective collaboration tools. The following research questions guided my study:

1. What are the participants' perceived experiences when utilizing wiki as an online pedagogy?
2. How does the process of using wikis generate communities of practice?

Symbolic interactionism was the theoretical framework for this study and communities of practice theory was used to guide data analysis; I discovered hidden meaning within the experiences of my participants. To proceed with my study, I established positive relationships with my participants and answered any questions concerning my study. Data collection involved e-observations, collaborative artifacts, chat room sessions, discussion board entries, wiki entries, individual interviews, as well as a focus group interview.

Themes

Once I thoroughly reviewed the data while using the research questions to guide the analytic analysis, I was able to identify themes that emerged in addition to

prearranged categories that aligned with the two research questions (Yin, 2008). I coded for and found the following themes: (1) wiki experiences, (2) negotiation of ideas, (3) egalitarian, (4) community engagement, and (5) collaborative learning processes.

Through rigorous data analysis, I analyzed the data and exposed the following themes. Themes 1, 2, and 3 describe the experiences of the participants and were linked to research question one. Themes 4 and 5 were based on communities of practice theory and related to the students' collaborative learning processes and were linked to research question two.

Theme 1: Wiki Experiences

Preece (2001) suggests that effective online environments encompass the following four criteria: “social interaction and support, information design, navigation, and access” (pp. 5–6). Therefore, when exploring the experiences of the participants, I checked for the presence and/or absence of these characteristics. I also wanted to know if they had any previous experiences using wikis and what they knew about wiki software. To understand students' background knowledge of wikis, I asked participants to describe their knowledge of wikis on their own personal page during the first day of class. Participant responses varied considerably, with some indicating no prior knowledge about wiki, referring solely to Wikipedia, while others seemed to know the editing mechanics of the online software. Table 1 illustrates the range of responses.

Table 1

<i>Participants Initial Knowledge of Wikis</i>	
Participant	Pre-Existing Wiki Knowledge/Experience
Kevin	Other than using Wikipedia to locate information on the internet, I am not that familiar with wiki.
Susan	Wiki is the first thing that always pops up!
Angela	Wikipedia is the encyclopedia that you can add to and my students LOVE to use it to research everything!! But they aren't allowed to.
Randy	I have no experience with wiki.
Rochelle	Wikipedia is an encyclopedia of sorts in which registered users (?) can change information or add information on a particular subject / concept. I normally use Wikipedia when I begin researching something, to get an overall idea of a subject, but then use other sources for my papers.
Peter	Wikis are online collaborations often authored and edited by a multitude of persons online. Often for academics, students are dissuaded from using information/research garnered through the content use of wikis.
Jennifer	I am here and I'm not sure what to look for. I hope to learn more about how to use this site. I don't really know anything about wikipedia and need to learn how to use it. I've heard of it and seen it used at work but haven't had any real interaction with it. I assume it is an internet way to find out information about about any particular subject.
Cynthia	Wiki is an interactive web based encyclopedia, that usually offers more information than any other internet source about various topics.
Michelle	I use Wikipedia to find out about entertainers. It's usually the first link that shows after I do a search. I was told the information wasn't reliable, however, what can you trust these days?
Emily	I know how to use Wikipedia to find other research sources, how to be accepted as a contributor, and how to manage Wikipedia.
DerPeter	Wiki are collaborative web pages that connect groups of people. They are usually interactive and group members can enter and change information that admins have to later verify. Wikipedia.org is a very popular online encyclopedia wiki.
Lynnetteette	Wiki is an encyclopedia. Any one can add information. When writing papers wiki can not be used as a source.
Monica	Wikipedia is the possible the most frequented internet encyclopedia for children and adults in the US today. Personally I have used Wikipedia to answer random questions I conjour regarding the origin or history of common colloquialisms.
Amelia	I do not have any type of knowledge about this program; however, I am excited to learn new and improve information about it.
Allison	I do not know anything about Wiki. I was taught not to use Wikipedia because the information may or may not be valid or come from valid sources.
Deborah	I believe that Wikipedia is a website where people can post and add information about an endless list of topics. Anyone can be an author on Wikipedia, yet I believe that someone at Wikipedia does verify that the information one writes is correct.
Zoe	I know just a little about wikis. I know that wiki pages can be edited by anyone. the person that posts content to the wiki is responsible for the correctness of the information but anyone can add to or change the information posted. Wikis can be used to create documents by a group of people. People can add to or change the document and publish the completed document for others to view.

In the later stages of the project when participants were interviewed about their initial thoughts concerning the wiki project, some participants expressed anxiety, confusion, and were admittedly resistant. John found the idea “a little intimidating, I did not feel like I knew what I was doing” (John, 451). Jennifer indicated that she was more anxious about her grade than using wiki: “I wanted to understand how to use it in the group setting. I suppose if I have anxiety it comes from knowing I need a B in the class and I've been a B-C student in years past” (Jennifer, 5120–5121). Another student stated, “I was confused about what to do as we actually started” (Angela, 5315–5316). Lauren said, “I was totally confused” (line 447). “What I am most confused about is what each of us are supposed to do next” (Deborah, 5735). Mark elaborated, “On the first day in the lab, I was confused and did not understand the entire logic behind Wikispaces, I felt that it was a waste of time” (5754). Sally reflected, “I must admit that I was extremely confused and overwhelmed in the beginning” (5788–5789). Amelia stated, “On the first day of class, Mrs. Taylor mentioned the word “Wikispaces” and in my mind I was wondering what in the world she is talking about” (5981–5983).

Researchers suggest that online environments vary according to the application or software that is used for interaction (Anderson, 2009; Mason & Rennie, 2008). Consequently, I was interested in the participants’ thoughts concerning the wiki environment. Students described using the course wiki as easy and a good arena to provide feedback. The navigational aspects of wiki included the layout, the ease of finding links, and the overall look of the course wiki. When referring directly to the navigational aspects of the wiki, Sally, Derrick, and Cynthia said, “it’s easy to navigate and free of unnecessary features” (Sally, 5767), “It so easy and convenient” (Derrick,

4220), and “I liked having Wikispaces to use” (Cynthia, 5579–5580). Derrick also elaborated, “I think Wiki was pretty easy and straightforward” (4314). Jeffery stated when referring to the wiki project, “All in all I really enjoyed the simplicity and flexibility of this assignment” (5958). Also, many simply responded as Cynthia and Monica did by saying things such as, “I liked using Wikispaces” (Cynthia, 5579–5580) and “I think it’s an exciting and inventive tool” (Monica, 591).

Participants indicated overall satisfaction with wiki software. Lauren reported that she not only appreciated the instant gratification of viewing the group’s attempts, but she also liked the ease of use in the online environment, “I also think wiki makes the assignment easier in the long run because you can automatically see your group’s effort” (455–456). Students also reported that “Overall it is a great tool with numerous things that a college student, a business group, teacher, or any professional could take advantage of (Steve, 5762–5763) and “I think WIKI is an easy way to do a project. I think I might prefer this to a PowerPoint” (Lynnette, 4122). Deborah said, “Well, all in all I liked using wiki. I learned a lot from the program” (551).

When participants were asked about their experiences using wiki, many participants described their experiences as beneficial and meaningful. Monica said, “my experience with wiki rocked overall” (590). Lauren and Deborah agreed while stating, “I feel that it is a great way to do a group assignment” and “it was a good overall experience” (Lauren, 822; Deborah 1155). When asked about their learning experience elaborated about their views on the project, “The time was useful,” and Rita said, “this experience has been very beneficial” (Lauren, 1051; Rita, 5472). As far as student engagement with the learning processes and the subject matter was concerned, some

participants mentioned that the project was interesting as illustrated in the following quotes: “The project was fun and interesting” (Stacey, 5662); “Overall, I believe this project was very interesting” (Mark, 5745); “I love to learn new things and it was also interesting, therefore it kept my attention” (Steve, 5754); and “I thought it was very interesting” (Derrick, 4253).

I found that students not only enjoyed the wiki software, but as a side effect, they were pleased to have learned how to use wiki. Participants also thought their learning had been enhanced by utilizing the wiki software in the course. When John was asked about his thoughts concerning wiki, he said, “Wikispaces is a great program to learn about how to create your own personal pages, how to design case study, can have a discussion with the people that has access to this program, and many more creative information” (5896:5899). Another participant agreed and stated, “It is a great way to post ideas and share information with other group members. I like how we can post things on our personal pages and then put a final product on the group page. It helps to keep thoughts organized and allows us to put our best work on a different page” (Lauren, 5913:5916).

Each individual participant had their own personal wiki page on the main wiki course website. Although all of the students participated in online collaborative practices, some students actually changed the format of their personal pages by making use of the wiki design tools. Clippings from four students’ personal pages are shown in Figure 5.



Figure 5. Clippings from four students' personal Wikispaces pages.

Theme 2: Meaningful Discourse

Participants stated that synchronous and asynchronous communications through chatting, postings, and discussions were meaningful and provided feedback. When referring to her communication experiences with the wiki, Sally said, "I liked how we could post a comment and receive immediate feedback, or visit chatrooms to develop ideas" (5769-5770). Deborah confirmed this when he said, "I enjoyed the chatting online since it was automatic feedback" (427). Students in group one commented and described their teaching experience through posts that appeared on their shared group page. The

following is an example of students openly discussing their previous teaching experiences:

Jennifer: I have seen distractors and disruptors as a substitute teacher. a couple of classes got to the point of being sent to another class or having an assistant principal take the students aside about what they were doing.

Angela: Hey guys! I'm completely excited about this project!! What ideas do you guys have about the study?

Amelia: I have experienced children with Speech and Language disorders, Autism (bites wrist to release frustration), and Behavior Problems such as temper tantrum due to lack of attention in the home.

Groups 2 and 3 utilized their own personal student pages as the venue for posts and discussions:

So Lynnette came up with a good scenario last night about a student who is going blind and having trouble using braille. Should the student be tested using verbal testing?

I have a printout of the IDEA Qualifying Disabilities from the Tennessee State Board of Education. Blindness is under the disability of "Visual Impairment Including Blindness", which means an impairment in vision that , even with correction, adversely affects a child's educational performance. This term includes both partial sight and blindness.

This would qualify a child to receive an IEP if the blindness the student is experiencing is long-term and affects the child's performance in the classroom. Otherwise , the student can receive services under 504 and receive accommodations this way.

After Lynnette and I talked with Amber McCullough, she said that the scenario about the student going blind should start off more general and then work down to a problem.

So, if we choose this scenario (which Lynnette and I think is great=thanks Lynnetteette), it should start general like the teacher noticed that the student might not be able to read the board or read things clearly on tests. The teacher then requests that the student get her/his eyes checked and they find that the child has Trachoma, which is easily transmitted and can eventually cause blindness.

Lynnette and I have discussed that this is a good way to have different parts for this project. Lynnette said that the student could come from another country, where this disease is prevalent. This can bring in the issue of being a new student from a different country and all that this implies.

Then, the teacher can notice the possible loss of sight and they find the disease. This brings in two issues: the child is going blind and needs braille and verbal testing; and the child may need to be placed somewhere else because the child

could transmit the disease to others.

I know this is a lot but we are supposed to break it down into different issues
Lynnetteette's senerio could be a good one. trachoma is a disease of the eye that
can cause blindness and is contagious. How do we take care of the child and how
do we take care of the rest of the children in the classroom?

A case that I am aware of: a group of 18 kids ages 4 and 5. 11 boys and 7 girls.
One boy is very active, cannot sit on rug without stretching out into someone else
space. He is constantly making noises, and interrupting the teacher with things
that don't pertain to what the teacher is talking about. When he is asked to take a
chair outside the circle but close to the teacher and still a part of the group, he still
wiggles until he finally falls out of the chair onto his head on the floor and cries.
This is how each day goes, it never seems to get much better for him in class.

Groups 4 and 5 employed the discussion board as the primary means of
communication. Each group had their own discussion board that was available under the
main group page for each group. Groups 4 and 5 both actively participated in wiki
discussion board dialogues concerning the assignments. The following section from the
discussion board for group five demonstrates their interaction:

Kevin; My teaching experience

Here is the first part to a normal day with the boys that we talked about. This is
mainly the background. Please make changes and add:) Michelle, thanks for the
links! Part 1It is the end of the school day and all I can think is, if I can just make
it through The University of Chicago. No, not the real university, but the
homerom whose name is University of Chicago. At the school where I teach all
homeroms choose a college name. Nothing against the University, I'm sure
Chicago is a wonderful school but this homerom is no joke! Specifically, John
and Joe, or I like to call them twin 1 and twin 2. The boys are actually very sweet
but out of control. Both have been diagnosed with ADHD. Here is a little more to
their background so you can understand why teacher's often dread the "bad days"
with the boys. The boys have been diagnosed and should receive medication.
However, the likelihood of them taking their medicine is very slim. The twins
were recently promoted up to the 7th grade from 6th because they had been
retained the previous year. Their IEP went into effect around 2007 under "other
health impairments." Their attendance to school is not regular and the boys are
often tardy. The family is from a low socioeconomic status.

Deborah; re: My teaching experience

Were they promoted during the school year? How long is homeroom? What school is this set in? Maybe talk about their reading/academic level that they are on right now, even though they are at the age of 7th graders.

We can also add a "short story" (couple of sentences) about how when they are tardy they not only do they disrupt the class by coming in late, but then their ADHD adds to the disruptiveness by making a big scene when coming into the classroom.

Peter re: My teaching experience

My first thought is to add in more about the family. Also, the UoChicago bit confuses me. I think I get it; the homeroom was given a class name of sorts, yes? A few thoughts for family development:

Mom works one job (fast food, retail, etc?), dad is out of the picture (very common from my experience). The twins could have been diagnosed with ADHD in 2007, we should clarify this. ADHD, Inattentive Type? Hyperactivity-Impulsivity Type? We can add more detail here. Theoretically in a ADHD eval, general psych testing would have been completed (or should have, due to the high chance of comorbidity of LD). I suggest the following test scores (I'll clean them up and put them in a correct format later): Cognitive GIA: 87; AchievementBroad Reading: 72Broad Math: 80Broad Written: 74 Written Exp: 70 (this would imply some learning disabilities, LD-Written Expression with LD-Reading being on the cusp) the following is a sample background section from a psych report I did last semester (the names are changed). This may give us some ideas.

Roberta, a 15-year-old African-American girl, is currently in the tenth grade at Bayside High School in Memphis, Tennessee in a public school where 86% of the students are African-American. Roberta currently resides with her mother, Sophie Langdon, and a 14-year-old sister in a predominantly African-American neighborhood.

According to background information provided by Mrs. Langdon, Roberta is an active, well-behaved adolescent. She actively participates with her family and interacts typically with her peers. Roberta is a member of her school's volleyball team and church dance team. She hopes, one day, to have a job that will allow her to work with young children. Roberta does struggle with the limitations of her socioeconomic status as well as her physical appearance. She has been the victim of ridicule by her peers concerning her clothing, acne, and weight. Mrs. Langdon reported no complications with her pregnancy. Roberta was born with a low body temperature that required an extended hospital stay after birth, but this complication had no affect on an otherwise normal development. As a child, Roberta often suffered from frequent strep throat and continues to suffer from stomach pains, excessive vomiting, and weight problems. Recently she has been experiencing painful menstrual pains that have resulted in several absences from school. Her mother also reported a history of high blood pressure in the family. Roberta's mother reports that her daughter has not experience many academic difficulties. She has mostly been a "B" student. Roberta's education has been completed entirely within the Memphis City Schools. In addition to the traditional

progression to a new level of schooling, Roberta change enrollment in elementary school due to a family move and districting policies. Since entering high school, Roberta has been experience an increasing difficulty in mathematics. Her grades are fluctuating in the “D” and low “C” range.

Randy; re: My teaching experience

Kevin thank you for the information. Is there someone that can work with the famliy so the twins can receive medication? Is the family not in favor of the twins taking daily medicine. It sounds like the family is not suportive. Their attendance is an indicator.

Peter: re: My teaching experience

In retrospect, I could alter the scores again to remove LD and make this a purely ADHD concern. What do you guys think is best?

Peter: re: My teaching experience

Questions for this section might be:

What are pre-existing conditions that affect the way the children act in the classroom?

Should counseling be considered for these two children?

If the children are prescribed medication, and the mother has been getting it, the school can seek permission to administer the medication. Should this be considered?

Deborah: re: My teaching experience

I think we should keep it strictly ADHD. There's so much already from just that one diagnosis that we can play with in the story. I think the main point/solution to the story would be how to have them take their medicine (ideally that would be the best solution). Also, we probably need to talk about the teacher's actions/struggles just as much as the ADHD problem the twins bring along in the classroom.

Deborah; re: My teaching experience

All those questions are really good, Ryan! I like the 3rd one the best. How much of a struggle would have be for the school to get permission to administer it?

Kevin; re: My teaching experience

Yeah, just erase that bit about Chicago I was just typing while I thought out loud:)

More info: Yes, they were promoted during the middle of the school year. John was on a late 3rd grade level and Joe was working at a 4th grade level.

Love the idea of the test scores. the boys were Hyperactivity-Impulsivity Type As for the family, Dad is in and out of the picture. I only saw him once picking up the boys from school. Mom does not work I think she may have gotten hurt at work or something of that sort....The mother is a heavy smoker and teachers have smelt alcohol on her before. Most of time when the boys got in trouble she said she would take care of it at home. One day she came up to the school and yelled

at one of them in front of the class. It was a very weird situation. After that teachers began to find other ways to give the boys consequences which did not have to always involve a phone call.
Hope this helps.

Deborah; re: My teaching experience

Well them being promoted during the middle of the school year is a bad indicator of a problem already. Don't y'all think? Either move them at the beginning of the year or not at all. That just changes a kid's surroundings/expectations too quickly and can add to the mess.

Are these the type of kids that are sent to the principal over and over, and there's only so much that all the teachers/the principal can do collectively?

Kevin; re: My teaching experience

Yeah the movement was not the best idea but I am not on the leadership and SPED team to have an input:) Principal...yes

One was suspended was for saying shut up talking to me to a teacher. There were also suspensions for laying their hands on other students

Peter; re: My teaching experience

A narrative writeup of what we've discussed. Let me know what you think. Preparing for homeroom was always a challenge. Not always because of the daily plans, but because of two of the boys in the class: John and Joe Harris. John and Joe are twins who live with their mother in North Memphis. Both John and Joe were diagnosed in 2007 with ADHD, Combined Type, and were given IEPs under IDEA's Other Health Impairment category. When the boys were tested, they're cognitive and achievement scores were in the average range, thus not meeting the criterion for Learning Disabilities. The boys were both retained the year before and, due to their overage status, were promoted mid-year from the 6th to the 7th grade.

"Aaaaaaaaaaaaaaaaaaaaaah!" the yell came from outside the classroom, some distance away, but I already knew who it was. I took a deep breath and went to the door in order to try and restore order, often a futile attempt, but I always tried. John was running towards the room with Cara right on his heels. He was always provoking her into these spats and then causing even more of a ruckus when he attempted to run away.

The boys' home-life complicates the issues substantially. The mother does not work (the story, as I understood it, was that she was hurt at work) and the father only rarely made appearances at the school. He seemed very uninvolved in the boys' lives. Mrs. Harris always smelled of cigarette smoke when she came to the school and occasionally smelled of alcohol as well. Usually when she was contacted to deal with her sons, she would explain to me or to the guidance counselor that she would deal with the problem at home. Only one did we witness this; one day she showed up, after a call home, and verbally reprimanded the boys in class, yelling at them in front of their class mates.

Deborah

Participants described their conversations online as substantial and significant as revealed by Deborah and Lauren: “But when we thought of an idea we got the ball rolling and then more meaningful conversations arose” and “I think our conversations were more meaningful” (Deborah, 897; Lauren, 907). Many of the participants described the social aspects of the wiki as a way to bond by saying things like, “It also was a good way for us to get to know our other classmates, and communicate with them” (Mary, 5537) and “You get to know classmates better” (Derrick, 4233).

A section of group one’s chat conversation (see Figure 11) is an example of an exchange of ideas between two participants illustrating the collaboration facet of their synchronous chat session.

Group 1 Discussions page 1
Session Started
Corrin: joined the Chat
Lynnette: joined the Chat
Lynnette: Hey!
Lynnette: Have you come up with any ideas?
Corrin: I just finished the case study assignment for tomorrow and I am gonna work on this now
Corrin: have you come up with anything?
Lynnette: No, not yet.
Corrin: I looked at disciplinehelp.com that Dr. Taylor told us about and it has a lot of good ideas.
Corrin: any scenario that you could think of
Lynnette: I was thinking something about testing.
Corrin: what kind of testing
Lynnette: Maybe the student was losing her sight, she was able to do the work but was having a hard time adjusting to using braille. The student was tested before she visually instead of verbally or with the touch sense.
Lynnette: how many scenarios do we need
Corrin: that could be good
Corrin: d
Corrin: from the example, it looked like one scenario but expanded into parts
Corrin: i am not sure
Lynnette: So what if we go with this scenario.
Lynnette: We can add to it and take parts away to make it fit what we need.
Corrin: so you are saying that this child is losing her sight and is having trouble using braille so she should be tested verbally?
Lynnette: yeah.
Corrin: that seems like a good one
Corrin: we need to run it by Lynnette and Michael too
Lynnette: I'm thinking the only reason the student is not able to use braille is because she is just learning to use it
Lynnette: We can send them a link on wikispaces
Lynnette: my password is not working for wikispaces:(
Corrin: we can also talk about it tomorrow when we work on it
Lynnette: ok that works
Corrin: I am looking in the DSM for blindness and things we could use
Corrin: Blindness is categorized under "other health impairment"
Lynnette: ok, I'm trying to get on wikispaces now to post ideas
Lynnette: I'm gonna look through the book to see what I see
Corrin: I will be thinking about this some more and we can discuss it as a group tomorrow
Corrin: ;p

Figure 6. Informal chat session between participants.

Another facet of the online software that illustrated group collaboration were evidenced in the group references and resources. Each of the five groups contributed to the communal knowledge by providing resources concerning the subject matter. Table 4 illustrates some of the resources contributed by the groups.

Table 4

Examples of Links to Resources Collected by and Shared among Group Members

Group	Information Shared
Group 1	<p>“Also, according to Sandra Calvert and Monique Moore technology based practices are very successful in the classroom setting for children that are autistic. http://www.springerlink.com/content/q3766vu254p71831/ Hopefully, with the interventions that are now in place and the technology based assessments his educational experience will greatly improve” (Group one, wiki project).</p>
Group 2	<p>“Behavior Support, Strategies, and Interventions: http://specialed.about.com/od/behavioremotional/a/behav101.htm www.kidsource.com; Positive Behavior Support Initiative: https://umdrive.memphis.edu/g-coe-rise/ (Group two, wiki project).</p>
Group 3	<p>“problems she is having with her vision. http://www.bsu.edu/dsd/article/0,,14806--,00.html Ms. Jackson also suggested that Sandra's parents should research ways to accommodate Sandra at home. http://www.spedex.com/napvi/links.html” (Group three, wiki project).</p>
Group 4	<p>An Introduction to Dyslexia: http://www.dyslexia.com/ http://www.associatedcontent.com/article/92636/do_athletes_receive_preferential_treatment.html</p>
Group 5	<p>ADHD Fact Sheet (featuring a brief case study and information) http://www.athealth.com/Consumer/disorders/nichcy_adhd.html http://www.cdc.gov/ncbddd/adhd/data.html Vanderbilt ADHD Diagnostic Teacher Rating Scale http://www.brightfutures.org/mentalhealth/pdf/professionals/bridges/adhd.pdf *not to be evaluated without permission/request of Support Team, for exposure purposes only. Teaching & Parenting Tips: ADHD http://www.adhdchildparenting.com/dealing-with-adhd-child.php http://user.cybrzn.com/kenyonck/add/teaching_tips.html http://www.educational-psychologist.co.uk/adhdclassrm.htm Child Abuse Information http://www.helpguide.org/mental/child_abuse_physical_emotional_sexual_neglect.htm http://www.jimhopper.com/abstats/ http://www.childabuse.com/ http://www.preventchildabuse.org/index.shtml http://www.childhelp.org/ http://www.law.cornell.edu/uscode/42/ch67.html Mandatory Reporting http://www.smith-lawfirm.com/mandatory_reporting.htm</p>

Theme 3: Wikis as Egalitarian

Throughout the data analysis phase, I became aware that the online communication enabled some participants to speak more freely than in a solely face-to-face course. Many participants sensed that they were liberated and they were able to discuss their thoughts and ideas without reproach from other students. When Michelle and Lauren were asked how they felt when participating in online conversations, they said, “Everybody contributed their fair share and we respected each other’s ideas” (Michelle, 810). “I feel everyone felt free to express themselves” (Lauren, 908). And Deborah elaborated about his experience by saying, “Yes, I felt like I could express my ideas freely and no one in my group would shut me down. They might add to it to make it better, but not completely shut out my idea” (912–913). Also, other participants responded that each member contributed to the assignment as exemplified by the following comment: “Our entire group contributed” (Lauren, 1353). Many of the participants described their online interactions as unrestricted, as Mary indicated, “Wiki gives students the freedom to be creative” (5533). Monica described his thoughts as: “...think the idea behind wiki is more socialist in nature,” and Derrick said, “we all took equal shares of the work” (4385). She elaborated this idea saying, “We really didn’t decide by assigning roles. We all initially wrote our own stories and then decided on the best premise. Then we worked together to embellish it, edit it, and write the questions” (4401–4402).

When the participants were asked if there was a leader of their group, Emily responded, “I don’t know that we had a leader in that way” (957). Derrick felt that everyone made the decisions in his group, and “the decisions were usually unanimous”

(4406). But Angela stated that “Michelle and I took the lead” but “that everyone contributed ideas. We posted everything in the discussion so that everyone could read it before it went into the main page” (5315; 5323–5324).

Theme 4: Community Engagement

A community of practice is not merely a community of interest--people who like certain kinds of movies, for instance. Members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short a shared practice. (Wenger, 2006, para. 8)

Almost all of the participants expressed feelings concerning the group dynamics and knowledge creation. Comments such as the following illustrate this idea: “I enjoyed working with each group member and I believe we did a good job pooling our experiences, thoughts and talents together” (Pamela, 5769–5770). Another participant stated, “The group experience helped to clarify much of the meaning behind collaboratory effort. We decided from the beginning that the best way to facilitate a truly collective effort was to enable each person to contribute individual ideas and then to discuss the pros and cons of each person's suggestion in order to derive the ultimate solution” (Steve, 5890–5895).

Cynthia discussed the dynamic of her group in the following excerpt: “In our group we had the educator, the logician, the humanist, and the existentialist. Consider the potential of such a cooperative were the talents of each individual incorporated equivalently into the solution” (5906–5909). Pamela, Lynnette, and Martin stated the following when asked about their groups: “They are wonderful people to work with and everyone did their part to make this project a great success (Pamela, 5920–5921).

Working with a group of people with varying levels of experience on a specific topic

greatly helped to expand my perspective of said topics (ADHD and neglect) (Lynnette, 5658–5660). “I truly enjoyed have Sally and Kevin in our case study group. They are wonderful people to work with and everyone did their part to make this project a great success!” (Martin, 5994–5997).

Students communicated what they saw as benefits of wiki in relation to learning by saying, “I enjoyed working in the group. It made learning kind of fun just because you got to share experiences, understandings of the subject matter, and learn how to work with other teachers on what could be a shared issue in a student” (Jennifer, 5166–5168). Some students also described wiki as motivating, saying, “It encouraged collaboration among students of different educational backgrounds and has helped to expose some us to different perspectives (i.e. practical education-al and school psychological” (5651). Others talked more about how the projects were actually completed, “then we worked together to embellish it, edit it, and write the questions” (4383–4384).

Group four explained how the group worked together to collaborate on the assignments: “We decided that my scenario was the one to move forward with. Lauren and Beth worked together to do the editing and embellishing of the story. Edwina is a counselor, so she wrote the questions and facilitator notes” (4412–4414). Some actually mentioned the procedures for assigning tasks, as illustrated by the following: “My group discussed what could be written, and one of us wrote it. Then it was posted and modified. We essentially just did what was needed as we went. There were no formal discussions (excluding one member who needed to be given tasks” (3859–3861). And Deborah reiterated the process some of the groups experienced, saying, “once the general guidelines/goals for the project were established i think the freedom to develop our story

from our own perspective was cool” (630–631). This participant summed up his experience using wikis as “interactive so people are given the opportunity to learn from others and hopefully develop a system for self-motivation and the enhancement of creativity” (665–666).

When asked about their learning experiences, Lauren and Rita elaborated about their views on the project: “The time was useful” (Lauren, 1051) and “this experience has been very beneficial” (Rita, 5472).

Theme 5: Collaborative Learning Processes

Several of the participants described their involvement in the learning process as interactive and creative. When referring to the interactive properties of wiki, Pamela and Deborah replied, “I really like the interactive features of using Wikispaces” and “It could be as interactive as we wanted it to” (Pamela, 5779; Deborah, 641). While Bill stated, when referring to his experiences interacting online said, “I like the ability to interact with my classmates” (4250). Others depictions agreed with Bill’s description: “I like the fact that it was very interactive and surprisingly easy to use” (Martin, 5860). Another participant described wiki as an “interactive learning tool that all new users should experience in order to enhance their creative problem solving skills”; also, “and it is completely interactive so people are given the opportunity to learn from others” (Monica, 667–668, 1348–1349). Mark also described his means of interacting through wiki such as, “My group also started to communicate more through posts” (Mark, 5744–5745). Others saw wiki as a tool that enhanced their learning, for example, “honestly though, aside from assistance figuring out the logistics of using wiki, i think part of wikis genius is its role as an interactive learning tool that all new users should experience in order to

enhance their creative problem solving skills” (1340–1341). When Rita was asked about her experiences, she said, “Communicating with classmates through discussions to complete a project has been fun” (5472–5473).

Collaborative writing assignments that were constructed directly on the course wiki were essential to understanding the educational aspect of the course wiki and the student learning processes (Hill et al., 2009). As mentioned earlier, students communicated through Internet communication tools to collaborate and complete their group assignments. Final assignments were displayed on the actual course wiki. These assignments included information and links to other web sites containing information about their particular topic. Group one, as illustrated in figure 7, included six photos, animated clip-art, and two links to outside sources concerning their topic.

☆ Group 1 Page Discussion (35) History Notify Me



Multiple Disorders in a Classroom Setting

Part One:
Ms. Jones is in her third year of teaching 9th grade English at Rhodes High School in Memphis Tennessee. Her 6th period class is the most chafed. She has that realized four of her students have separate issues needing special attention. James constantly sleeps in class, Nic is very mild case of Autism, and Christy yawns for attention so she "meows." This is the first year Ms. Jones has had more than two special needs students in dire need of assistance.

Nicholas is a major disruptor of the classroom. He doesn't want to do the handouts or listen to the lecture, so he asks to go to the bathroom. He takes a stack of papers at the teacher when she turns her back. He has discussions with his neighbor about things that have nothing to do with class. When he does so for a few minutes at a time then goes back to his disruptive behavior. During class discussions he says things to try to change the

Figure 7. Screen shot from Group 1's final project.

Group 2 included one photo and eight links to other information about their topic.

Group 2 also included three references for books and two teacher tutorials.

☆ **Group 2** Page Discussion (4) History Notify Me EDIT



Part 1

It is early one Monday morning in October and I woke up eager to go to work at East Meadows Elementary School. I really don't know why I was eager, other than the fact the principal had quickly told me last Friday, as he rushed past me in the hallway, that a new child would be in my classroom on Monday. I knew the students would be really hyper since they hadn't seen each other in two days and I hoped they would welcome the new student. I pulled into the faculty parking lot, gathered my belongings, and got out of the car praying this would be a great day. I passed by a number of students on the playground, who refused to enter the building until a millisecond before the tardy bell rang, they couldn't miss one second of freedom. I signed in as I entered the building and grabbed a cup of coffee from the lounge. I passed by the cafeteria where the students who arrived early were eating breakfast and chatting with their friends. I walked into my classroom to put my bags down, but the intercom came on just as I entered the classroom. The principal said, "Mr. Jones could you please report to the principal's office immediately?" All types of thoughts crossed my mind. Did I park in the wrong spot again, was I driving too fast on the parking lot, was I talking on my cell phone and not paying attention to the students in the parking lot? Who knows what he wanted and then I remembered the new student. As I walked in I noticed a neatly dressed young child with her parents, she wasn't saying anything, but I noticed that she was very busy playing with a toy figure and swinging her legs back and forth while she sat in the chair. At one point the toy "walked up the walls". How long had they been there? Brooke seemed as if she had been in the chair for decades and was thoroughly bored.

Brooke's misbehavior is "my problem". Mr. Holmes has not been alot of help either. In early October I suggested that I begin the referral process for Brooke. However, Mr. Holmes does not believe any actions need to be taken. Mr. Holmes is adamant that Mr. and Mrs. Smith are dissatisfied with Memphis and plan on relocating back to Mississippi at the end of Christmas Break. Since Brooke has been in my classroom, I have added 2-3 behavioral slips to Brooke's file per day. I finally quit recording the information after a month. However, last week Brooke's behavior began to worsen and I again approached Mr. Holmes to complete a referral for Brooke. Mr. Holmes then explained that the school psychologist was extremely busy with the Kindergarten classrooms' ADHD diagnoses, 2nd grade LD cases, and should not waste her time on a student who is about to leave. But what if Brooke doesn't leave?

Questions:

What happens if Brooke comes back after Thanksgiving?

What behavioral interventions does the teacher need to put in place?

When, if at all, should Mr. Jones have begun the referral process for Brooke?

Teacher Tutorial for learning disabilities:

<http://www.pbs.org/wgbh/misunderstoodminds/>

<http://www.webaim.org/simulations/cognitive>

Memphis City Schools - Code of Student Conduct:

<http://www.mcsk12.net/forms/Student-Conduct-Handbook.pdf>

<http://www.mcsk12.net/forms/Handbook-Spanish.pdf> - spanish

Facilitator Notes: As educators you should be familiar with various characteristic of psychological and behavioral disorders in order to identify students and develop classroom interventions accordingly. Also, by recognizing typical characteristics associated with psychological and behavioral disorders, a teacher will better able to refer them to the school counselor and school psychologist and get the child the appropriate services.

Childrens books about disorders:

Hard to Handle Kid by: C. Drew Edwards, Ph.D

Russell is Extra Special by C A Amenta, MD (1992, Magination Press)

This book is illustrated with black and white photos, showing a family with an autistic child. It describes a boy affected by autism and uses this as a jumping off point

Figure 8. Screen shot from Group 2's final project.

One clip art icon and four links to outside information were found on Group 3's final assignment.

☆ **Group 3** Page Discussion (1) History Notify Me EDIT

family behind. Sandra's parents enrolled her in the seventh grade at the neighborhood middle school where she immediately started to transition into the American lifestyle. She has always been a successful student in South America, but her present teacher has noticed a decline in her work since she entered her class. Sandra seems nervous in class and has shown little effort or interest in her school work. Her teacher has noticed that Sandra seems to seclude herself from the rest of the class and has made little effort to make new friends, even when other students approached her.

Sandra's parents have opened a little bakery in town. The bakery is always very busy and Sandra's parents work a lot of hours in hopes of making it successful. Sandra works at the bakery everyday after school. She helps by cleaning the tables and sweeping the floors. Besides getting to see her mom and dad, her favorite part of going to the bakery after school is that she always gets to choose her favorite pastry to eat with a nice glass of cold milk. Sandra's parents love having her help them during the busy after school hours. They have not asked Sandra to help behind the counter because it seems that she is uncomfortable doing this job.

After her jobs are finished, she is allowed to work on her homework while she waits for her parents to finish in the bakery and close the shop. There have been times when Sandra would like to talk with her parents about her school day, but it just seems so hard to get them to listen after they have been working all day. They sometimes don't get home from the bakery until 8:30 at night. The teacher would like to talk with Sandra's parents, but it seems that because they don't have any extra help at the bakery, it is too hard for them to get away. Not only would the teacher like to talk to Sandra's parents about Sandra's work in school, she would like to learn more about the Portuguese culture.

http://travel.nationalgeographic.com/places/countries/country_brazil.html

Questions

1. What are some possible reasons why Sandra's school work has been declining?
2. What are some things that Sandra's teacher could do to help Sandra make friends and improve her school work?
3. How can the teacher help the parents to become more involved in Sandra's academic life?

Facilitator Notes: This case presents a very typical situation for a classroom teacher. Candidates should be guided through the brainstorming process. Candidates should address both academic issues and the social concerns throughout the case study.

PART 2

Sandra's teacher has been trying to meet with her parents to discuss Sandra academic progress since she arrived in America. The bakery has a very busy schedule so Ms. Jackson decides to visit her parents at the shop before it closes. Ms. Jackson has brought Sandra's class portfolio to demonstrate her progress.

Ms. Jackson met Mr. and Ms. Vasquez at the bakery. Once the bakery was closed, the conference began. Ms. Jackson learned that Sandra was a social butterfly in Brazil and that she had several friends. It was also confirmed that she had very good grades and never had any difficulties learning. Mr. and Ms. Vasquez found it hard to believe that Sandra was not succeeding and wanted to know why her grades were slipping.

Ms. Jackson began to go through Sandra's portfolio. Immediately Mr. and Ms. Vasquez stated that this was not Sandra's handwriting. Ms. Jackson admitted it did not match the work she brought with her from her homeland and thought it was something wrong with the samples. Ms. Jackson suggested Sandra sit in a different place in the classroom and maybe her handwriting would improve due to better access to the blackboard and better light to help her see.

Sandra entered the lobby of the bakery and became worried because her teacher had invaded her personal time and space. Mr. and Ms. Vasquez noticed the change in Sandra and asked her to join her conversation. They asked her if she understood the assignments that were given in class. Sandra responded that of course she understands but she is having a hard time seeing the board. She also stated she likes her class, and the students but, she feels like she does not have anything in common with her peers. Ms Jackson also asked Sandra if she was sitting too far away from the board and would prefer a seat in middle of the class or the front of the class. Sandra said she would try a seat in the middle of the class and if she still could not see she would try a seat in the front. She said in South America she always sat in the back of the classroom with her friends and had no problem seeing and that recently her eyes started to bother her.

Questions

1. Will including some of Sandra's culture improve the morale in her class?

Figure 9. Screen shot from Group 3's final project.

Group 4 created nine hyperlinks to readings and information concerning their topic. The writing element for group four was more important than in the other groups, as evidenced by their final project.

☆ **Group 4** Page Discussion (52) History Notify Me EDIT

Part I

You are a 12th grade English teacher at Central Texas High School. It's your twelfth year on the job, and while you enjoy teaching, you are uncomfortably familiar with the politics that accompany the job. While you feel that a child's education should be the focus of schooling, it is undeniably less important than the state's favorite pastime: sports. Central Texas has an outstanding reputation as an athletic powerhouse. It currently has the state titles in football, basketball, and volleyball. The soccer team, in spite of its recent addition, made the playoffs its first year, and a current Olympic gold medalist is a graduate of the school's illustrious swimming program. At Central Texas sports are more than just an extra-curricular activity; they are the fabric of the community. The community proudly celebrates every success, and personally laments every failure.

During your first years at the school, you held the idealistic zeal of the typical educator fresh from college. You felt you could change the world, one child at a time. You believed you could handle any situation, and if you encountered any problems, your colleagues would understand and help you find appropriate solutions. But reality proved to be far from what you imagined. Your first day on campus alerted you to the mass hysteria surrounding sports. Instead of meeting at homeroom and reviewing schedules and procedure, administration threw a huge pep rally in the gymnasium for the whole school. The rally lasted two hours, and you did not see your new students until third period. Many athletes, including the starting quarterback for the football team, the point guard for the basketball team, and the ace senior pitcher, ran out in front of the rest of the students. The applause was deafening as the students screamed and the band blasted the school fight song. Other faculty members sat on the bottom row of the bleachers, furiously waving pompoms and brandishing banners. Each athlete waved to the crowd and then shook hands with the principal and assistant principals. The coaches of each program walked out, all smiling and waving to the crowd. The championship banners from the previous year were hoisted to the rafters and balloons fell from the ceiling. At the time, the whole scene seemed surreal and you vowed never to be a part of it . . .

Years later, you lack the fervor from your youth. You have succumbed to the influence of the sports teams. While you still believe in education first, you have also participated in the obsession claimed by the rest of the school. You sit in the stands wearing school colors and screaming at the top of your lungs. You assign less homework on the nights of the big games. You are more lenient on athletes, especially in the areas of in-class behavior and grading. One day late in the school year, you ask a football player to pull his pants up. "The class is not interested in what your boxers look like, Mr. Johnson." The class laughs, and as you turn to walk toward the chalkboard, you hear the athlete say "Hell naw! I'm an athlete and I can do whatever I want in this school." Angry and flustered, you quickly scribble a note and send the student to the principal's office. "You know ain't nothin' gonna happen to me, right?" sneers Mr. Johnson as he leaves the classroom, smiling.

Later that day, you sit in the teacher's lounge thinking about the incident. What have I become?, you ask yourself. You realize that you are far away from the ideals and principles you had at the beginning of your career. You are just like every other faculty member. As hard as it may be, you know that you have to change.

Questions for Part I
Record your thoughts at this point.
What do you think about the school being so focused on sports?
What made the teacher change his/her way of teaching over the years?

[Personal Opinion from a Student](#) 
[Prep School Priorities](#) 
[Culture of Texas High School Football](#) 

Facilitator Notes

Figure 10. Screen shot from Group 4's final project.

The final project for Group 5 was extensive and contained web links leading to fact sheets and teaching strategies as well as two imbedded videos.

While I start redirecting Joe on his Do Now project, John begins to run around the classroom with a yardstick, riding it like a horse, and galloping his way toward Cara. Now, Joe and John are causing yet another scene and its only 8:42.


There are specific guidelines for my classroom and I try to follow the disciplinary rules as closely as I possibly can for all of my students. First of course is the verbal warning, next John and Joe received a \$5 deduction from their paycheck and the incident was documented. Paychecks go home every Monday for parents to see how their child's behavior was. This is a large deduction; most often deductions are only one or two dollars. This was enough redirection to get them back in line at zone 0 (which means silent) and to enter the classroom initially. But five minutes later they started back turning on the radio and playing with the yardstick. I feel like I am constantly deducting "money from their paycheck." Don't these kids know they "can't afford" to act up in class anymore than they already have? After deductions students are given detention which could add up to multiple days and then lastly there is a write up which goes to the principal.

Questions

1. Should the teacher implement a behavior plans for the children? If so, could she do it just for John and Joe or would it need to be class wide?
2. Assuming that a behavior plan is developed, could the radio be used as a reward of some sort? Why? Why not? What difficulties exist regarding this.
3. Considering the "token economy" in place, is the amount of money she took away from the children's "check" appropriate? Why or why not?

External Resources

- [Token Economy](#)
- [ADHD Teaching Tips](#)



*More resources provided at end.

Figure 11. Screen shot from Group 5's final project.

Summary

Findings from the analysis of these data sources have exposed the following five themes when exploring the experiences of graduate students with online learning: (1) wiki experiences, (2) meaningful discourse, (3) egalitarian, (4) community engagement, and (5) collaborative learning processes.

The first three themes relate to Research Question 1 and to the perceptions of the participants when submerged in an online learning environment. Data referring to themes 1, 2, and 3 revealed that the graduate students in the current study were gratified and pleased with their overall wiki experience despite their initial feelings. This disclosed more about the participants' perceptions as far as the worthiness of using wikis. Themes 4 and 5 related to Research Question 2 and were based on communities of practice ideas and the students' connections with the learning process and the subject matter.

CHAPTER 5:

DISCUSSION

Research concerning online communities of practice has involved a variety of collaborative social software. To add to the existing body of knowledge concerning effective online pedagogies, I decided to explore the experiences of graduate students when using wiki software for collaborative assignments. I also aligned the course wiki with the principles of my theoretical framework to investigate community of practice creation within the course wiki. To discover the perceptions and explore the experiences of graduate students when engaged in online learning through wiki, I conducted an instrumental case study formed by students enrolled in an urban university graduate course.

Data collected from this study were analyzed through the theoretical lenses of symbolic interactionism and community of practice theories of social interaction and negotiated meanings. These theoretical lenses enabled me to explore the experiences of the research participants within an online community. Communities of practice also allowed me to view the experiences of the students while participating in an online community. The purpose of the study was to explore the experiences of graduate students when participating in collaborative online communities. The following research questions guided my study:

1. What are the participants' perceived experiences when utilizing wiki as an online pedagogy?
2. How does the process of using wikis generate communities of practice?

Data collection processes involved gaining the trust of the participants, interviewing participants, observing the interaction of the participants, and managing the raw data. I examined the experiences of 25 graduate students who were enrolled in a teacher education course as they collaborated and communicated via an online wiki using semistructured interviews, virtual observations, and document analysis. After painstakingly reading, re-reading, and coding the data, the following five themes emerged: (1) wiki experiences, (2) meaningful discourse, (3) egalitarian, (4) community engagement, and (5) collaborative learning processes. The first three themes relate to the perceptions of the participants when submerged in an online learning environment. Themes 4 and 5 coincide with community of practice theory and related to the students' shared learning processes.

Findings from this study indicate that the students' experiences when participating in online collaborative learning were influenced by the virtual environment. The online project facilitated meaningful dialogs and therefore knowledge construction. Students created a community of practice and collaborated by using wiki online tools.

Discoveries for Research Question 1

What are the participants' perceived experiences when utilizing wiki as an online pedagogy?

Wiki experiences. In this study of graduate students experiences, data from the participants demonstrated that the environmental structure of the wiki was conducive for encouraging online learning. Patterns of responses concerning the wiki environment were validated when related to the literature and to Preece's (2001) ideas encompassing optimal online environments for online collaboration that included software use and

access, the layout and design of the wiki pages, and the participants' access to the technology. Common related terms, according to Preece (2001) are:

Dialogue and social interaction support: The prompts and feedback that support.

Interaction, the ease with which commands can be executed....spatial relationships in the environment, etc..

Information design. How easy to read, understandable and aesthetically pleasing information associated with the community is, etc.

Navigation. The ease with user can move around and find what they want in the community and associated website. Many online community users have suffered from the inconsistencies of data transfer and differences in interaction style between imported software modules and the website housing the community.

Access. Requirements to download and run online community software must be clear. In addition, if high bandwidth and state of the art technology is needed to run the community there should be a low bandwidth text only versions and clear instructions about how to obtain it. (pp. 5–6)

Wiki, when utilized in my research, did encompass four concepts: (1) easy to use, (2) simple formatting design, (3) easy to transverse, and (4) little difficulty uploading and downloading files. Tonkin (2005) investigated wiki use and found that the environment was user-friendly and allowed students to interact effectively. Davis (2007) advocates wiki use, stating that “Though wikis were created by software engineers, wiki technologies these days are easy to use even for non-techies” (para, 7). Transcripts from wiki participants validate the ease of use of the wiki software: “It’s so easy and convenient” (4220:4221); “I think Wiki was pretty easy and straightforward to...” (4312:4312); “It's easy to navigate and free of unnecessary features” (5767:5767); “I like the fact that it was very interactive and surprisingly easy to use” (5855:5855); and “I think WIKI is a easy way to do a project. I think I might prefer this to a PowerPoint” (4118:4120). As evidenced by the lack of e-mails, posts, or discussions asking for help, wiki participants had no issues uploading and/or downloading files to the wiki.

Similar to Coutinho and Bottentuit's (2007) research conclusions, I found that students not only enjoyed the wiki software, but, as a side effect, they were pleased to have learned how to use wiki. Participants also thought their learning had been enhanced by utilizing the wiki software in the course (Coutinho & Bottentuit, 2007; Elgort, Smith, & Toland, 2008). As demonstrated on the course wiki, online interaction and assignments also illustrated that the students were able to use the software easily. Students described using the course wiki as "easy" and as a "good arena to provide feedback." When used as the structure for online collaboration, wiki software was simple for participants to learn and use and enriched their learning experience.

Meaningful Discourse. Communities of discourse can be created through the use of virtual collaborative software (Schaffert et al., 2006). Asynchronous threaded discussions are beneficial for supporting meaningful discourse in online courses (Ng & Cheung, 2007). Murphy and Collins (1997) discovered that when students communicated through online synchronous chats, the participants became more specific and often clarified their comments to other course members as the semester progressed. As stated by Garrison, Cleveland-Innes, and Fung (2004):

Online educational communities have the properties of being both reflective and interactive. That is, individuals have the freedom of private reflective thought equitably balance with interaction in the public sphere. This is made possible through the written word and communication networks. Arguably, this reliance upon collaborative written communication lends itself to concurrent critical reflection and discourse—and ultimately to higher-order learning outcomes. (p. 61)

Using asynchronous communication gave participants the ability to comment on or discuss ideas that emerged either during class or after class by simply entering the course wiki (Farabaugh, 2007). Michelle's comment illustrates Farabaugh's (2007)

findings when she said, “communicating with classmates through discussions to complete a project has been fun and a lot more flexible than trying to meet out of school hours” (line 5473–5476). Kevin explained his group’s use of their discussion board: “I contributed a lot. I wrote a good portion, but everyone contributed ideas. We posted everything in the discussion so that everyone could read it before it went into the main page. Usually” (5306–5308).

Through discussion board analysis, I discovered that participants were reflective practitioners and were actively involved in the learning process. Topics discussed on the discussion boards focused on the collaborative assignments. An example of Deborah, Randy, Peter, and Kevin discussed the second part of their collaborative project on the discussion board. Deborah started the discussion forum by talking about what needed to be done for part two of an assignment, and then the others then joined in the discussion. The following conversation confirms the participants’ reflective engagement with the learning process:

Kevin, Part 2, “A lot more could be added to this.....Here is what happened, I would say one day but this tended to happen a lot:)”
he class is lined up in the hall waiting to come into the room. However, John feels the need to sing at the top of his lungs when he knows the expectations and there is no talking in the halls. Once John gets back in line he wants to start kicking Cara, knowing that Cara will fight back and cause a scene. It has been 5 minutes and I know I am losing valuable teaching time. All of the students have received their consequence and things have calmed down. Finally, the class is ready to enter the classroom. Most of the students get right to work on their DO NOW but Joe decides he wants to turn on the radio and begin dancing while I am helping a student with the assignment. While redirecting Joe, John begins to run around the classroom with a yardstick again bothering Cara. Now, Joe and John are causing yet another scene.

Peter, re: Part 2 “I like the insanity of this part. That all of it is occurring at once. We should clarify what the DO NOW activity is (some reading assignment, maybe, just a suggestion).

Kevin, re: Part 2, “Do now is an assignment to students complete as soon as they enter the classroom. This is a norm at school and they have been doing it since the 5th grade. It's the same I guess as bell work or bell ringers.

Deborah, re: Part 2, “Maybe we can add what their consequences were when they were in the hallway. Was it enough of a punishment to contain them and calm them down for the next 20-30 minutes?”

Kevin, re: Part 2, “There are different steps to the consequences. First of course is the verbal warning, next they received a \$5 deduction from their paycheck and the incident was documented. Paychecks go home every Monday for parents to see how their child's behavior was. This is a large deduction most often deductions are only 1 to 2 dollars. This was enough redirection to get them back in line at zone 0 (which means silent) and to enter the classroom. After deductions students are given detention which could add up to multiple days and then last there is a write up which goes to the principal.”

Peter, re: Part 2, “John.’ I said in as calm a voice as I could muster, ‘go inside and sit down right now. Start on your Do Now project.’ Then it hit me, where was the other one? I looked around and saw him at the water fountain. I gave him an adequate amount of time as the other students began to work their way into the room.

---Just a suggestion on how to begin this. I wrote it as part of the Part 1 Narrative before I realized I had skipped sections. Also, please change anything you want in these or erase them all together. I'm just trying to get this rolling as much as I can.

Kevin, re: Part 2, “Seriously, when you just said he was at the water fountain, that's not made up....this definitely happened! I like this beginning.

Randy, re: Part 2, “The class is lined up in the hall waiting to come into the room and John is singing loudly. Why is John singing loudly? Is there a teacher in the hall with the students? Is John ADHD with an attention deficit disorder? Sounds like it. Does John act this way daily? John kicking Cara is another problem. John continues to bother Cara after they enter the classroom. At what point does John settle down and gets on task? Joe is also disrupting the class by turning on the radio. Is Joe ADHD?”

Peter, re: Part 2, “Okay. we have that brief intro I wrote from last week and a few questions from Jim. We need to expand this quite a bit, I think. Maybe dive into the behavior plan explanation slightly? I like the real-life skill of money used as a way of tracking overall behavior.

Deborah, re: Part 2, “additions/collaborations have been made to part two on the main page.”

Group synchronous chat sessions demonstrated that chats were a collaborative interactive tool utilized by the group (Anderson, 2008; Tonkin, 2005). “A synchronous

session might be used to facilitate brainstorming sessions” (Nichols, 2009, p. 10).

Students worked together utilizing synchronous chat sessions to develop ideas.

Synchronous chat sessions were an effective tool for short discussions, to develop ideas, and to establish meaningful discourse.

Findings verify that participants had meaningful conversations through wiki interaction, which confirms that both synchronous and asynchronous exchanges through chatting, postings, and discussions were crucial for communicating and providing feedback. Some participants actually reported that they were forlorn to have the class wiki end.

Egalitarian

Scholars have previously noted that online communities create virtual democracies (Hollenbeck, 1998; Jenlink & Jenlink, 2008; Lonsdale et al., 2009).

Lonsdale et al. (2009) contend that online communities have led to a democratic model of learning that values contributions from all members of the community. Observations of participant interactions within groups revealed camaraderie, freedom of expression, and team work. Farabaugh (2007) asserts that wikis have the ability to create egalitarian collaborative environments. Comments by two participants, Lynnette and Michelle, confirmed the egalitarian nature of their groups: “we all took equal shares of the work” (4439) and “I did feel free to express myself, my group was very open” (4367:4367).

Randy referred to “group” decisions rather than individual decisions, for example, “Our group decided that each of us would make a character for our ‘case study’ and describe a certain trait or characteristic that would make a difficult fit into a regular education

classroom” (5561:5562). These findings suggest that the course wiki created an equalizing environment for student interaction.

Discoveries for Research Question 2

How does the process of using wikis generate communities of practice?

Community engagement. Community of practice theory, as described by Wenger (1998), is a learning theory that states that learning and knowledge creation are generated through participation in shared activities. People learn through social interaction. Participant engagement with learning happens through active involvement with the learning process. This participation creates meaningful learning opportunities within a meaningful learning environment (Wenger, 1998).

In my study, the students created a community of practice by learning together within a shared environment. They collectively engaged in a learning community of practice that aligned with Wenger’s principles of (1) domain, (2) community, and (3) practice (Wenger, 1998). As mentioned in Chapter 2 when explaining communities of practice, the domain is the “shared identity of the group,” community is the interaction of the participants with a “sense of belonging and mutual commitment,” and practice refers to creating new knowledge based on previous experience (Wenger et al., 2002, pp. 37–38). As participants interact, they form mutual relationships and commit to the group or the shared domain. Using Wenger’s (2008) proposed indicators of community of practice formation as a guide, I related my findings to my interpretations, as Table 3 illustrates.

Communities of practice are formed groups of people with similar interests and the desire to communicate their own knowledge while adding to the group knowledge about a common topic. I used Wenger’s markers (Wenger, 1998, pp. 125–126) as

indicators of community of practice formation to align my research findings in relation to research question two. Table 2 demonstrates the relationship:

Table 2

Findings Aligned with Research Question 2

Wenger's Indicators	Examples from Findings
1. Sustained mutual relationships – harmonious or conflictual	We worked well together as a group. Each person offered something different. Each person has a different personality in our group. I liked that. I learned from each group member. I think it is hard once you get to know them and the you have to say goodbye. 5813:5816)
2. Shared ways of engaging in doing things together	We decided from the beginning that the best way to facilitate a truly collective effort was to enable each person to contribute individual ideas and then to discuss then pros and cons of each person's suggestion in order to derive the ultimate solution. (5875:5877)
3. The rapid flow of information and propagation of innovation	That is where the ecourseware chatroom came in handy. (5944:5944)
4. Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process	We are going to describe what the child is doing and how we are going to correct them. We are also going to discuss how to get them on the path of focusing on the subject. We will look at ways to get the attention of all of the students. We will look at ways to distract them from the bad behavior and help them focus or get goal oriented toward the subject matter. (beginning of posting for group 1)
5. Very quick setup of a problem to be discussed	Wiki history reveal discussion boards were immediately used to post ideas for the project; Feedback was automatic (if your groupmate was online at the same time as you) and that helped speed the process along (5959:5960)
6. Substantial overlap in participants' descriptions of who belongs	N/A
7. Knowing what others know, what they can do, and how they can contribute to an enterprise	It encouraged collaboration among students of different educational backgrounds and has helped to expose some us to different perspectives (i.e. practical educational and school psychological). (5651:5653)

Findings Aligned with Research Question 2

Wenger's Indicators	Examples from Findings
8. Mutually defining identities	We have learned to rely on each other and do what we are good at doing (5801:5802)
9. The ability to assess the appropriateness of actions and products	I helped with some facilitator notes and read through the project to make sure everything sounded correct. (5669:5670)
10. Specific tools, representations, and other artifacts	“Such as collaborating with other students on a project at the same time; posting pictures and hyperlinks; and probably the most useful was the communication.” (5756:5758)
11. Local lore, shared stories, inside jokes, knowing laughter	She cracks me up (1753:1753) type faster people [:~)] (1927:1927) :-) (1931:1931) very funny [hey im still stuck in 6th grad..] (1935:1935) hey im still stuck in 6th grade typing looking at my fingers... gimme a break
12. Jargon and shortcuts to communication as well as the ease of producing new ones	The work he has done is very rudimentary, exhibiting poor writing style, grammar, and trouble with reading comprehension. He struggles with in-class assignments, and seems to have difficulty with word retrieval, manipulating sounds in words, and correctly arranging letters and words in writing and speech (From group 4 wiki)
13. Certain styles recognized as displaying membership	Students used the styles available through the course wiki.
14. A shared discourse reflecting a certain perspective on the world.	The collaboration went well in our group (798:798)

Table 3 clarifies the connection between Wenger's indicators and my research findings and connects findings and interpretations.

Table 3

Interpretations of Findings for Research Question 2

Examples of Findings	Interpretations
<p>1. We worked well together as a group. Each person offered something different. Each person has a different personality in our group. I liked that. I learned from each group member. I think it is hard once you get to know them and the you have to say goodbye. 5813:5816)</p>	<p>Students bonded and formed relationships Effective online collaboration connects students to content through active participation Communities of practice can be formed through wikis</p>
<p>2. We decided from the beginning that the best way to facilitate a truly collective effort was to enable each person to contribute individual ideas and then to discuss then pros and cons of each person's suggestion in order to derive the ultimate solution. (5875:5877)</p>	<p>Students actively participated in learning process</p>
<p>3. [immediate feedback and cooperation] That is where the ecourseware chatroom came in handy. (5944:5944)</p>	<p>Synchronous chat session were beneficial for information exchange</p>
<p>4. We are going to describe what the child is doing and how we are going to correct them. We are also going to discuss how to get them on the path of focusing on the subject. We will look at ways to get the attention of all of the students. We will look at ways to distract them from the bad behavior and help them focus or get goal oriented toward the subject matter. (beginning of posting on discussion board for group 1)</p>	<p>Students were well aquatinted with each other therefore they immediately discussed the assignment with no need to formally introduce themselves repeatedly.</p>
<p>5. Wiki history reveal discussion boards were immediately used to post ideas for the project. Feedback was automatic (if your groupmate was online at the same time as you) and that helped speed the process along (5959:5960)</p>	<p>Discussions were focused on assignments</p>
<p>6. Students participated within each assigned grouped</p>	<p>Students knew the other group members and engaged with members of their own group for assignment completion</p>
<p>7. It encouraged collaboration among students of different educational backgrounds and has helped to expose some us to different perspectives (i.e. practical educational and school psychological). (5651:5653)</p>	<p>Through interaction online, the students appreciated exposure to various view points</p>

Interpretations of Findings for Research Question 2

Examples of Findings	Interpretations
8. We have learned to rely on each other and do what we are good at doing (5801:5802)	Participants had relationships with their group members
9. I helped with some facilitator notes and read through the project to make sure everything sounded correct. (5669:5670)	Participants reviewed their final projects for appropriateness
10. “Such as collaborating with other students on a project at the same time; posting pictures and hyperlinks; and probably the most useful was the communication.” (5756:5758)	Access to wiki tools facilitated knowledge sharing
11. She cracks me up (1753:1753) type faster people [:~)] (1927:1927) :-) (1931:1931) very funny [hey im still stuck in 6th grad..] (1935:1935) hey im still stuck in 6th grade typing looking at my fingers... gimme a break	Emoticons were used to symbolize laughter and/or other emotions
12. The work he has done is very rudimentary, exhibiting poor writing style, grammar, and trouble with reading comprehension. He struggles with in-class assignments, and seems to have difficulty with word retrieval, manipulating sounds in words, and correctly arranging letters and words in writing and speech (From group 4 wiki)	Education lingo was often used because students knew the meaning of the terms.
13. Students used the styles available through the course wiki.	Limitations of wikispaces software dictated style of group wiki
14. The collaboration went well in our group (798:798)	Students collaborated to complete wiki assignments

Based on Wenger’s indicators, I found that the course wiki did indeed form a community of practice (Wenger, 1998).

Domain Principle. The domain for the course wiki was established as the common goal of making a good grade in the class that was set by the participants. Other factors, such as student course enrollment, also contributed to the group identity. Group

commitment to their collaborative project helped create the domain therefore identifying the participants as students with a common connection throughout the course. This sense of identity was central to generating a shared responsibility to complete an assignment for the class while actively sharing a repertoire of knowledge. Participants' knowledge was constructed through online discussions and shared ideas that were sometimes based on their own experiences. Wenger et al. (2002) assert that "Without commitment to a domain, a community is just a group of friends. A shared domain creates a sense of accountability to a body of knowledge and therefore to the development of a practice" (p. 30). Deborah illustrated his interpretation of his group's commitment to the domain when he stated, "I think it was understood that everyone in the group was accountable for something. We just assigned to what we knew. ex-kyle knew classrooms and real situations and ryan knew the psychology aspect" (Deborah, 940–941). Deborah not only felt as though he were responsible for some aspect of the group assignment but that the other members of his group felt responsible. Deborah's group fell into roles that were based on their experiences.

Wiki Web pages served as part of the domain for the community of practice by providing the structure for communication and collaboration. Serving as the structure for the community, wiki enabled the participants an easy way to transverse the online environment that encouraged community of practice formation. This aspect of domain is particularly important for online communities of practice (Wenger, 1998). Virtual environments that promote collaboration are essential for establishing online communities of practice and enable these communities to function effectively (Pilkington & Walker, 2003; Stuckey & Hedberg, 2001).

Community Principle. Community aspects that were evident in the wiki included interpersonal relationships, distributed leadership, and interactions over time.

According to Wenger, McDermott, and Snyder (2002):

The community element is critical to an effective knowledge structure. A community of practice is not just a Web site, a database, or a collection of best practices. It is a group of people who interact, learn together, build relationships, and in the process develop a sense of belonging and mutual commitment. (p. 34)

A wiki community was created within the context of the case through the use of discussion boards, chats, and other wiki software. This interaction facilitated the development of interpersonal relationships that were crucial to creating group commitment. The participants reported that they “got to know each other better” and felt that they could ask questions of others freely and without ridicule. Deborah and Cynthia said that they both felt open to asking other groups members for help: “Mike knew the technology part of it...how to change the fonts and formats on the “page,” so when I didn’t know how to do that, I looked to him. I was not sure how I would like using Wikispaces. It was different and I was a little scared (Deborah); “At first. I found out when I had a problem I could ask a classmate and they could explain my question. I did not even know how to log on. I began to learn about it” (Cynthia, 5597–5599). My findings indicate that the participants used emoticons and educational terms as demonstrated in all types of dialog on the course wiki.

During data analysis, I became aware of the openness and personal nature of some of the participants’ conversations. Many of the participants defined their online interactions as meaningful and open. These bonds created personal relationships that formed between participants and generated an atmosphere that was positive and beneficial for collaboration (Haythornwaite, Kazmer, Robins, & Shoemaker, 2000). Wiki

Web pages facilitated these meaningful interactions by allowing participants to discuss ideas openly without fear of criticism or judgment. The environment created through wiki was egalitarian, and participants felt uninhibited. Janet said, “I did feel free to express myself, my group was very open; we could openly exchange ideas” (line 837). “Once the general guidelines/goals for the project were established i think the freedom to develop out story from our own perspective was cool”; “Yes, I think so too. It could be as interactive as we wanted it to”; “But at first the freedom was scary”; “I liked the freedom”; “I think our conversations were more meaningful and I feel everyone felt free to express themselves”; “yes, I felt like I could express my ideas freely and no one in my group would shut me down”; “They might add to it to make it better, but not completely shut out my idea”; and “ I agree I felt like I could communicate with my group freely” (line 966).

Wenger et al. (2002) explained the importance of community relationships, emphasizing that “Members use each other as sounding boards, build on each other’s ideas, and provide a filtering mechanism to deal with ‘knowledge overload.’ Interpersonal relationships are also critical” (p. 34). Students were not intimidated by each other and were willing to share their inexperience as well as their experiences. Rochelle posted the following on her personal page, describing her limited teaching experience and also illuminating what she could add to the project:

Okay, I have a very limited amount of exposure to classrooms and teaching scenarios. However, I can add frequent student issues from a school psychologist perspective: Specifically, when teachers want to have a child tested but paperwork hasn’t been filled out entirely, several interventions have not been attempted or progress monitoring data (AIMS Web DIBELS) hasn’t been completed with the child on a regular basis. Perhaps this issue can be added into our scenario. I was also considering the possibility of including an ADHD student into our scenario due to it’s prevalence.

These findings suggest that the social relationships that were formed by communal collaboration on the wiki were meaningful (Gray, 2004; Hunter, 2002; Moore & Barab, 2002; Zibit & Gibson, 2004).

Practice Principle. Wenger et al. (2002) suggest that practice for communities of practice theory takes place as participants explore previous knowledge while creating a new knowledge repertoire. The participants in the wiki community initially established themselves as possessing prior knowledge concerning the course topic. This prior knowledge did not necessarily derive from the same types of experiences, but the prior knowledge of the participants did create the knowledge base for the community (Wenger et al., 2002). Therefore, the students already had some common knowledge to build on before they started to exchange information. This type of practice within a community of practice created a “mini-culture” that brought the group together (Wenger et al., 2002) I found that the wiki demonstrated this principle by creating a communal arena for disclosing information and an arena for knowledge synthesis and critical thinking (Lai & Holton, 2001; Lundvall, & Borrás, 1999; MacDonald & Gabriel, 1998). Participant dialog validated “a shared discourse reflecting a certain perspective on the world” as an indicator of community presence (Wenger, 1998, p. 125).

The discussion board generated an avenue for group conversations concerning the students’ own experiences with relation to the subject matter, which helped to facilitate critical discourse. Students had the ability to collaborate about teaching methods while discussing personal experiences. As transcripts from Chapter 4 reveal, group two actually posted a discussion heading entitled “My teaching experience,” therefore encouraging the group to talk about their previous experiences and adding these experiences to their

knowledge repertoire (group 2, wikispaces discussion board). Wenger, McDermott, and Snyder (2002) proclaim that “Successful practice building goes hand-in-hand with community building” (p. 40). Data analyzed from research transcripts support online community formation through the wiki website.

Collaborative Learning Processes

Engagement with the learning processes was evident through the participants’ online interaction (Hill et al., 2009). The groups worked collectively to problem-solve while each group member brought their own individual experiences and skills to assist in completing the group project. Involvement in group interaction does not only encourage contribution to the knowledge of the community, but this interaction also helped participants engage with the subject matter (Palincsar, Magnusson, Marano, Ford, & Brown, 1998; Ramondt & Chapman, 2004).

Data indicated that communication through all online methods were generally easy and painless. Participation in the wiki assignment was consistent in each group, although some groups communicated more often through discussion board forums and/or directly through their wiki pages or online chats.

As mentioned in Chapter 3, all postings and interaction that transpired on the wiki had a recorded history. These records confirmed the collaborative properties of the online software, validating the shared experiences of the participants. The participants in groups 1, 4, and 5 edited the group project as well as participated in their own group’s discussion board more often than groups 2 and 3. Group 5 was extremely active from the beginning of the project. Data supporting participant interaction substantiate the development of the wiki as an online community of practice. Through the process of working together, the

participants created a course wiki aligned with Wenger's (2011) description of an online community of practice:

In pursuing their interest in their domain, members engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to learn from each other. A website in itself is not a community of practice. Having the same job or the same title does not make for a community of practice unless members interact and learn together. (para. 7)

Summary

In the current study, I explored the perceptions of 25 graduate students who collaborated using an online course wiki to complete group projects. Data were coded and categorized based on the commonalities and revealed five themes: (1) wiki experiences, (2) meaningful discourse, (3) egalitarian, (4) community engagement, and (5) collaborative learning processes. The first three themes relate to the perceptions of the participants when submerged in an online learning environment. Themes 4 and 5 coincided with community of practice theory and related to the students' shared learning processes. Findings revealed that the course's wiki encompassed collaborative tools that created a community of practice and an interactive learning environment.

Conclusions

The purpose of this study was to explore how graduate students understand and interpret the meaning of online pedagogies; I studied a specific case that focused on the following research questions:

1. What are the participants' perceived experiences when utilizing wiki as an online pedagogy?
2. How does the process of using wikis generate communities of practice?

Findings from this study indicate that students' experiences when participating in online collaborative learning were influenced by the virtual environment. The online project facilitated meaningful dialogs and, therefore, knowledge construction. Students created a community of practice and collaborated by using wiki online tools.

The communicative properties of wiki were seen as valuable for student collaboration. Participant interviews revealed that the software was effective for providing a structured online environment that was interactive. Most students considered the collaboration tools simple, which enabled them to participate quickly and easily. If one member of the community had a problem, they simply asked another member for help. Also, students reported that they had learned a new technology by participating in the wiki research.

The egalitarian nature of the wiki discourse was an important aspect of the interaction for these participants. The students described the learning arena as equal, and students felt as if they were free to express themselves. Many students felt unafraid to ask their classmates questions concerning the online software or concerning their teaching experiences.

A majority of the participants stated that learning via the course wiki was beneficial for the course. Wiki was useful for disseminating information about each group's topic. Wiki facilitated meaningful interactions through postings, chatting exchanges, and discussion board contributions. Students reported that they "got to know each other better" and had meaningful conversations while communicating online.

Students conveyed that they learned about the subject matter and were engaged in the learning process through the course wiki. Since findings indicated that the

participants were active learners, an essential element for online participation, use of a wiki, was evidently valuable as an online tool. Effective online collaboration connects students to content through active participation

By joining the course wiki and interacting with other group members, students were able to generate a community of practice. Artifacts and evidence from the cooperative assignments revealed characteristics of and the construction of a community of practice. Knowledge was assembled and shared through open collaboration. Also, the participants' common goal was evident. Communities of practice can indeed be formed through wikis.

The intertwining relationships between wiki interaction, mutual engagement, and subject matter were apparent on the discussion board excerpts, chat session dialogs, and collaborative writing samples produced by wiki participants. These findings authenticated the students' active involvement in the learning process through their online collaboration. Table 5 illustrates the connections between the findings, interpretations, and the study's conclusions.

Table 5

Major Findings, Interpretations, and Conclusions

Findings	Interpretations	Conclusions
1. A majority of the participants stated that learning on the wiki was beneficial for the course and beneficial for learning the new technology Few students were not accustomed to managing their own learning and reported frustrations (wiki software and environment) Q1	<ul style="list-style-type: none"> – Collaborative online projects are useful for disseminating information about education topics – Learning a new technology was a side effect of the involvement with the wiki – More structure for the wiki assignments – Offer training for future participants 	<p>Easy online collaboration tools can assist learning in virtual environments</p> <p>Establishing clear goals and support for online learning is crucial</p>
2. Students reported that they “got to know each other better” and had meaningful conversations online communication (discourse) Q1	<ul style="list-style-type: none"> – Wiki facilitated meaningful interactions – The communication properties of wiki are useful for collaboration 	<p>Effective online software assists in allowing significant communication between and within courses</p>
3. Students described the learning arena as equal and students felt as if they were free to express themselves (egalitarian) Q1	<ul style="list-style-type: none"> – Freedom to express themselves was an important characteristic of the collaboration within each group – Online learning lends itself to creating equalizing environment 	<p>Egalitarian learning environments are an important aspect of online learning communities</p>
4. Students conveyed that they learned about the subject matter and were engaged in the learning process through the course wiki (collaborative assignment) Q2	<ul style="list-style-type: none"> – Active learning processes are essential for online participation. – Involvement with the course topics was assisted through communities of practice theory 	<p>Effective online collaboration connects students to content through active participation</p>
5. Online observations and artifacts revealed characteristics of a community of practice (domain, practice and community) Q2	<ul style="list-style-type: none"> – Resources and knowledge were shared through open collaboration – A common goal was evident 	<p>Communities of practice can be formed through wikis</p>

Wikis are free, easy to use, and readily available. Wikis are also enduring or, at least, remain until the creator chooses to modify and/or delete the Web site. When used as an online pedagogy, the interactive properties are many and, as my research indicated, are useful for providing a means of collaboration. Wiki online tools are not only useful but were actually used by the participants in my study. This in itself illustrates the uncomplicated nature of the tools available using wiki sites.

As online learning continues to expand, I believe that cooperative learning strategies will become of the standard for engaging students in online education. Communities of practice theory will become an important model for establishing collaborative learning communities. Collaborative online software, such as wikis, can create meaningful interaction and produce quality group projects through student interaction.

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THE UNIVERSITY OF MEMPHIS

Institutional Review Board

To: Amber McCullough
Counseling, Education Psychology & Research

From: Chair, Institutional Review Board
for the Protection of Human Subjects
Administration 315

Subject: Discourse and Wiki use in Higher Education (E08-228)

Approval Date: February 8, 2008

This is to notify you that the Institutional Review Board has designated the above referenced protocol as exempt from the full federal regulations. This project was reviewed in accordance with all applicable statutes and regulations as well as ethical principles.

When the project is finished or terminated, please complete the attached Notice of Completion and send to the Board in Administration 315.

Approval for this protocol does not expire. However, any change to the protocol must be reviewed and approved by the board prior to implementing the change.

Chair, Institutional Review Board
The University of Memphis

Dr. K. Bhattacharya