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Middle School Educators' Perceptions of Online Professional Development

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2012

Abstract

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ABJ, University of Georgia, 1989

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Teacher Leadership

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Abstract

Numerous researchers have investigated distance education in postsecondary settings, but there is a paucity of research regarding the design and delivery of online professional development for K-12 educators. The goal of this mixed methods sequential exploratory study was to examine attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. The theoretical framework is Knowles's theory of adult education (andragogy). The research questions addressed perceptions of connectedness and learning in an online professional development course. A structured interview protocol was used to collect qualitative data from 5 participants; data were coded and analyzed into 6 typologies. The Classroom Community Scale (CCS) that assessed perceptions of (a) connectedness and (b) learning effectiveness among 23 participants provided quantitative data to complement the interview findings. Mean ranks were used to prioritize 10 items within each of the 2 CCS subscales. Overall, participants felt like they could rely on others in the course yet were uncertain that others could depend on them. The study also identified a preference for immediate feedback and activities that required collaboration. These findings can be used to inform the design of online professional development courses for K-12 educators. This study contributes to positive social change by showing that online opportunities may allow teachers to collaborate with colleagues without the restrictions of time and travel by creating a community of learners through Web 2.0 tools.

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Section 1: Introduction to the Study

According to the Association for Supervision and Curriculum Development (2010), effective professional learning supports student learning goals, requires collaborative planning and implementation from administrators and teachers, takes place in job-embedded situations during the school day, demonstrates a long-term commitment, and considers the differentiated levels of interest, learning, and readiness among teachers. High-quality professional learning should build teacher knowledge, improve teacher instruction, and increase student achievement (Ellis & Kisling, 2009). Reform efforts designed to impact student achievement have generated much attention since the adoption by Congress of the No Child Left Behind Act in 2001 (Leko & Brownell, 2009). The legislation, signed by President George W. Bush in 2002, mandates that schools close the achievement gap between student subgroups (minority students, special education students, English language learners, and White students), place highly qualified teachers in every classroom, document grade-level proficiency for all students in math and English by 2014, and make Adequate Yearly Progress gains to ensure the academic success of all learners (Shirvani, 2009). For such outcomes to occur, Darling-Hammond (2009) advocated for "a transformation in the ways in which our education system attracts, prepares, supports, and develops teachers who can teach in more powerful ways" (p. 1).

Most current professional development for K-12 teachers consists of attendees listening passively to presentations in conference or workshop settings (Beavers, 2009; Committee on Enhancing Professional Development for Teachers, 2007; Easton, 2008).

Researchers have suggested that this form of professional learning is not effective (Glassett, 2009; Glazer, Hannafin, & Song, 2005), and those who wish to reform the traditional method of teacher training debate a myriad of options that could be considered to take its place. To be effective, professional learning experiences for teachers should feature content that is authentic, form which is collaborative, and a duration that is continuous (Duncan-Howell, 2010). School districts across the country are attempting to cope with declines in local tax revenue, decreases in value of property, and reductions in funding from state government (Ellis & Kisling, 2009; Lewis, 2008). Professional learning funds are scarce; therefore, online learning–also known as *e-learning*–may be a nontraditional method of teacher training that deserves a closer inspection from superintendents, assistant superintendents for curriculum and instruction, directors of professional learning, principals, and school-site leadership teams (Clary & Wandersee, 2009).

Across the globe, industries and organizations are adopting an e-learning stance (Chang-Yen & Wen-Ching, 2010) and merging e-learning with traditional training methods (Roy, 2010; Vaughan & MacVicar, 2004). For college students, opportunities to experience online learning and asynchronous communication via Web 2.0 tools and social networking sites such as Facebook and Twitter abound (Vonderwell, Liang, & Alderman, 2007). A substantial body of literature describes distance education in postsecondary teaching and learning (Abedin, 2011; Bergstrom, 2010; Bishop-Clark, Dietz-Uhler & Fisher, 2007; Chapman & Henderson, 2010; Ebner, 2009; Furnborough & Truman, 2009; Fish & Wickersham, 2009; Green et al., 2010; Hiltz & Turoff, 2005; Rao

& Giuli, 2010; Samarawickrema & Stacey, 2007; Smith, 2010), but there is a paucity of research regarding the delivery of online professional development for educators in K-12 settings (Donavant, 2009; Huss, 2007; Russell, Kleiman, Carey, & Douglas, 2009). This study was an attempt to address that gap in the literature.

Problem Statement

The study was developed in response to a need for professional development in one suburban school district in the southeast region of the United States. During the 2009-2010 academic year, teachers who work in one of the district's 11 middle schools were instructed to blend face-to-face instruction with student access to ANGEL, a web-based course management system. The initiative to implement blended learning lost momentum as ANGEL courses became repositories for class notes and as teachers did not take advantage of technology resources in the building. In December of 2009 an online survey instrument was made available to students who attended this middle school. Throughout this paper, this school will be referred to as ABC Middle School. Of 713 respondents, 335 (47.0%) indicated that they had never used a discussion board in ANGEL for coursework, 275 (38.6%) indicated that they had never submitted work via a drop box in ANGEL, 270 (37.9%) indicated that they had never taken an assessment in ANGEL, and 457 (64.1%) indicated that they did not use their ANGEL email account to communicate with teachers.

The problem, specifically, is that many teachers at ABC Middle School had little or no previous experiences with online or blended learning, yet school leaders expected teachers to incorporate the web-based course management system ANGEL into

instruction. In addition, limited research exists that describes the implementation of online professional development for educators in K-12 settings. This study, therefore, was an examination of attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States.

Nature of the Study

A mixed methods sequential exploratory research design was used for data collection in order to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. The Critical Incident Questionnaire (Brookfield, 1995; Appendix A), a structured interview protocol, was used to collect qualitative data, and the Classroom Community Scale (Rovai, 2002a; Appendix B), a 20-item, self-administered cross-sectional survey instrument, was used to collect quantitative data.

Research Questions

The mixed methods sequential exploratory research study was guided by four questions.

For qualitative analysis, the central question was:

- How do middle school educators employed by one suburban school district in the southeast region of the United States describe online professional development experiences that impact their learning?

For quantitative analysis, the central question was:

- To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their sense of classroom community in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

For quantitative analysis, the subquestions were:

- To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their connectedness to colleagues while participating in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

- To what extent do middle school educators employed by the same suburban school district described above perceive their learning after participation in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

Purpose of the Study

The purpose of this mixed methods sequential exploratory approach study was to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. Perceptions of the online professional development course were investigated through interviews with a subsample of five participants who enrolled in the 6-week online professional development course *Using ANGEL/Blended Learning*. These

qualitative data were captured through the use of the Critical Incident Questionnaire (Brookfield, 1995). In order to gather quantitative data, the Classroom Community Scale (Rovai, 2002a) was used to determine to what extent connectedness and learning are impacted by participation in an online professional development course authored by an information technology specialist employed by the school district. The rationale for employing a mixed methods sequential exploratory design was to strengthen the claims of the study.

Theoretical Framework

The theoretical framework for this mixed methods sequential exploratory study is *andragogy*, a theory of adult education described by Knowles (1970). According to Edwards (1997), Knowles differentiated *pedagogy*–the art and science of teaching children–from adult learning by recognizing the increasing maturity of adults and their specific attributes; consequently, the theory of andragogy is based upon the following four assumptions: (a) the concept of self moves from dependency toward self-direction, (b) past experience becomes a resource for learning, (c) readiness to learn increases in social arenas such as the workplace, and (d) learning shifts from subject-centered to problem-centered. Zmeyov (1998) posited that three additional assumptions can be added to the theory of andragogy: (a) factors such as time, place, and family impact adult learning; (b) learners play the key role in the learning process; and (c) the learner and teacher work in tandem during each stage of the learning process–planning, realization, evaluation, and correction. In 1979, Knowles responded to critics and maintained that

andragogy should not be viewed in opposition to pedagogy; instead, the two exist on a continuum (Edwards, 1997).

Shore (2001) described a set of adult learning principles that trainers of teachers should consider as they work with adult learners in online learning environments:

1. Adults learn most effectively when they are actively involved in decisions about management, content, style, and delivery of their learning;
2. Adult learning is fostered through a curriculum and methodology which involves a collaboration between teacher and learner;
3. Adults are capable of learning throughout life;
4. The individual learner is the focus of the learning process; and
5. Adult learning acknowledges the skills, knowledge, and experiences adults bring to the learning setting.

Charles and Clarke-Epstein (1997) described the tenets of Knowles's theory and reminded trainers of adults of the following: adults enter the learning environment with established notions and expectations; adult learners often juggle professional and personal concerns; adult learners desire concrete solutions, not a discourse in theory; and adult learners want and need to be respected.

Operational Definitions

For the purpose of this study, the following terminology, grounded in literature on professional development and online learning environments, will be used:

ABC Middle School – a grade 6 through grade 8 school in a suburban school district in the southeast region of the United States

ANGEL: a web-based learning management system which allows instructors to blend traditional and online instruction

Asynchronous: "A communication technology that does not rely on timed data transmissions to connect two or more computers, which results in delayed-transmission interactions such as e-mail" (Dabbagh & Bannan-Ritland, 2005, p. 325)

Blended learning: "The purposeful integration of traditional (i.e., face-to-face) and online learning in order to provide educational opportunities that maximize the benefits of each platform and thus more effectively facilitate student learning" (Ayala, 2009, p. 277)

Collaboration: "Interaction between or among two or more learners to maximize their own and one another's learning" (Dabbagh & Bannan-Ritland, 2005, p. 326)

Community: "All those who fit a certain set of criteria" (Falk & Drayton, 2009) and "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p. 9)

Community of practice: "A persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history and experiences focused on a common practice and/or mutual enterprise" (Barab, MaKinster, & Scheckler, in press)

Digital natives: A description of the current generation who have been immersed in a digital culture and digital language of computers, video games, and the Internet since birth (Prensky, 2001)

Digital immigrants: A description of those not born into the digital world but who have adapted to the digital environment (Prensky, 2001)

Discussion thread: "Multiple posts referring to one particular subject, creating a multilayered discussion" (Mills, 2006, p. 214)

e-learning: "The use of technologies to deliver learning solutions that enhance knowledge and skills via the Internet" (MacDonald, Stodel, & Christmas, 2008, p. 22) and "the way people communicate and learn electronically" (Roffe, 2004, p. 367)

Human infrastructure: "Administers the site, constrains or seeks to expand the site's membership, envisions the nature of site content, determines how content will be presented and managed, facilitates collaboration, and determines the modes of those interactions" (Drayton & Falk, 2009, p. 2).

Inquiry group: "An assemblage of people, organizations, projects, and technologies, united by common participation, values, and experiences" (Bruce, 2009, p. 50)

Learning management systems: "Software systems designed to assist in the management of educational courses for students, especially by helping teachers and learners with course administration" (Simonson, 2007, p. vii) and "tools and functions to support teaching and learning, usually including course management tools, online group chat and discussion, homework collections and grading, and course evaluation" (Yueh & Hsu, 2008, p. 60)

Perception: the process by which individuals select, organize, store, and interpret sensory stimulation into a meaningful and coherent picture of the world (Organ & Bateman, 1991)

Professional development: "Systematic efforts to bring about change in the classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students" (Guskey, 2002, p. 381)

Online professional development: "Web-based, interactive experiences combining text, video, and sound … often asynchronous, in that all participants do not have to be engaging in an experience at the same time (as is the case with e-mail). ... can be richly interactive, in that it can give participants multiple opportunities to reflect on issues, questions, or answers before responding online" (Committee on Enhancing Professional Development for Teachers, 2007, p. 4)

Synchronous: "A communication technology in which timed (synchronized) data transmissions occurring in a steady stream are used to connect two or more computers and thus enable real-time interactions such as online chats" (Dabbagh & Bannan-Ritland, 2005, p.333)

Web 2.0: "A Web technology that aims to enhance creativity, information sharing and collaboration among users" through the use of such tool as wikis and blogs (Tu, Blocher, & Ntoruru, 2008, p. 335)

Web-based instruction: "A form of distance learning that delivers instruction through a computer using standard Internet technologies, especially the World Wide Web" (Mills, 2006, p. 214)

Assumptions

During the preparation of this research study, assumptions were made and they are acknowledged. I assumed that participants would complete tasks within each module of the online professional development course. I assumed that participants would answer truthfully during interviews that utilized the Critical Incident Questionnaire (Brookfield, 1995). I also assumed that participants would understand the language of the Classroom Community Scale (Rovai, 2002a), a self-administered cross-sectional survey instrument, and would answer each item honestly.

Limitations

Potential weaknesses of the study are acknowledged. This study was limited to teachers, media specialists, and graduation coaches employed by one suburban school district in the southeast region of the United States who work in a middle school setting or hold certification to work in a middle school setting; as a result, the small sample size diminishes the ability to generalize findings to other school districts. Because participation was limited to teachers, media specialists, and graduation coaches, data were not collected from administrators or counselors even though those stakeholders are key players in the delivery of professional learning. Using a convenience sampling procedure during the quantitative phase of data collection may further decrease the ability to generalize findings, and analysis of the qualitative data could be subject to alternative interpretations. In addition, I am a colleague or former colleague of some of the study's participants, and therefore, there existed a potential for bias during data analysis.

Scope and Delimitations

The scope of this mixed method sequential exploratory study was perceptions of the impact of an online professional development course on middle school educators' perceived sense of community, connectedness to colleagues, and learning. Because qualitative and quantitative data were collected from educators employed by one suburban school district in one state in the southeast region of the United States, results may not be generalized to other teaching staffs within the state or region.

Significance of the Study

The findings of this study may contribute to an area of research in the field of education that has garnered scant attention to date. A substantial body of literature addresses distance education in postsecondary teaching and learning settings, but there is a paucity of research regarding the delivery of online professional development for educators in K-12 settings (Donavant, 2009; Huss, 2007; Russell et al., 2009). The aim of the study was to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. An examination of qualitative and quantitative data collected in this study may help school district officials, school administrators, and school-site leadership teams make informed decisions regarding the design and implementation of online learning environments for K-12 educators, thus contributing to teacher learning which, in turn, may increase student achievement. When students achieve academic success, they increase the likelihood of becoming independent

and contributing members of society and position themselves to create positive social change in their communities.

Summary

This research study contains five sections. Section 1 provides an introduction to the research problem; presents the nature of the study, research questions, and purpose; gives an overview of the theoretical framework; clarifies terminology used, and describes the study's assumptions, limitations, scope, and significance. Section 2 offers an examination of relevant research in the area of online learning environments. Section 3 presents a rationale for the research design as well as a description of the setting, target population, data collection instruments, data collection procedures, protection of human participants, and the role of the researcher. Section 4 will be a presentation and discussion of quantitative and qualitative data, and Section 5 will include a summary of research, interpretations of findings, recommendations for action, and recommendations for further research.

Section 2: Literature Review

This section includes an extensive review of literature associated with online learning in the fields of medicine, pharmacy, social work, military, law enforcement, and education. Databases such as Academic Search Complete, Academic Search Premier, Education Research Complete, Educational Resource Information Center, Teacher Reference Center, and SocINDEX were accessed through the Walden University library. I also visited campus libraries of two state universities. Search terms included the following: *adult learning*, *communities of practice*, *distance learning*, *educational improvement*, *e-learning*, *electronic learning*, *online course evaluation*, *online professional development*, *online teaching*, *professional development*, *professional learning communities*, and *web-based instruction*. Searches were limited to fulltext, peer-reviewed journal articles first filtered by publication dates of 2005 to 2010. Peer-reviewed journal articles published prior to 2005 were then considered for review. The ProQuest Digital Dissertations database, Walden University's fulltext e-book collection, and articles accessed through Google Scholar were also utilized.

The section is divided into four major sections: (a) recent studies of online learning environments in fields other than education, (b) recent studies in online learning in the field of education, (c) studies which used the Classroom Community Scale (Rovai, 2002a) to investigate students' perceptions of community within online learning environments, and (d) learning management systems used to support online learning environments.

Online Learning Environments

Medicine

Reeves and Reeves (2008) noted a proliferation of online learning opportunities for health and social work educators, and they encouraged program developers to consider 10 dimensions of instructional technology, cognitive science, and adult education for course design and evaluation: pedagogical philosophy, learning theory, goal orientation, task orientation, source of motivation, teacher role, metacognitive support, collaborative support, cultural sensitivity, and structural flexibility (p. 47). While the instructivist approach continues to dominate the landscape of web-based instruction, Reeves and Reeves recommended to those who design online learning environments to adopt a constructivist pedagogical philosophy (Dimension 1) and to view learning theory (Dimension 2) through the lens of behavioral and cognitive psychology. Goal orientation (Dimension 3) can range from *sharply focused* through direct instruction to *higher-order* with the use of patient management simulations. In the online learning environment, tasks orientation (Dimension 4) should be authentic and relevant to learners; the source of motivation (Dimension 5) for students should be intrinsic; and the role of the teacher (Dimension 6) is to guide and facilitate. Furthermore, online course designers and evaluators should ask students to solve complex problems through metacognitive support (Dimension 7) and collaborative learning support (Dimension 8) while honoring students' cultural, ethnic, and racial backgrounds (Dimension 9) in asynchronous settings not confined by time or space (Dimension 10).

The benefits of online learning, according to Reeves and Reeves (2008), are numerous; however, disadvantages must be acknowledged, and Reeves and Reeves described studies which indicate that teachers who work with a cohort of students online spend more time each week responding to student e-mail and assignments than do teachers who work with students in a traditional classroom.

Researchers have investigated online learning resources for both medical students and members of the healthcare community (Gormley, Bickle, Thomson, & Collins, 2009; Mayne & Qiang, 2011; Miers et al., 2007; Ruf, Kriston, Berner, & Härter, 2009). In a quantitative study of 269 second-year medical students in the School of Medicine and Dentistry at Queen's University Belfast, researchers (Gormley, Collins, Boohan, Bickle, & Stevenson, 2009) created a blended learning course which offered students the opportunity to practice protocols on mannequins, visit hospitals, watch videos, take part in online discussion board forums, and complete a clinical skills examination in order to assess attitudes toward e-learning and clinical skills training. Students completed a self-administered questionnaire and indicated that e-learning had a positive impact on their acquisition of clinical skills. In addition, students in the study reported that they valued e-learning experiences such as assessments and discussion board forums which required interaction with peers, self-reflection, and "deeper approaches to learning" (p. 12). The study, however, was limited by a sample that included only junior medical students.

Multiple researchers have evaluated the work of interprofessional health care users and online learning tools. MacDonald, Stodel, and Chambers (2008) designed a blended learning course for teams of physicians, nurses, nurse practitioners, and

pharmacists who provide care to the elderly in primary, community, and long-term care facilities. The course, completed by 51 participants, featured reading material, online activities, audio clips, and video clips as well as assignments which required participants to meet face-to-face with colleagues. Qualitative and quantitative data were collected, and participants reported that new knowledge and skills had been acquired and transferred into the work setting. Participants indicated positive feelings toward the convenience and flexibility of e-learning; however, data did not reveal any significant change in participants' attitudes toward collaborative practice.

Walsh (2007) conducted a study to determine how interprofessional teams of health care workers–general practitioners, nurses, and hospital doctors–utilized an online learning resource. Learning modules were crafted with the three specific groups in mind. Walsh reported that 19% of course modules written for general practitioners were also completed by hospital doctors and nurses; 39% of course modules written for hospital doctors were also completed by general practitioners and nurses; and 37% of course modules written for nurses were also completed by general practitioners and hospital doctors. Qualitative data was collected in an attempt to determine if learners were satisfied with access to content and services provided. Even though results were favorable, there were areas of concern. Pharmacists expressed disappointment that they were not included as a group in professional commercials, and some wondered if online learning opportunities would be able to support a group of diverse learners who have learned different concepts.

Pharmacy

Erah and Dairo (2008) addressed 3rd and 4th-year pharmacy students' perceptions of the application of a learning management system in their training in a study that included 165 participants at the University of Benin, Benin City, Nigeria. The purpose of the study was three-fold: to determine students' access to computer and Internet on campus and at home, to reveal problems students may have in applying a learning management system, and to investigate students' willingness to utilize a learning management system in learning. A structured questionnaire with closed and open-ended questions was distributed to participants.

In the discussion of study results, Erah and Dairo (2008) reported that 84% of respondents had access to the Internet but 16.1% had their own computers. Regarding e-learning, 89.7% indicated that they were *very interested* in the format after participating in the study, and 94% indicated that e-learning made teaching and learning more effective. Prior to the start of the study, 24.8% had knowledge of learning management systems. At the conclusion of the study, 92% indicated that the learning management system would be beneficial when blended with lecture notes taken in face-to-face meetings with course instructors. The authors acknowledged that the enthusiasm for blended learning and learning management systems in the school of pharmacy is tempered by the students' inability to access the school server from their homes.

Social Work

Social work educators are exploring blended learning and virtual learning environments (Ayala, 2009; Quinney, Hutchings, & Scammell, 2008), but many have

been hesitant to embrace this model of learning (Moore, 2008). According to Ayala (2009), blended learning can assuage the fears of those in the field who lament the loss of face-to-face time with students and question the appropriateness and effectiveness of web-based instruction. In a review of the social work and technology literature, Ayala described studies which compare the effectiveness of distance education courses to traditional courses and studies which report student satisfaction with distance education courses; missing from the literature, however, are efforts which examine teaching methods that best support blended learning.

Quinney, Hutchings, and Scammell (2008) examined the use of a virtual learning environment by students and faculty of Bournemouth University's School of Health and Social Care. In the town of Wessex Bay, social work students were able to interview residents, compile information regarding family and community needs, and tour health care centers and social service departments. Findings of the mixed methods study were reported in three areas: experiencing the technology, teaching and learning strategies, and professional identity. Participants in the study indicated that learning to navigate the virtual learning environment was both time consuming and stressful; some participants revealed during focus group interviews that keeping up with a plethora of characters embedded in the virtual community was daunting; and some students indicated that the experience was authentic, valuable, and relevant because they were able to form a community of practice by applying knowledge to practice situations (Moore, 2008).

Military

Artino (2007) analyzed survey data collected from 204 United States Navy personnel. A 25-item Likert-type response item survey was created in order to explore participants' experiences with self-paced, online learning. In a discussion of study findings, Artino stated that data are consistent with previous research that posited that students' motivational beliefs about a learning task and previous experiences with online instruction are related to overall satisfaction of the course and perceived learning. Artino discussed the need of providing online students with choice when designing distance learning environments and encouraged other researchers to continue work with motivational characteristics and online learning success.

Law Enforcement

Donavant (2009) noted no significant difference between the effectiveness of online education professional development and traditional delivery models in a study of United States police officers. The three-phase study consisted of the following: an analysis of historical pre and posttest scores of professional development courses offered by the Florida Regional Community Policing Institute from January to June 2005 (Phase 1), the distribution of a 45-item self-reporting questionnaire crafted to assess whether online learning was linked to demographic factors (Phase 2), and distribution of an open-ended questionnaire (Phase 3). An analysis of pre and posttest scores of the historical data in Phase 1 revealed a statistically significant improvement in learning. In Phase 2 of the study, Donavant explored the connection between the independent variables of gender, race, age, number of years of police service, and previous experience with online

learning environments with the dependent variable of online learning success. Regarding gender, race, age, number of years of police service, and previous experience with online learning environments, Donavant failed to reject the null hypothesis: There is no statistically significant relationship between those five independent variables and the dependent variable of online learning success. There was however, a statistically significant association between the dependent variable of formal education with the independent variable of online education success.

Of the 150 participants in Phase 3 of the study, 92 indicated that "convenience" and "scheduling flexibility" (Donavant, 2009, p. 237) were appealing features of their online learning experience. When asked to describe what they least enjoyed about the online learning experience, 63 of 119 respondents indicated "lack of personal interaction or face-to-face contact with the facilitator" (p. 237) and 11 of 119 respondents cited a disdain of technology and its lack of dependability. When presented a choice of online education or traditional delivery models for professional development, 79 of 144 (54.9%) of participants indicated a preference for traditional instruction, 53 of 144 (36.8%) of participants indicated a preference for online education, and 12 of 144 (8.3%) indicated no preference.

International Students

An international perspective of online learning environments has appeared in recent literature (Chen & Maton, 2008; Wang & Reeves, 2007; Williams & Williams, 2009; Xiaoqing & Hongxin, 2007). Wang and Reeves (2007) used a qualitative methodology to study the experience of international students from Taiwan in a

synchronous online learning course at a large public university in the southeast region of the United States that requires the use of English as a second language. Five face-to-face semistructured interviews and three observations were held with each participant. In terms of assignments, participants indicated that they considered synchronous online learning environments as effective for learning and that they expended the same amount of effort in the online course as they would have in a traditional setting; however, participants revealed a longing for more face-to-face interaction with classmates and Wang and Reeves wondered if this desire would increase learning outcomes. During interviews, participants also expressed lament for two-way instant messaging communication during the synchronous online learning experiences. The messages distracted participants from the professor's lecture or class discussion and decreased the students' confidence to express their ideas to the class.

Two Chinese international students enrolled in online courses at an Australian University were the focus of a study by Chen, Bennett, and Maton (2008). The researchers used qualitative data from focus group and interview settings as well as document analysis to describe how Chinese international students perceive online learning environments. Even though the two students were enrolled in two different online courses, three common themes emerged from interview data: a lack of teacher input, an absence of direct instructions between teacher and students, and a lack of "enforcement of learning" (p. 315) by the teacher. Participants in this study indicated a desire for greater teacher control which, according to these researchers, aligns with previous research. There were findings, however, that contradicted earlier studies. For

example, the participants in this study did not find value in the flexibility that online learning provided nor did they indicate enhanced levels of participation when that participation was permitted to be voluntary.

Xiaoqing and Hongxin (2007) conducted a mixed methods study in order to assess quality of learning and knowledge construction in an online learning community of Chinese students. An online questionnaire completed by 48 participants highlights affective supports such as encouragement and praise, cognitive development that requires "learning by doing" (p. 108) tasks such as uploading audio and video clips, and social presence such as the use of emoticons and virtual social events. Respondents ranked "helpful" and "open-minded" as the most important qualities of an online learner while "inquisitive" was rated as least important out of seven options.

Williams and Williams (2009), researchers based in Europe, replicated a study by Martins and Kellerman (2004) in order to gain an understanding of student perceptions of a course management system. Of 14 hypotheses tested, the Williams and Williams study matched the Martins and Kellerman study in 10 of 14 hypotheses. In their analysis of data, Williams and Williams rejected the hypothesis that faculty encouragement is positively related to perceived usefulness of the Blackboard course management system – a hypothesis Martins and Kellerman accepted. Of 237 management students in the sample, 96.2% indicated that they had previous experience with online learning, and therefore, they might not have had need for faculty encouragement.

Online Learning and Teacher Training

Reynolds, Treahy, Chao, and Barab (2001) described three models of online professional development for teachers: the skill-based model, the student inquiry projects model, and the spontaneous participation model. In the skill-based model, resources and materials are provided for self-paced lessons. Collaboration and reflection–two tenets of high quality professional development (Darling-Hammond, 2005)–are not present in this model, however. In the student inquiry projects model, teachers work together to help students progress through the stages of scientific inquiry (Trumbull, Scarano, & Bonney, 2006), and in spontaneous participation, the third model of online professional development, teachers, at their leisure, can take part in synchronous chats and asynchronous discussion boards which have the potential to create a powerful learning experience (Levine, 2007).

Hybrid models of online professional development have also been created so that learners have face-to-face time with instructors but teachers continue to work through course materials online (Hall, 2006). The face-to-face time with instructors helps to establish social identification and may assuage the fears of students who have never taken an online course and, as a result, may be concerned that they lack the technological skills required to complete course assignments (Colucci & Koppel, 2010).

In-Service Teacher Training

Signer (2008) described Holmes' online in-service model of professional development that features online interactions between students, the teacher, and with three "core components" (p. 210): online resources and research, classroom

implementation, and assignments and requirements. The three core components are organized into weekly modules centered on a theme. Inside each module, students have access to assignment links and a resource folder which contains links to materials needed to complete required tasks. Students are expected to make their initial posting to the week's discussion board by Thursday and a second posting by Sunday. A sample task might include the following: Read an article from the resources folder that spotlights a research-based best practice; implement a lesson with students that features that best practice but has never been used before; describe the lesson and thoughts about student learning in the first discussion board post; and between Thursday and Sunday, read the postings of classmates, synthesize the information, and respond.

Online teachers, meanwhile, guide the online discussion through Socratic seminar techniques and course materials contain a rubric that outlines expectations for due dates of first and second postings, length requirements, and references. By using the Internet as a tool instead of as an object of the instruction (Signer, 2008), teachers are able to build knowledge through reflection on their own practice and reflect upon the practice of other teachers via discussion board dialogue. In such a role, teachers create a community of learners who value professional inquiry (Danielson, 2000); and in such a setting, members of the community acquire knowledge not just from an expert but from all members of the inquiry group (Wald & Castleberry, 2000).

Signer (2008) highlighted findings of previous mixed methods research that explored in-service teachers' perceptions of seven courses which used Holmes' model of online professional development. Evaluation surveys containing both Likert-scale and

open-ended questions were returned by 113 in-service teachers. Signer stated that participants in the study were "positive" (p. 213) about their learning and their interactions with other students and the teacher, but specific numbers and percentages were not included in this section of the summary. In a discussion regarding course improvements, however, 14% of respondents indicated a desire for additional instructor feedback and 10% of respondents expressed a need for additional interactions with the instructor. Some participants indicated their learning and interaction with others was hindered by technology-related issues, through no percentages are reported. Because online learning participants value instructor presence, Signer stressed the importance of professional development for online course instructors that equips them with the tools to provide quality feedback to online learners.

Middle School Math Teachers

Russell et al. (2009) investigated an online professional development course limited to seventh and eighth grade prealgebra and algebra teachers. Four experimental conditions were created: (a) highly-supported with a mathematics instructor, a facilitator, and peer interactions via asynchronous text-based discussion threads; (b) facilitator support and peer interactions but no mathematics instructor present; (c) facilitator and mathematics instructor present but no peer interactions; and (d) self-paced with none of the aforementioned supports. Stratified by gender, teachers were randomly assigned to one of the four treatment groups. Each treatment group was then subdivided into Cohort A and Cohort B so that each condition would have approximately 30 participants. In an

attempt to control for the variable of teacher effect, each instructor and facilitator were assigned two courses.

Six instruments were used for data collection: a background survey, a pedagogy survey, a math assessment, a student survey, a teacher log, and a course evaluation. The background survey was administered precourse and was used to gather demographic data and information about participants' previous experience with professional development and technology. The closed-ended pedagogy survey was administered precourse and postcourse to assess teachers' pedagogical beliefs and instructional practices. The math assessment was administered precourse and postcourse to gather data regarding teachers' understanding of math concepts presented in the course. In this assessment, teachers analyzed student work then answered questions about the work. Those responses were reviewed by two math experts and scored on a four-point scale (1 = does not meet expectations, 2 = partially meets expectations, 3 = meets expectations, and 4 = exceeds expectations). In an effort to triangulate data, researchers asked the study's participants to administer a precourse survey and a postcourse survey to their math students, and teacher reflection logs were collected twice: once during the first week of the course and again in the final week of the course. The final instrument for data collection, a course evaluation, was administered postcourse. Participants were compensated for their participation with graduate course credit or a $200 stipend.

In a summary of study participants, researchers reported 70% were female, 48% were younger than 40 years of age, 24% had a college major in math, 60% had earned a master's degree, and 34% had previous online learning experience. Of the 231 prealgebra

and algebra teachers who returned informed consent forms, 46% did not finish the course. Of those who did not complete the course, 53% had been assigned to the highly supported group, 45% had been assigned to the instructor support only group, 44% had been assigned to the no support group, and 41% had been assigned to the facilitated peer support group. Personal issues such as divorce and health issues among children and parents were cited as reasons for not completing the course.

Russell et al. (2009) reported that participants had a favorable view of the online course. Regarding quality of the online course, participants indicated satisfaction with course readings and interactions with facilitators. Regarding change in pedagogical beliefs, an ANOVA with post hoc comparisons revealed no statistically significant differences among treatment groups. Regarding change to instructional practice, an ANOVA revealed a significant difference among treatment groups on one item–leading class discussions. Members of the no-support treatment group indicated little increase in this practice but teachers in the three other treatment groups indicated moderate increases. Regarding study survey items, an ANOVA for each of the 16 items revealed no significant differences among groups for any of the items, suggesting that instructional practices and performance tasks reported by the students of study participants were the same among the four conditions. Regarding the impact of the online professional development course on participants' knowledge of student work, an ANOVA revealed no statistically significant difference in scores among the four groups. In conclusion, these researchers noted positive teacher outcomes. There was less reliance on worksheets and a willingness to incorporate writing and discussion to extend student thinking about

mathematical concepts. Limitations in the study's design should be considered, however. Each of the four treatment groups, for example, experienced attrition, and participation in the online professional development course was voluntary. A discussion of results may be different if those teachers who dropped out had remained in the course or if another method was used to recruit teachers.

Graduate Teacher Training

In an effort to explore perceptions and experiences of online learning among a graduate cohort of 31 graduate students, researchers at George Mason University (Norton & Hathaway, 2008) created two online courses that used different design models. The course "Web-based Learning" used Blackboard, a proprietary course management system, while the course "Teaching with Desktop Publishing and Education Software" used a Communities of Practice Learning System. In the summer of 2006, members of the cohort completed both online learning courses. In the "Web-based Learning" course, participants were divided into small groups based upon their content area of certification. A course instructor participated in discussion threads with postings and replies, but much of the dialogue was led by participants who took turns serving in the role of peer facilitator. The second course asked participants to use course materials and other readings to prepare a solution to an authentic problem. In this online learning environment, participants were assigned a mentor but there were no interactions between participants, only private communications between learner and mentor.

During the final week of the summer semester, once participants had completed both online learning experiences, a seven item open-ended questionnaire was distributed

to the teacher learners. Participants indicated that both forums were equal in quality and generated learning that was "robust, challenging, and positive" (Norton & Hathaway, 2008, p. 483). If asked to take another online learning course, 52% of participants stated that they would choose the communities of practice format, 30% said that they would choose the Blackboard format, and 18% indicated that their choice of format would depend upon the course content. Those who indicated a preference for the communities of practice format valued the ability to work through course material at their own pace, access to a mentor, and not having to wait on or depend upon others in order to complete work. Norton and Hathaway noted several limitations. The two courses had different content, and consideration must be given to the variables of learning styles of participants, motivation of participants, and characteristics of mentors who worked with teacher learners.

Preservice Teacher Training

Field experiences are an important element of teacher preparation programs (Hixon & So, 2009). Traditionally, preservice teachers are assigned to a single school to observe a single teacher for a period of time. Investigations have been launched to examine technology-enhanced and virtual field experiences. In a review of this literature, Hixon and So summarized three types of technology-enhanced field experiences. Type 1 remains traditional in that preservice teachers are assigned to a single classroom to observe the teacher in action and teach lessons. In this category, technology is used a tool for reflection and as a method of communication. Type 2 features video-conferencing technology for synchronous classroom observations and interactions with the teacher as

well as CD-ROM technology for asynchronous observations. There is scant research in the area of Type 3 field experiments–those which create a virtual world of students and teachers. The three types of technology-enhanced field experiences do not have to operate in isolation; instead, they can be blended.

According to Hixon and So (2009), when preservice teachers are afforded the opportunity to blend technology with field experiences, they are able to view different teaching and learning environments; they are able to share teaching and learning experiences with members of their cohort; they are able to practice reflection; and they are able to explore ways to integrate technology with instruction. Hixon and So acknowledged that much of the literature regarding technology's role in the field experiences of preservice teachers is positive; however, they noted four challenges of technology-enhanced field experiences: a lack of interaction between the teacher, the students, and the preservice teacher; a lack of cases willing to participate; a skewed sense of reality for the preservice teacher; and technical issues that either interfere or impede learning.

In Turkey, researchers (Caner, 2010; Yilmaz & Orhan, 2010) have examined the use of blended learning environments with preservice teacher training. Caner investigated a 14-week blended learning environment for preservice teachers enrolled in the English Language Teacher Training Program at Anadolu University. Students were required to meet face-to-face once a week for 2 hours with the instructor and classmates, log 6 hours of student teaching in participating schools, and use WebCT, an online course management system, to complete the distance learning components of the course. In a

discussion of the findings, Caner reported that the blended learning environment offered preservice teachers multiple opportunities to write, view, and critique lesson plans through asynchronous discussion forums. In addition, peer collaboration was fostered and sense of community was established because of the convenience of student-to-student and student-to-instructor contact.

Yilmaz and Orhan (2010) sought to investigate whether preservice English teachers with different learning approaches vary in their achievement and in their satisfaction of a blended learning course. Fifty-three students from Yildiz Technical University's Department of Foreign Language Education participated in the study. Of the 53 participants, 46 were female; 7 were male; and none had previous experience with blended learning environments. Participants were asked to complete the Revised-Two Factor-Study Process Questionnaire, and researchers concluded that 32 of the 53 participants were categorized as deep learners—those who strive to make meaning of new material—while 21 of the 53 were categorized as surface learners—those who rehearse and memorize new material. The researchers reported that there was no statistically significant difference between deep and surface learners in academic performance, but the average satisfaction level of deep learner students with the blended learning environment was statistically significantly higher than the average of surface learner students.

Principals' Perspectives

Huss (2007) conducted a critical case study to investigate the perceptions of secondary principals toward online teacher preparation that would grant undergraduate

teacher candidates certification or licensure. Seven principals from two school districts in northern Kentucky were interviewed by the researcher. An open-coding data analysis procedure revealed the following themes: (a) social aspects of teaching are critical and may be compromised in an online learning environment, (b) online learning experiences cannot replicate the learning and reflection that occurs during field experiences, and (c) attributes such as "empathy, enthusiasm, eye contact, fairness, humor, and initiative" (p. 27) would be hard to determine in an online environment. Principals who participated in the study indicated a reluctance to accept preservice teacher preparation programs that are entirely web-based. Therefore, Huss recommended that online professional learning developers craft blended learning experiences for teacher candidates. In such an environment, preservice teachers can share reflections with colleagues about their field experience assignments through threaded discussions.

International Perspectives

Helleve (2007) interviewed five Norwegian student teachers in order to explore the impact of a learning management system on reflection. At the time of data collection, participants in the study had recently completed a two-year, part-time web-based credential program. Before embarking on the distance learning experiences, the five student teachers spent three days with each other and with course instructors. In this setting, expectations for course participation were discussed and technology required for course assignments was explained. A culminating project for study participants was the creation of a portfolio to be published within the online course. In a discussion of findings, Helleve reported that participants valued the three-day face-to-face seminar

with colleagues and instructors because in this environment they were able to establish a "feeling of security and confidence" (p. 274) that transferred into the online learning forum. Some assignments required students to collect information and give cumulative feedback while other assignments required students to produce creative assignments that were open to exploratory feedback which generated discussion about "deepest beliefs, professional identity, and mission" (p. 279).

In China, a pilot study was conducted to assess the support of distance learning for teachers and the effectiveness of a two-month online course (Gu, Zhang & Song, 2009). Participants reported a desire for additional support from tutors and threaded discussion topics related to classroom practice. Of 233 who completed a survey instrument, 144 (61.4%) were *very satisfied* with online discussions; 130 (55.8%) were *very satisfied* with the learning schedule and assignments; and 122 (52.4%) were *very satisfied* with self-tests. Sixty-six of 233 (28.3%) indicated that they were *very satisfied* with online lectures and question and answer sessions.

Duncan-Howell (2010) examined professional development experiences, attitudes, and skills of members of three online communities–an Australian state-based community, a national Australian community, and an international community. A 25-item open and closed questionnaire was returned by 98 teachers. Regarding method of learning, participants in this study indicated a preference for face-to-face professional learning with colleagues from other work settings; regarding location of professional development, respondents indicated a preference for a neutral location; and regarding aims of professional development, participants ranked "positive change to teacher

practice" first and "improvement in student learning" second. When asked if they considered online communities an effective means of professional development, 86.7% agreed yet 2.0% percent said their preferred learning method was learning with colleagues electronically. In the open-ended portion of the questionnaire, some participants said time was an advantage of participation in the online community in that they had the ability to log on when convenient; others, however, said that the volume of emails and discussion board postings required a large investment of time, thus making it a disadvantage of the online community.

Benefits

In a report issued by the Committee on Enhancing Professional Development for Teachers (2007), educators discussed four positive outcomes for online professional learning environments: They can be tailored to meet the needs of diverse groups of teachers; they can create a sense of community for those who participate; they feature methods of accountability; and they may help attract teacher candidates and retain novice teachers, especially if they are "digital natives" (Prensky, 2001) familiar with such technologies. In order to meet the needs of diverse groups of learners, online professional development events can range from one-hour synchronous sessions to months-long semester courses; tools required for participation can vary from email to instant messaging; and the number of participants can range from less than 10 to more than a thousand (Bowskill, Foster, Lally, & McConnell, 2000). Moreover, membership can fluctuate during the course of the event. For students, the online experience offers

convenience, and for teachers who once traveled to remote sites to teach, the online experience saves time and expense (Olsen, Donaldson, & Hudson, 2010).

Online Sense of Community

Researchers have explored sense of community and motivation among online learners; however, the target population of numerous studies has been undergraduate and graduate college students (Correia & Davis, 2008; Exter, Korkmaz, Harlin, & Bichelmeyer, 2009; Hilton, Graham, Rich, & Wiley, 2010; Ouzts, 2006; Rovai & Baker, 2005; Rovai, Baker, & Cox, 2008; Rovai, Wighting, & Liu, 2005; Wighting, Liu & Rovai, 2008) and those in nursing programs (Gallagher-Lepak, Reilly, & Killion, 2009; Holley & Taylor, 2009).

Classroom Community Scale

University students. Using a nonexperimental, descriptive mixed methodology research design, Ouzts (2006) attempted to measure sense of community among undergraduate and graduate students enrolled in online courses at a land-grant university in the Western region of the United States. During the semester of data collection, the college offered 11 graduate and 37 undergraduate courses through e-College, a course management system that allows students the opportunity to participate in discussion board forums and synchronous chats. In addition, teachers can assign students to groups and, at the teacher's discretion, the work of that group–its discussions, chats, and assignments–can be viewed by only group members or by all class members. Through convenience sampling, Ouzts invited 820 students to participate in the study. Of the 820 who were invited, 227 returned completed surveys, resulting in a response rate of 27.7%.

The instrument used for data collection was Rovai's (2002a) Classroom Community Scale. A request to participate in the study was sent via an email that also included a link to the survey. At the conclusion of the survey, a request was made to conduct a face-to-face interview with the respondent. Of those who indicated that they would be willing to participate in a face-to-face interview, only those with high scores on the Classroom Community Scale (those which were more than one standard deviation above the mean) or those with low scores on the Classroom Community Scale (those which were more than one standard deviation below the mean) were contacted. In a discussion of demographics, Ouzts reported that 52.9% of the 227 students were undergraduates, 43.6% were graduate students, and 3.5% were undeclared; 88.1% of the 227 students were female; and the age of respondents ranged from 20 to 50 years of age. Also noteworthy: 90% of respondents indicated that technology did not interfere with their learning; 50% of respondents had taken at least 5 other online classes; and 75% of respondents estimated spending 10 hours or more a week online.

Qualitative data collection gave Ouzts an opportunity to "hear the voices" (Creswell, 2007) of the study's participants. In courses that were rated as having low sense of community, participants listed a myriad of lamentations. Teachers in these courses were described as "disengaged, unavailable" (p. 291). Students reported that in classes which had a low sense of community rating feedback on assignments was not given, expectations were not clarified, and connections with the instructor were not established. In courses rated as high sense of community, however, students reported instructors who were "interaction, present … open, honest, and human" (p. 291). In these

online learning environments, students took advantage of chat rooms, discussion and group work was expected and encouraged, and, as a result, perspectives regarding course content were altered. Limitations such as low response rate and sampling criteria are weaknesses of the study and caution should be exercised in generalizing its findings to other populations. In summary, Ouzts encouraged those who develop online learning environments and those who facilitate online learners to design and implement online learning experiences through a social constructivist lens; consequently, threaded discussions, debates, group projects, and problem solving activities should be the norm of such environments, not a repository for lectures notes, slide shows, or assignments which require students to work in isolation.

Christian university students. In an examination of graduate students' sense of community and perceived learning in face-to-face and online courses, Rovai, Barker, and Cox (2008) studied a convenience sample of 350 participants. Of the 350 total participants, 186 were enrolled in graduate-level education courses on campus while 164 were enrolled in online courses; 168 were enrolled in a Christian university while 182 were enrolled in a state university. Twenty online courses were delivered through Blackboard, a proprietary vendor. Researchers attempted to control for variables of teaching experience and number of students in each course, but the difference in the conceptual frameworks of the schools of education was a weakness in the study. The Classroom and School Community Inventory, a self-report 10-item survey instrument, was utilized to measure school community, and the Religious Commitment Inventory — 10, a self-report 10-item survey instrument, was used to measure religious commitment.

The study was guided by two research questions: (a) Do school community and perceived learning differ by school type and by course type? and (b) If differences by school exist, do they continue to exist after controlling for the students' religious commitments? In their discussion of findings, Rovai, Barker, and Cox (2008) stated that students enrolled in the Christian university scored significantly higher than students enrolled in the state university in the social community and learning community, but differences in perceived learning were not significant between the two school types. As in the Rovai and Baker study (2005), weaknesses of methodology limit the ability to generalize results beyond the scope of this study. With 350 participants, the sample is large enough to suggest trustworthiness of the statistical results; however, only two universities–one Christian and one public–were sampled and only graduate education courses were included for analysis.

Instructional technology students. Exter, Korkmaz, Harlin, and Bichelmeyer (2009) used a mixed methods research design to study distance education students' desire to interact with classmates enrolled in an instructional technology program at a large university in the Midwest region of the United States and to assess how their interactions impacted their sense of community, satisfaction with courses, and satisfaction with the program. Surveys were completed by 29 participants, and semistructured interviews were conducted with 7 participants in order to gain a deeper understanding of how students perceive *community*. In their description of the study's findings, the researchers stated that there was no significant difference between distance and residential students' averages as measured by Rovai's Classroom Community Scale. Also, researchers stated

that distance and residential students interacted with classmates to varying degrees but no significant difference was found in the time distance and residential students spent interacting with course instructions. Qualitative data was collected in order to strengthen the study's findings. During interviews, distance education students indicated a longing for additional methods that would allow them to connect with residential students. Options suggested by participants included utilizing Web 2.0 social media sites such as Facebook and MySpace or the creation of a class website that would give students a place to dialogue through discussion board postings.

Education students. Rovai, Wighting, and Liu (2005) conducted a study to measure classroom community and school community. Data were collected from 279 university students in an urban area of Virginia enrolled in undergraduate and graduate education programs in order to investigate differences in classroom community, school community, and perceived learning between online university students and residential students. In this study, online students scored lower than their residential counterparts in classroom social community and school social community while graduate students scored higher than undergraduate students in classroom social community and school social community. In addition, there was no difference in perceived learning between the two groups. These researchers encouraged college administrators to respond to online students' positive feelings of connectedness by including online students in schools' student affairs programs, by encouraging online students to participate in campus government endeavors, and by forming cohorts that start the program at the same time,

thus creating the potential for creating an environment of belonging, reflection, and understanding.

Gender variable. Rovai and Baker (2005) addressed gender differences in online learning when they analyzed data collected from 193 students enrolled in 12 online graduate education courses at a Virginia university. Of the 193 total participants, 83.9% were female and 16.1% were male; and of the 193 total participants, 62.7% were White, 30.1% were Black, and 2.1% were Asian. Students who volunteered for this study were enrolled in asynchronous online education courses delivered through Blackboard, a course management system. Participants completed an online version of the 20-item Classroom Community Scale (Rovai, 2002a). The central research question for this study was: Are there differences in social community, learning community, and perceived learning between male and female students in a predominately female online learning environment? In this study, female students had higher scores than males for all variables, and females reported a stronger sense of community and a stronger sense of perceived learning for the 12 online education courses that were sampled.

The data collection window was the final 3 weeks of the semester and the 1 week which followed the end of the semester. During the time, female participants posted significantly more messages to course discussion boards than their male counterparts. Rovai and Baker acknowledged that these findings are not consistent with research that suggests males dominate conversations in which females participate, but findings do parallel research that states female students are more active participants in online discussion board conversations than male students. However, since 8 out of 10

participants in the study were female, a reviewer could assert that since females were the dominant gender in the study then they would have the opportunity to tally more discussion board postings than male students. Furthermore, the study is limited by a methodology which included one university in the United States and inclusion of 12 online graduate-level education courses.

Motivation variable. Wighting, Liu, and Rovai (2008) continued to examine college students' sense of community but added the variable of motivation in a study that featured 320 students from three universities in an urban area of Virginia. Included in the population were 165 students enrolled in face-to-face courses and 155 students enrolled in an online course. Of the 320 total participants, 272 (85.0%) were female and 48 (15.0%) were male. To collect quantitative data, researchers used two self-report instruments – the Classroom and School Community Inventory (CSCI) and the Academic Motivation Scale – College (AMS-C 28). The CSCI has 10 self-report items that measure classroom community and school community, and the AMS-C 28 measures intrinsic and extrinsic motivation in college students. The primary research question that guided this study was: How accurately can online and traditional students be classified into these two categories based on their scores on 7 predictors – classroom social community, classroom learning community, school social community, classroom learning community, school social community, school learning community, intrinsic motivation, and extrinsic motivation? Findings revealed that, in order to discriminate between distance learners and face-to-face learners, the primary predictor is the strong intrinsic motivation of the online learning subgroup. In a discussion of the study's weaknesses, researchers acknowledged

that the concepts of intrinsic and extrinsic motivation are not static, and as a result, they are difficult to separate.

Church volunteers. Warren (2009) used the Classroom and School Community Inventory (Rovai, Wighting, & Lucking, 2004) and the Critical Incident Questionnaire (Brookfield, 1995) to explore Christian church volunteers' perceived sense of community in an online learning environment. Warren targeted volunteer Bible study leaders and other volunteer leaders from Christian churches and requested their participation in an 8-week online seminar that featured individual learning activities in course modules and online discussion groups. The primary research question of the study was: What factors influence Christian church volunteers' sense of community within an online learning environment? To collect quantitative data, two electronic surveys were administered to participants—one at the beginning of the seminar that requested information regarding demographic data and self-perceived comfort with technology and another at the end of the seminar that requested self-perceived sense of community in the online learning environment and self-perceived comfort with technology. To collect qualitative data, the Critical Incident Questionnaire (Brookfield, 1995) was administered biweekly. All surveys were sent to participants electronically through SurveyMonkey.com, an online password protected survey tool. Participants in the study were sought by the researcher through convenience sampling; however, Warren used a random sampling technique (even year or odd year of birth) to assign participants into discussion board groupings. Warren acknowledged threats to the internal validity of the study: participants were drawn from a convenience sample; only adults participated in the study; and participation

from the beginning of the study to the end of the study dropped from 42 participants to 14.

In a discussion of the findings, Warren reported that descriptive statistics for sense of community in the sample of Christian church adult volunteers participating in an online learning environment fell between *neutral* and *agree* with a mean value of 25.74 and a mode of 20. For the scope of this study, Warren elected to use only the perceived sense of community subscale of the *Classroom and School Community Scale* to assess perceived sense of community in the online learning environment, and not the perceived sense of community in the school subscale. Also, the term *class* was replaced with the word *seminar* in the questionnaire. Participants in the Warren study indicated that the online learning environment offered opportunities to learn and encouraged a desire to learn. Statement 1 of the questionnaire ("I feel that those in this seminar care about each other") had the highest mean score while Statement 3 ("I feel connected to those in this seminar") had the lowest mean score, and according to Warren, those results are consistent with a previous study by Rovai. In an analysis of qualitative data, Warren noted the emergence of four themes: learning components such as course navigation, class structure such as reactions to assignments, social components such as blogging, and personal life components such as work demands that affected perceptions of the online learning experience. In summary, Warren reported that adult volunteers participating in an online learning experience indicate a sense of community, but cautions that results could reflect the nature of Christian communities where the value of community is promoted.

Critical Incident Questionnaire

Glisczinski (2008) conducted a qualitative study in order to gain insight of students' perspectives on the educational value of pedagogies, interactions, and course activities. Of 104 preservice teachers enrolled in an education psychology class at a public university, 54 elected to participate. During the fall of 2007 and spring of 2008, the 54 participants posted 321 total responses to a wiki-based Critical Incident Questionnaire (Brookfield, 1995). Responses were coded, and emergent themes were identified. In a discussion of findings, Glisczinski encouraged faculty to create and support learning environments that honor risk taking and reminded readers that student perceptions and instructor perceptions of effective support, feedback, and scaffolding are likely to differ.

Learning Management Systems

Teaching and learning, especially in the context of higher education, is no longer relegated to interactions between instructors and students confined to a physical space on campus. Instead, teaching and learning is increasingly becoming a blend of web-based learning and face-to-face interactions (Yueh & Hsu, 2008). In order to deliver course content that breaks the barriers of time and space, colleges and universities have utilized course management systems that feature syllabus posting, course materials, discussion areas, chat rooms, assignment drop boxes, and electronic gradebooks (Simonson, 2007).

A literature review of educational technology unveils a debate regarding the appropriate use of the terms *course management systems* and *learning management systems*. According to Watson and Watson (2007), a learning management system is the

"infrastructure" (p. 28) that delivers course content, identifies learning goals, tracks progress toward learning goals, and collects and reports data. A *course management system*, however, serves as a repository for course materials, acclimates students to the course, tracks student performance, maintains student work, and enables email or chat interactions between students and the instructor in online or blended learning environments (Watson and Watson, 2007). Simonson (2007) uses the terms *course management system*, *learning management system*, and *virtual learning environment* interchangeably. Because learning management systems are web-based, students can access course content through synchronous and asynchronous technologies at any time and in any place that has Internet connectivity (Black, Beck, Dawson, Jinks & DiPietro, 2007; Simonson, 2007).

According to Simonson (2007), a course management system is analogous to a table of contents in that the course management system creates an organizational structure for the distance learning or blended learning environment. One organizational structure places units, the major ideas of the course, into modules. Each module is bounded by a period of time. Within the set time frame, students work through topics and tasks featured within the module.

The two types of course management systems are *proprietary* and *open source*. WebCT, Blackboard, and ANGEL are examples of proprietary systems that are purchased or licensed from a vendor by schools, colleges, or universities while open-source management systems such as Moodle and the Sakai Project are free software

(Simonson, 2007). In May of 2009, Blackboard, Inc. announced acquisition of the ANGEL product portfolio (Blackboard, Inc., 2010).

Student Perspective of ANGEL

When students log in to a web-based course that has been authored using the proprietary management system ANGEL, they are immediately directed to the course home page to view a listing of courses in which they are enrolled, course announcements, and course calendar. Once students access a specific course from the home page, they are able to navigate among *lessons*, *resources*, and *communicate* tabs. Students go to the *lessons* tab to view course content. Under the *resources* tab, students might see the course syllabus, links to search engines, and documents they may need to access frequently. Synchronous chat and email options are featured under the *communicate* tab.

Teacher Perspective of ANGEL

When teachers log in to a web-based course that has been authored using the proprietary management system ANGEL, they also are directed to the course home page that lists all courses to which they are enrolled. Once inside a specific course, the instructor can add, rearrange, hide, or delete content files; view bar graphs that indicate student activity within the course; view bar graphs that indicate student performance on assessments; and create automated messages to send to student groups. Instructors have a plethora of options from which to chose when authoring content: They can upload files; they can create discussion board forums; they can create drop boxes so that students submit work electronically; they can create multiple-choice, true-false, and fill-in-the-blank assessments; they can add blogs to give users a place to reflect and share; they can

create links to Internet sites; they can create wiki pages to give students an opportunity to work collaboratively; and they can create original pages of course content.

Summary

Section 2 included a description of the following: (a) recent studies of online learning environments in fields other than education, (b) recent studies in online learning in the field of education, (c) studies which used the Classroom Community Scale (Rovai, 2002a) to investigate students' perceptions of community within online learning environments; and (d) learning management systems used to support online learning environments. Section 3 will provide a rationale for the research design as well as a description of the setting, target population, data collection instruments, data collection procedures, protection of human participants, and the role of the researcher. Section 4 will describe results of the qualitative and quantitative data collection, and Section 5 will offer an interpretation of findings and make recommendations for future study in the area of online professional development for teachers in K-12 settings.

Section 3: Research Method

In this mixed methods sequential exploratory study, I sought to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. Specifically, I investigated middle school educators' perceived sense of classroom community, connectedness to colleagues, and learning as measured by the Classroom Community Scale (Rovai, 2002a), a 20-item survey, and an interview protocol: the Critical Incident Questionnaire (Brookfield, 1995). The study featured a nonexperimental research design in which both qualitative and quantitative data were collected and analyzed. The study was limited to teachers, media specialists, and graduation coaches employed by one suburban school district in the southeast region of the United States who work in a middle school setting or hold certification to work in a middle school setting. This section will include a description of the online professional development course, the research design, the setting, the target population, instruments used for data collection, data analysis procedures, protection of human participants, and my role as researcher.

Online Professional Development Course

The title of the 6-week online professional learning course (Appendix C) was *Using ANGEL/Blended Learning*. An information technology specialist employed by the school district provided the human infrastructure element by administering the site, determining course content, and crafting performance tasks to be completed. Course participants were expected to attend two face-to-face meetings—one at the beginning of

the course and another at the conclusion of the course—complete five training modules, and use ANGEL tools to create a unit of study for the course they teach. In module 1, participants received an overview of blended learning through reading materials, videos, and a discussion board. In module 2, participants were introduced to best practices of blended learning through reading materials, videos, and a discussion board. In module 3, participants explored virtual communication tools through reading material, videos, discussion boards, wikis, and blogs. In module 4, participants added students and teams to their practice ANGEL course and create folders, pages, links, discussion boards, and assignment dropboxes within their practice ANGEL course. In module 5, participants explored assessment tools within ANGEL and added those features to their practice course. During week 6, participants were asked to share their units of study at a face-to-face meeting with their peers and the course facilitator.

Research Design

Research questions determine the research methodology, not vice versa (Tunmer, Prochnow, & Chapman, 2003). Researchers who seek to conduct social science inquiry can choose from a plethora of design strategies–experimental and nonexperimental designs in the quantitative approach; narratives, phenomenologies, ethnographies, grounded theory, and case studies in the qualitative approach; and sequential, concurrent, and transformative in the mixed methods approach (Creswell, 2003). Use of the mixed methods research paradigm offers the researcher the ability to add meaning to numbers through words and narrative and add precision to words and narrative through numbers (Johnson & Onwuegbuzie, 2004). Furthermore, a strength of one method can offset a

weakness inherent in the other method. Challenges are acknowledged, however, by Johnson and Onwuegbuzie (2004). Studies which employ mixed methodology are sometimes more expensive, time consuming and difficult to carry out, especially if data are collected concurrently.

Rationale

A mixed methods sequential exploratory research design was used for data collection in order to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. A quantitative only research design was considered but eliminated in favor of mixed methodology so that participants' stories could be shared, their voices could be heard, and their lived experiences explored (Creswell, 2007). A qualitative only research design was considered but eliminated in favor of mixed methodology so that the phenomena–middle school educators' sense of community, connectedness, and learning–could be further described through the collection of numerical data (Muijs, 2004).

There are six major approaches to the mixed methods research paradigm (Creswell, 2003): sequential explanatory, sequential exploratory, sequential transformative, concurrent triangulation, concurrent nested, and concurrent transformative. In a sequential explanatory design, the collection and analysis of quantitative data occurs prior to the collection and analysis of qualitative data. The sequential explanatory design was eliminated from consideration because the reverse would occur in this study. The sequential transformative strategy was considered because

the model allows the researcher to collect data in two separate phases and give priority to either qualitative or quantitative data. This design, however, was eliminated because not much has been written regarding this model in terms of guiding the researcher from Phase 1 of data analysis to Phase 2 of data analysis (Creswell, 2003). Because quantitative and qualitative data were collected during two separate time periods, the three types of concurrent models of mixed methods research–concurrent nested, concurrent transformative, and concurrent triangulation–were eliminated from consideration. Therefore, the sequential exploratory was the approach used for data collection.

Research Questions

The purpose of this mixed methods sequential exploratory study was to investigate attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States.

The central research question to be explored during the qualitative phase of data collection was: How do middle school educators employed by the same suburban school district described above depict online professional development experiences that impact their learning? Qualitative data collection was guided by Brookfield's Critical Incident Questionnaire (1995) during interviews with a subsample of five participants.

The central research question to be explored during the quantitative phase of data collection was: To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their sense of

classroom community in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)? Two subquestions to be explored during the quantitative phase of data collection were: (a) To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their connectedness to colleagues while participating in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a); and (b) To what extent do middle school educators employed by the same suburban school district in the southeast region of the United States perceive their learning after participation in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

Data Collection Procedures

Data were collected upon approval of the doctoral study proposal and the Research Ethics Review Application by the Walden University Institutional Review Board (#12-09-10-0336277). Data collection was also contingent upon approval from the school district which employs the target population.

An offer to participate in the study was extended to teachers who enrolled in the 6-week online professional development course *Using ANGEL/Blended Learning* through the district's mail delivery service. Distributed to the target population during this initial contact was a paper copy of the informed consent form that describes the purpose of the study, the nature of the study, methods of data collection and storage, and a statement of confidentiality. A week later, a follow-up message was sent to course participants asking if another copy of the informed consent form was needed. Informed consent forms were

sent electronically if requested, and a paper copy was delivered to the potential participant if requested. Potential participants were instructed to return informed consent forms with their electronic signatures back to the researcher's home email account. Paper copies of the informed consent form were returned by the district's mail delivery service or in person to the researcher. School system email accounts were not used during the data collection period.

Once informed consent forms were returned and the online professional learning course was launched, five educators were sampled to take part in the qualitative phase of data collection. Of the five educators , I had hoped to have two participants with less than 6 years of teaching experience; two participants with 7 to 15 years of teaching experience; and one participant with more than 16 years of teaching experience. Of the qualitative sampling strategies, maximum variation was selected to highlight different perspectives, "an ideal in qualitative research" (Creswell, 2007, p. 126). The Critical Incident Questionnaire (Brookfield, 1995) instrument was used for qualitative data collection during face-to-face individual interviews with the subsample of five educators, thus assuring that participants in this phase of data collection had the opportunity to respond to the same core questions. Permission to use the Critical Incident Questionnaire for the purpose of this research study was received electronically on May 13, 2010. The Critical Incident Questionnaire served as the interview's "scaffolding" (Rubin & Rubin, 2005, p. 134) but follow-up questions and probing questions were used to ensure "depth, detail, vividness, richness, and nuance" (Rubin & Rubin, 2005, p. 129). I considered conducting focus group interviews as a method of acquiring data to evaluate the online

professional development course; however, this method of data collection was eliminated from the data collection plan because of my inexperience as a facilitator of group discussions (Phillips & Stawarski, 2008).

I deferred to the wishes of the participants regarding where and when individual interviews were conducted. Interviews were held during the 5th week of a 6-week online professional development course with each teacher of the subsample who consented to participate in the qualitative phase of data collection. Interviews were expected to last no more than an hour, and none did. All interviews were recorded using two digital devices– a laptop computer with recording software, and as a backup, a handheld Olympus digital recording device was used as well. To open each interview session, participants were reminded of the following: (a) Their participation is voluntary, (b) they may refuse to answer any question, and (c) they can terminate the interview at any time. In addition, participants were informed that pseudonyms would be assigned and used when results of the study are discussed, presented, or published to protect the identity of participants, the research site, and the school district. Each participant in the qualitative phase of data collection was informed that interview recordings would be transcribed by the researcher into a word processing computer program, and transcriptions would be returned to each participant for member checking to ensure accuracy. Furthermore, participants were informed that data would be removed from the researcher's laptop and saved to a flash drive, and digital recordings and paper copies of interview transcriptions would be stored in a locking file cabinet in my residence for 5 years then destroyed.

At the conclusion of the online professional development course, participants who signed informed consent forms were sent the Classroom Community Scale (Rovai, 2002a) via the school district's mail delivery service. The intent of the Classroom Community Scale*,* a validated 20-item, self-administered cross-sectional survey instrument, is to acquire quantitative data in order to assess study participants' perceived sense of community, connectedness to colleagues, and learning after participating in a 6-week online professional learning course. In order to describe the sample, I added a demographics section to the Classroom Community Scale asking respondents to report their gender, age group, and years experience in the classroom. Permission to use the Classroom Community Scale for the purpose of this research study was received electronically on May 11, 2010. Participants were encouraged to complete and return the Classroom Community Scale within a week.

Setting and Target Population

A school district in the southeast region of the United States served as the research site. The target population of this study was middle school educators employed by one suburban school district in the southeast region of the United States. All teachers in the district were offered an invitation to enroll in a 6-week online professional development course *Using ANGEL/Blended Learning*. During the 2009-2010 academic year the district had 2,618 full-time teachers and 41 part-time teachers. Of the 2,659 teachers, 528 (19.85%) were male and 2,131 (80.15%) were female. Of the 2,659 teachers, 667 (25.08%) were Black; 1,905 (71.64%) were White; 21 (0.79%) were

Hispanic; 15 (0.56%) were Asian; 7 (0.26%) were Native American; and 44 (1.65%) were multiracial (Georgia Department of Education, 2010).

At the conclusion of the 2009-2010 academic year, 97 (3.65%) had less than 1 year of teaching experience; 1,237 (46.52%) had between 1 and 10 years of teaching experience; 811 (30.5%) had between 11 and 20 years of teaching experience; 425 (15.98%) had between 21 and 30 years of teaching experience; and 89 (3.35%) had 30 years or more of teaching experience. In terms of level of education, 922 teachers (34.67%) have earned a bachelor's degree; 1,282 teachers (48.21%) have earned a master's degree; 384 teachers (14.44%) have earned a specialist's degree; and 67 teachers (2.52%) have earned a doctoral degree. (Georgia Department of Education, 2010).

Instrumentation and Materials

Two instruments were used to collect data in order to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. The Critical Incident Questionnaire (Brookfield, 1995) was used to collect qualitative data from a subsample of five teachers at the end of their participation in an online professional development course, while the Classroom Community Scale (Rovai, 2002a) was used to gather quantitative data from middle grades educators who participated in the online professional development course and returned signed informed consent forms (Appendix D and Appendix E).

The Classroom Community Scale

This mixed methods sequential exploratory study sought to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. The Classroom Community Scale (Rovai, 2002a) was used to collect quantitative data and assess participants' perceived sense of community, connectedness to colleagues, and learning after participating in a 6-week online professional learning course. Permission to use the Classroom Community Scale was obtained on May 11, 2010, (Appendix F) from Dr. Alfred Rovai of Regent University.

Rovai (2002a) created the Classroom Community Scale to investigate factors that influence community in a learning environment. Students enrolled in 28 education and leadership graduate level online courses at a private university in an urban area of the United States were invited by Rovai to participate in the study and 375 responded. Of the 20 survey statements, 10 are related to the factor of connectedness and 10 are related to the factor of learning. Odd numbered statements such as "I trust others in this course" and "I feel that members of this course depend on me" are designed to measure the factor of connectedness while even numbered statements such as "I feel that I am encouraged to ask questions" and "I feel that I receive timely feedback" are designed to measure the factor of learning. Ten of the 20 statements are negatively worded.

Survey statements are followed by a five-point Likert-type continuous scale of *strongly agree*, *agree*, *neutral*, *disagree*, and *strongly disagree*. For survey statements 1, 2, 3, 6, 7, 11, 13, 15, 16, and 19, the following scoring scale will be used: *strongly agree*

= 4 points, *agree* = 3 points, *neutral* = 2 points, *disagree* = 1 point, *strongly disagree* = 0 points. For survey statements 4, 5, 8, 9, 10, 12, 14, 17, 18, and 20 the following reverse-scoring scale will be used: *strongly agree* = 0 points, *agree* = 1 point, *neutral* = 2 points, *disagree* = 3 points, and *strongly disagree* = 4 points. The scoring system, therefore, ensures that the most favorable choice for each survey statement earns four points and the least favorable choice for each survey statement earns no points. For each subscale, scores will range from a minimum of 0 to a maximum of 20. The 20-item instrument will produce a minimum raw score of 0 to a maximum raw score of 40. Higher scores indicate stronger sense of community (Rovai, 2002a).

The survey was evaluated by an expert panel of three professors of educational psychology in order to establish content validity. Initially, the instrument included 40 statements; however, items not rated as *totally relevant* by all members of the expert panel were deleted. Internal consistency of the Classroom Community Scale was established using Cronbach's coefficient and the equal-length split-half coefficient. The Classroom Community Scale registered a Cronbach's coefficient of .93 and equal-length coefficient of .91. Calculations for the Cronbach's coefficient and the equal-length split-half coefficient for the connectedness subscale were .92 each and the Cronbach's coefficient and the equal-length split-half coefficient for the learning subscale were .87 and .80, respectively (Rovai, 2002a). The instrument has been divided into four subscales of community–spirit, trust, interaction, and learning–and renamed *Sense of Classroom Community Index* (Rovai, 2002b). The former version of the instrument will be used for this research.

The Critical Incident Questionnaire

Permission to use the Critical Incident Questionnaire was granted on May 13, 2010, from Dr. Stephen Brookfield of the University of St. Thomas (Appendix G). The Critical Incident Questionnaire is a five-item interview protocol that asks respondents to reflect on the following regarding their learning experience:

1. At what moment in class did you feel most engaged with what was happening?
2. At what moment in class were you the most distanced from what was happening?
3. What action that anyone (teacher or student) took this week did you find the most affirming or helpful?
4. What action that anyone (teacher or student) took this week did you find the most puzzling or confusing?
5. What about this week's class surprised you the most?

According to Brookfield (1998), the Critical Incident Questionnaire is beneficial to both teachers and learners. For teachers, the Critical Incident Questionnaire sheds light on issues within the learning environment that need to be examined and addressed, justifies diverse teaching and training methods, and builds trust between students and teachers. For learners, the Critical Incident Questionnaire is a tool that develops critical thinking and reflectivity.

Data Analysis Procedures

I followed qualitative data analysis steps outlined by Creswell (2007) in order to determine patterns, themes, and relationships (Hatch, 2002). First, data were prepared into computer files and organized by case and interview session. I then advanced into the second level of the data analysis spiral (Creswell, 2007) by reading the data closely; by writing notations of short phrases, ideas, and concepts in the margins; and by reading the data again in order to make sense of the raw data in its entirety. At this stage, I sought to obtain a general impression of the participants' remarks (Creswell, 2003). In the third level of the data analysis spiral, I described, classified, and interpreted data through the development of themes. The online professional development course *Using ANGEL/Blended Learning* features five modules. Once participants completed four modules, interviews were held and qualitative data analysis began.

Hatch (2002) presented five models of qualitative data analysis: typological, inductive, interpretive, political, and polyvocal. As predetermined categories have been established before data collection began (one participant who had no prior experience with online learning environments, two participants who had some prior experience with online learning environments, and two participants who had extensive prior experience with online learning environments), the typological analysis model was employed. This model is appropriate for data analysis because the study relied on interviewing as the primary data collection tool, and I began data collection with predetermined topics to be addressed (Hatch, 2002).

Interview transcriptions were read carefully multiple times in order to separate the large data set into smaller chunks. The highlighting function of a word processing computer program was used to mark the text for analysis. Once data from each interview had been read, reread, and color coded for relevant text and repeating ideas, summaries were written to help identify patterns, relationships, and themes. According to Hatch (2002), patterns, also known as *regularities*, can take the form of similarities, differences, frequency, sequence, correspondence, and causation; relationships are links; and themes are integrating concepts. Once patterns, relationships, and themes have been identified, connections will be made in order to gain a "richer sense" (Hatch, 2002, p. 158) of teacher perceptions of the online professional development course *Using ANGEL/Blended Learning*. To communicate findings to others, Hatch recommended the formation of one-sentence generalizations, "special kinds of statements that express relationships found in the particular contexts under investigation" (p. 159) and warned the researcher that if findings are unable to be expressed as generalizations, then data analysis is probably incomplete. The last step of data analysis was the selection of quotes that "take readers inside the contexts and allow them to hear the voices of participants" (Hatch, 2002, p. 159). Hatch reminded the researcher of benefits and drawbacks to typological data analysis: This form of qualitative data analysis is an efficient use of time but predetermined categories may "blind" (p. 161) the researcher to unexpected patterns, relationships, or themes.

Qualitative data analysis programs such as NVIVO, Atlas.ti, and NUDIST are available but are considered by some to be a "mixed blessing" (Auerbach & Silverstein,

2003, p.132) in that although such technology creates a faster, more systematic review of qualitative data, researchers who rely solely upon computer-assisted analysis may not be open to alternative categories that are not presented by the program. Therefore, coding in this research study was conducted by hand by the researcher. Raw data will be stored in a locking file cabinet in my residence for 5 years then destroyed.

Quantitative data collected from the respondents was analyzed using Statistical Package for Social Science (SPSS) 16.0 computer software program. Descriptive statistics–frequency, percentage, mean, and standard deviation–were reported.

Protection of Participants' Rights

During each phase of the study, I gave consideration to the protection of participants. I completed a National Institutes of Health Human Research Protections training module on April 20, 2009. A Research Ethics Review Application was submitted to the Walden University Institutional Review Board requesting approval to conduct research. The Institutional Review Board application requires a general description of the proposed research, a description of anticipated risks and benefits for participants, a description of procedures to be used to maintain data integrity and confidentiality, a description of data collection tools, and a description of measures used to obtain and document informed consent from all study participants. There are no known risks to the participants who completed the 20-item Classroom Community Scale (Rovai, 2002a); however, participants who elected to take part in the qualitative phase of data collection may have experienced slight discomfort while answering questions from the Critical Incident Questionnaire (Brookfield, 1995). Upon approval from Walden University's

Institutional Review Board, I requested permission to conduct research from the school district which employs the study's participants. In order to participate in the study, participants returned a signed consent form to the researcher. Participation in the study was voluntary. Participants maintained the right to withdraw from the study at any time, and they were encouraged to ask questions before, during, and after data collection. During individual interviews participants were reminded that they could refuse to answer any question at any time. Pseudonyms have been assigned and will be used when results of this study are presented and discussed to protect the identity of participants and the research site. No one other than the researcher will know the identities of the participants. A final report of findings and recommendations will be shared with community partners and participants.

My Role as Researcher

I am a certified teacher employed by the school district that served as the research site and a member of my school's Better Seeking Team (BST). As a member of the BST, I join other teacher leaders to discuss, create, and assess job-embedded professional learning initiatives at ABC Middle School. According to Creswell (2003), the term *backyard research* was used by Glesne and Peshkin to describe studies in which the researcher's work setting or organization is used as the research site. For the researcher, data collection in such situations is convenient; however, there are disadvantages such as biased, inaccurate, or incomplete reporting of findings (Janesick, 2004). Consequently, interview transcripts were returned to participants for member checking (Creswell, 2003; Janesick, 2004) in an attempt to limit the potential for bias during the qualitative phase of

data collection and bracket my previous experiences with and impressions of online learning (Hatch, 2002). To this research study, I bring background experience with online and blended learning environments. From May of 2006 to December of 2007, I was a student in a master's of education distance learning program; presently, I am a student in a doctorate of education distance learning program.

Summary

This section presents the research methodology. In this study, a mixed method sequential exploratory study sought to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. The central question for qualitative data collection was: How do middle school educators employed by one suburban school district in the southeast region of the United States describe online professional development experiences that impact their learning? The central question for quantitative data collection was: To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their sense of classroom community, connectedness to colleagues, and learning in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)? In order to gain a deeper understanding of middle school educators' perceptions of an online professional development course, five participants were invited to participate in interviews structured around Brookfield's Critical Incident Questionnaire (1995). Interviewees who agreed to take part in the qualitative phase of data collection were purposefully selected in an effort to reflect a variety of experiences, knowledge, and

perspectives (Rubin & Rubin, 2005). Certified teachers employed by one suburban school district in the southeast region of the United States who completed an online professional development course were invited to participate in the quantitative phase of data collection–completion of the Classroom Community Scale. Data collection and data analysis will be presented in Section 4, and an interpretation of findings and recommendations for future study will be noted in Section 5.

Section 4: Results

Limited research exists that describes the design, development, and implementation of online professional development for educators in K-12 settings. Therefore, the purpose of this mixed methods sequential exploratory approach study was to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. I submitted a request to conduct research within the school district and received approval from the school district superintendent on February 16, 2011. I submitted an application to conduct research and supporting documentation to the Walden University Institutional Review Board and approval (#12-09-10-0336277) was granted on March 23, 2011.

This chapter offers a detailed description of data that were collected through individual interviews with five middle grades educators, and a 20-item, self-administered cross-sectional survey instrument that was returned by 23 educators enrolled in the *Using ANGEL/Blended Learning* professional development course. The intent of the study was to investigate the following research questions:

For qualitative analysis, the central question was:

- How do middle school educators employed by one suburban school district in the southeast region of the United States describe online professional development experiences that impact their learning?

For quantitative analysis, the central question was:

- To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their sense of classroom community in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

For quantitative analysis, the subquestions were:

- To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their connectedness to colleagues while participating in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

- To what extent do middle school educators employed by the same suburban school district described above perceive their learning after participation in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

Overview of Qualitative Data Collection

Upon receiving approval from Walden University's Institutional Review Board, three teachers, one media specialist, and a graduation coach enrolled in the *Using ANGEL/Blended Learning* professional learning course volunteered to participate in the qualitative phase of data collection for this study. Each element of the informed consent form—background information, procedures, nature of the study, risks and benefits, costs and compensation, and protection of confidentiality—was explained to these potential

participants. Informed consent forms were signed, and individual interviews were scheduled with the participants at a time and in a place convenient for them. Three interviews were held on separate days during the first week of May 2011 immediately following the dismissal of students, and two interviews were held on separate days during the second week of May 2011 following the dismissal of students.

Before each interview began, participants were reminded of the following: (a) their participation in the study was voluntary, (b) they could refuse to answer any question, and (c) they could terminate the interview at any time. In addition, participants were informed that pseudonyms would be assigned and used when results of this study are discussed, presented, or published to protect their identity and the identity of the school district with which they are employed. Each interview lasted about an hour and was audiotaped using two recording devices. Qualitative data was captured through the use of the Critical Incident Questionnaire (Brookfield, 1995) during week 5 of the 6-week online professional development course. Since each participant in the qualitative phase of data collection was interviewed one time, the phrase "this week" was omitted from each of the five questions of the Critical Incident Questionnaire.

During each interview, I took notes to record responses that were later probed for clarification and elaboration. I transcribed each individual interview verbatim into a word processing computer program within 48 hours of the interview session. Transcriptions were returned to each participant during the first week of June 2011 for member checking to ensure accuracy. I read through the data three times in order to obtain an understanding

of each participant's story. Participant profiles and interview data organized into six typologies are presented in the following section.

Profile of Study Participants

Theresa

After working as an eighth grade language arts teacher for 2 years at ABC Middle School, Theresa has spent 2 years as a middle school media specialist. She earned certification as a media specialist through a blended learning program. At the time of the interview, she was enrolled in a specialist's degree program in the field of information technology, and she reported that all coursework in this program will be completed online. Of the two options—blended learning or online learning—Theresa acknowledged that she prefers the blended format and stated:

> I like that face-to-face interaction with professors. You can get the emotions that come through on their faces and in their words. It gives you a better feel for how the teacher is like. Maybe after I have had that teacher once in a face-to-face setting then I would want the next class with him to be online because I know the type of person he is.

Theresa reported that the inspiration for enrolling in the *Using ANGEL/Blended Learning* professional development course was three-fold: for students, she could build content in ANGEL that would assist with lessons regarding how to find books in the media center or how to cite sources on a reference page; for teachers, she could build content in ANGEL that would offer guidance regarding reading skills and strategies; and

for herself, she could model a belief in life-long learning. She stated, “I always want to learn. I don’t ever want to say ‘Oh, I know that. The way I do that is great.’ There’s always a better way.”

Donna

After retiring from Delta Airlines in 2007, Donna joined ABC Middle School as a graduation coach. Her duties and responsibilities include working with students who are at-risk for not staying on track to graduate high school, assisting the counseling department with college and career advisement, facilitating the school’s anti-bullying program, and recruiting mentors to work with at-risk students. Donna reported that as a Delta Airlines employee she was required to complete online professional learning modules in order to maintain Federal Aviation Administration credentials. As the graduation coach at ABC Middle School, she has had some exposure to the ANGEL platform but wanted to learn more—especially in light of House Bill 400, legislation passed by the state’s General Assembly that requires middle school staff to provide career awareness and advisement to all students in grades 6 through 8. When asked to describe her motivation for enrolling in the *Using ANGEL/Blended Learning* course, Donna replied:

> I’ve had some exposure to ANGEL because I’m enrolled as a student in some of the courses so that I can run things off for kids who don’t have computers at home. The more I thought about it, the more I thought, well, I probably need to start working with ANGEL as a career development

> tool since we have sixth, seventh, and eighth grade to do now. That's a pretty big job. If I get things online, they can proceed at their own pace when we are working in the computer lab and I can move around the room and help whoever needs it.

Mary

After working as an accountant for 20 years, Mary joined a middle school faculty in the school district in the fall of 2006 as a business and computer science teacher. The sixth and seventh grade curricula stress word-processing programs and Internet safety, while the eighth grade curriculum features accounting, economics, entrepreneurship, and personal finance concepts. Mary indicated that she is a proponent of blended and online learning formats and has earned an associate's degree, a master's degree, and a specialist's degree through online programs. She stated:

> When I started to go to college for teaching, my kids were still in middle school. The reason I like the online is because I never have to leave my house. If they did not have online schools, I would not be teaching. I'm actually terrified to do a face-to-face class in a classroom with regular interaction.

After hearing a colleague mention the ANGEL platform and viewing how another middle school business and computer science teacher in the school district was using ANGEL with his students, Mary sought assistance from a district instructional technology specialist. She reflected on the conversation by saying:

> I told him, 'I so need training on this because I'm a business teacher and I should be using this in my class'. In my opinion, every teacher who teaches business and computer science should be using this technology. Period. It should be mandatory whether you like it or not. I foresee in the future that we are going to see blended learning. Maybe not in the lower grades, but it's definitely making its way to the middle grades.

Marie

A 19-year veteran of the teaching profession, Marie teaches students with mild and moderate intellectual disabilities in a self-contained classroom at ABC Middle School. She works with sixth, seventh, and eighth grade students in the areas of language arts, math, and social studies. Her students receive exposure to the regular education curriculum in the area of science. At the time of the interview, Marie had just completed one online professional learning course titled *Best Practices for Differentiated Instruction in K-12 Classrooms* and was enrolled in another—*Helping Struggling Readers Improve Comprehension*—in order to maintain certification in another state in the southeast region of the country. Each week, Marie reviews required reading material, applies the reading material to her classroom practice, and reports to the class via a discussion board posting. She reported that:

> My classmates made several comments to me, saying 'It's great that you are taking this course because now we can not only talk about what goes

> on in different schools in our area, but we can get a perspective of someone who lives in another state.

Marie's certification in the state in which she works is up-to-date, so she reported that she did not enroll in the *Using ANGEL/Blended Learning* course for professional learning units required by the state's Professional Standards Commission. Instead she thought of her students. "It's going to be a good thing for my students," she said. "They have had exposure to it already in their science and connections classes, so I need to jump on board."

Laura

A 40-year veteran of the teaching profession, Laura teaches family and consumer science to sixth, seventh, and eighth grade students at ABC Middle School. Over the course of six class periods, she works with approximately 200 students each day. Her former husband's career required frequent moves, and as a result, she has worked in 13 schools—including one in Germany when she was working for the Department of Defense. In 2008, she earned a specialist's degree from Lincoln Memorial University in which coursework was delivered through a blended learning format. One Saturday a month, she made a 2-hour drive to Harrogate, Tennessee, to attend class. Upon her return home Sunday night, she began to review required reading material, post reflections to course discussion boards, and collaborate with classmates on assignments via e-mail. She reported that she enjoyed the blended learning format of the program because "it was very friendly to people who had a career at the same time and trying to go back to

school" but some of the technology components were difficult to navigate. When asked to elaborate, Laura replied:

> Some of it felt cumbersome. Now, was it cumbersome because I am inept or was it cumbersome because of the system they were using? Some of both, probably. Even some of the technology that we have right now with ANGEL is more sophisticated that some of the stuff we had in 2008 at the collegiate level.

Laura reported that her motivation for enrolling in the *Using ANGEL/Blended Learning* course was three-fold: she had worked with the course facilitator in the past and felt that he would be "understanding of my lack of knowledge about this topic"; she wants to incorporate station teaching into her daily instructional practice and views the ANGEL platform as an avenue for remediation and acceleration; and she wants to add to her skill-set before she retires. Of working with the ANGEL platform, Laura stated:

> Whatever the end result of all of this is, I'm close to retirement. I still want to go out with a smile on my face saying I tried something that I didn't feel like I could do. I've been a naysayer on this in the past, saying 'Bah, humbug' and 'This is just not for me'. But I need to stretch and try some things that I don't feel comfortable with. I refer to it as the 'bells and whistles' and I've not had all of those 'bells and whistles'. I want to see how they work.

Overview of Qualitative Data Collection

I followed qualitative data analysis steps outlined by Creswell (2007) in order to make sense of the interview data. First, data were prepared into word processing files and organized by interview session. Interview transcriptions were then read closely multiple times in their entirety to gain a general impression of the participants' remarks (Creswell, 2003). Finally, typologies were generated in order to describe, classify, and interpret the data. Of the five models available to researchers for qualitative data analysis (Hatch, 2002), I elected to use the typological analysis model. This model is appropriate for data analysis because the qualitative phase of this mixed methods sequential exploratory study relied on interviewing as the primary data collection tool, and I began data collection with predetermined topics to be addressed (Brookfield, 1995; Hatch, 2002).

Once interview transcriptions were printed and read carefully multiple times in order to separate the large data set into smaller chunks, the following typologies were identified: (a) initial impressions of the course, (b) feelings of engagement, (c) feelings of distance, (d) feelings of affirmation, (e) feelings of confusion, and (f) feelings of surprise. Six copies of each interview transcript were printed. One copy of each interview transcript was read to identify data relating to initial impressions of the *Using ANGEL/Blended Learning* course; this data was highlighted in orange. The second copy of each interview transcript was read to identify data relating to feelings of engagement; this data was highlighted in green. The third copy of each interview transcript was read to identify data relating to feelings of distance; this data was highlighted in red. The fourth copy of each interview transcript was read to identify data relating to feelings of

affirmation; this data was highlighted in yellow. The fifth copy of each interview transcript was read to identify data relating to feelings of confusion; this data was highlighted in blue. The sixth copy of each interview transcript was read to identify data relating to feelings of surprise; this data was highlighted in purple.

First Typology—Initial Impressions

On April 12, 2011, an instructional technology specialist employed by the school district met with a group of K-12 educators from the same school district who had voluntarily enrolled in the course *Using ANGEL/Blended Learning*. During the 90-minute face-to-face session, the instructional technology specialist explained his role as course facilitator, demonstrated navigational tools within the ANGEL platform, introduced a sixth grade social studies teacher employed by the district who has been using the ANGEL platform with students for two years; gave an overview of the course content, and described the final performance task to be attempted by course participants—the creation of a unit of study to be shared at a second face-to-face meeting at the conclusion of the course in May 2011.

When asked to reflect upon this initial face-to-face meeting, Marie reported that she felt "overwhelmed" and "in a whirlwind" despite having had some previous experience with the ANGEL platform when students in her self-contained special education classroom return from their connections classes or their supportive instruction science class. Theresa, the middle school media specialist, said she was "intimidated" by the amount of reading material and tasks to complete within each module. She went on to explain that she had recently finished a class in a specialist's program in which she had to

create online lessons and came to the realization that "transferring a face-to-face lesson into an online format is much more difficult than you think it will be."

During the initial face-to-face meeting, Laura—the family and consumer science teacher with 40 years of teaching experience—and Donna—the graduation coach with four years of middle school experience—noticed the reaction of others in the room to what they were hearing from the course facilitator and seeing on their computer screen. From her vantage point in a seat on the back row of the high school computer lab classroom, Laura reported that many in the audience were "literally aghast" while watching a sixth grade social studies teacher explain a unit of study he had created using tools within the ANGEL platform. Donna, meanwhile, recalled that few questions were asked of the course instructor during the meeting then added, "but it's so mind-boggling at that point that you really don't even know what to ask." Marie echoed those sentiments, saying, "I think everyone was quiet because they were just trying to soak it in and absorb all of the information."

Mary, the middle grades business and computer science teacher with five years of teaching experience, recalled that she was "excited" and "in awe" throughout the initial ANGEL explanation and demonstration but she did understand apprehension from academic teachers who may have only one or two computers in the classroom for student use when she has a computer lab that can accommodate 35 students. Like Mary, Laura teaches a connections class and has a classroom setting with 12 computers. Both Mary and Laura reflected upon how ANGEL tools can strengthen the home-school connection. Said Mary:

> I got the glimpse that maybe this is not just for the classroom but this is for outside the classroom—a way to connect with kids inside the classroom and at home. It leaves that opportunity open. If they are absent from school, then there's no reason why the kids can't get what they missed if you have ANGEL as part of your course.

Laura, meanwhile, thought about students who are pulled from their connections courses to attend tutoring sessions, especially during the months of February and March when tests that determine Adequately Yearly Progress loom. Responded Laura:

> I think it could be an advanced learning for some kids or an extension of what they have learned and it can be great in connections because in connections we have some absenteeism for things like SIEP and doing other things around the school that keep kids out of our class and they miss a little chunk here and there. Kids that are motivated can make the work up very easily at home when it's on the computer.

Second Typology—Feelings of Engagement

In response to the first question of the Critical Incident Questionnaire (Brookfield, 1995) "At what moment in class did you feel most engaged with what was happening?", two of the five participants—special education teacher Marie and media specialist Theresa—mentioned their attendance at a five-hour Saturday work session hosted by a member of the ABC Middle School faculty. Teachers enrolled in the professional learning course *Using ANGEL/Blended Learning* had an opportunity to build content within their ANGEL course shell with support from the school district instructional

technology specialist who created the professional learning course and who was serving as the course facilitator. In addition, teachers from ABC Middle School were present to answer questions, make suggestions, and offer encouragement. Said Marie, "Since Day 1, I have wanted to get to the how-to's instead of just reading about why blended learning is beneficial so I got a lot out of the time we spent in the computer lab." Theresa echoed those sentiments, saying, "I am somebody who has to see what you are trying to teach me so the Saturday work time helped me a lot. Once you opened those gates, I'm like 'I can do this and this and this.' "

Three of those interviewed – Donna, the middle school graduation coach; Mary, the business and computer science teacher; and Laura, the family and consumer science teacher—mentioned a video within module 3: Designing Virtual Collaboration and Communication when asked to respond to Question 1 of the Critical Incident Questionnaire. Produced by Edutopia and titled "Harness Your Students' Digital Smarts", the four-minute clip features a teacher from a rural school district in a state in the southeast region of the United States who uses blogs, Twitter, and wikis to enable her students to practice digital citizenship while working collaboratively with students around the globe. Donna said, "I loved the video because it showed clips of her and her students—not just someone demonstrating. It gave me a 'you are there' feeling" and Mary revealed that she is a "visual learner so I prefer the videos he put in the course much more than the reading parts."

The Edutopia video located in module 3 made an impression on Laura as well. While watching the video and listening to comments made by the teacher and her students, she reflected on her early years as both a learner and as an educator, saying:

> Oh, my God, I went crazy over this woman. I was blown out of the water. This is very much the kind of school system that I was raised in and that I taught in years ago. This woman is phenomenal in every respect. I had to look at the video several times. So, I found out that when I saw something that was awesome like that I had a lot to say on the discussion board that week. I read what everybody had to say instead of just choosing a few people.

Third Typology—Feelings of Distance

In response to the second question of the Critical Incident Questionnaire (Brookfield, 1995) "At what moment in class did you feel most distanced from what was happening?", three of the five participants who were interviewed—Mary, Laura, and Marie—mentioned a lack of participation on their part in the discussion board forums.

Mary, the business and computer science teacher, stated that she had to give top priority during the month of May 2011 to her graduate degree coursework and, as a result, she "did not give 100 percent" to the *Using ANGEL/Blended Learning* modules. She explained:

> I want to read everybody's stuff in the discussion boards, but because of time, I have not been as diligent. I might respond to a couple of people and

> say, 'OK, I did it. Check.' but because it's not been a grade, I haven't spent as much time in it as I would have liked to.

Each of the five modules in the *Using ANGEL/Blended Learning* course featured video files, and participants in the course were asked to post a reflection in response to the videos in discussion board forums then respond to the postings of at least two classmates. Mary reported that her home computer did not have the system requirements needed to download videos quickly, and therefore, her participation in discussion board forums was stymied. "You cannot have a crappy computer and try to do this work or you will get frustrated," she said.

Laura echoed Mary's sentiments regarding participation in the discussion board forums, saying:

> "Was I an active participant? No. Why? Because I didn't think I had a lot to say. I made the minimum comments that we had to make, and if the directions said we had to comment on two people, that's what I did. Some people in the discussion board were willing to step out and say right up front 'I know nothing about this' but I wasn't brave enough to say that."

Marie acknowledged that duties and responsibilities at work and at home kept her from becoming an active participant of module 1. "One of the first articles was 19 pages long, so I just skimmed through and hit the highlights," she said. In addition, she said she was not interested in searching through discussion threads to see if anyone had replied to her original postings or replies, saying:

> It's too much, considering what we have to do as teachers and we just don't have the time. There's nothing that tells you that someone responded to your post and with all of the things that we have to do. I know I don't have the time to check in every day and I doubt the others do either.

Theresa, the media specialist, indicated that the reading material included within module 1 was of little interest because "it was a lot of what I already knew about blended learning so I gave it a quick look." Donna, the graduation coach, indicated that at no time during the 6-week course did she feel distanced from the material. She attributed that statement to having co-workers at ABC Middle School who have been working with the ANGEL platform for two years and who could lead her through the process of creating content for an online or blended learning course.

Fourth Typology—Feelings of Affirmation

In response to the third question of the Critical Incident Questionnaire (Brookfield, 1995) "What action that anyone (teacher or student) took in class did you find most affirming or helpful?" Laura, the family and consumer science teacher, expressed appreciation that the course facilitator had asked a group of early adoptees of blended learning who work in the school district to join the class as mentors in order to answer formatting questions, contribute to threaded discussions, and offer encouragement. During the interview, she stated:

> He was very smart to use professionals from our school system who he knew had expertise in this area. That opened another door for us. Those

> people are basically our tutors in this class. Each one teach one. That's the only way you can get this done.

Donna, Marie, Mary, and Theresa each indicated that the opportunity to attend work sessions on the campus of ABC Middle School had been the most affirming and most helpful element of the *Using ANGEL/Blended Learning* professional development course. A teacher at ABC Middle School sent word through the *Using ANGEL/Blended Learning* course email that the school's computer lab would be available from 10 a.m. to 3 p.m. the fourth Saturday of April 2011 and the first Sunday of May 2011 if course participants wanted to work on their unit of study. The school district instructional technology specialist who designed the *Using ANGEL/Blended Learning* professional development course would be in attendance as well as teachers who have adopted blended learning as an instructional stance. The course designer and an ABC Middle School teacher would serve as guides, helping course participants work through tasks located within module 4. Included among those tasks are adding folders, pages, hyperlinks, discussion boards, assignment dropboxes, and icons.

Donna appreciated the collaborative work time because she was able to view units of study built with ANGEL tools. In addition, she learned several design tools not mentioned in any of the course modules. She recalled:

> When we were together in the computer lab, someone showed me the website to pull clip art for icons. Even though some would say that is just adding bells and whistles to make the course pretty, I think the bells and whistles are part of the engagement for students.

Marie recalled that at the time of the weekend work sessions she was "way behind on the work". Therefore, she emphasized that the work sessions allowed her to learn design content for her course under the direction of people familiar with the ANGEL platform and learn time-saving design tips such as adding graphic icons and hyperlinks. She stated:

> The teacher who was helping us in the computer lab showed me how to kill three birds with one stone by working in the advanced window. I make sure I have the icon ready. I make sure I have the standard ready. I make sure I have the links ready. I get all of that set up and add it at one time instead of separately. I haven't seen tips like that mentioned anywhere in these modules.

Mary indicated that family commitments and post-graduate schoolwork in the first weeks of the course limited her ability and desire to add content to her ANGEL unit of study. She explained, "The face-to-face session was really good because since my time at home is limited and since this isn't for a grade, it seems I was taking time to get things done."

Theresa arrived at the Saturday work session ready to add content into her course shell; however, she began to work through tutorials and documents within module 2. Two hours later, she needed to leave the work session to join her family and had added no content. However, she did not lament the day's outcome, saying:

> I was stuck on a quiz and video in module 2, but I loved it. I have got to show that video to the teachers at my school. I think it would help people

> who are against technology. The older teachers are fighting tooth and nail. I had a teacher ask for an opaque projector the other day and I had just put it in the weeded section.

Fifth Typology—Feelings of Confusion

In response to the fourth question of the Critical Incident Questionnaire (Brookfield, 1995) "What action that anyone (teacher or student) took in class did you find most puzzling or confusing?", three of the five teachers mentioned the sequencing of course content. The first three modules explain the theory of blended learning while modules 4 and 5 lead course participants through the steps of adding course content through text and video tutorials. Said Marie, the special education teacher, "I just wanted to get to the how-to's instead of reading about why it's important. Just tell me how to do it."

Laura, the family and consumer science teacher with four decades of teaching experience, also mentioned course content and sequence as a source of confusion. In the interview, she stated:

> I know some groundwork had to be established at the beginning like the learning styles information, but I do think that when it came to 'let's add a wiki' or 'let's add a blog', I don't think that tutorials are enough. Those things are better face-to-face and some probably wanted that information earlier in the course.

Donna, the graduation coach, echoed Laura's sentiments, "After the first lesson, I was frustrated. Lots of reading, reading, and reading—maybe too much."

The other two participants in the interview phase of data collection—Mary, the business and computer science teacher, and Theresa, the media specialist working on a post-graduate information technology degree—indicated that adapting their current paper-and-pencil lessons into the ANGEL format was a concern. Said Mary:

> I have three different classes—sixth, seventh, and eighth grade—and three different curricula, so that will be three different ANGEL sites. As I put things in ANGEL, I'm thinking, 'This lesson could be better'. I want my students to use it more than just printing out a sheet of paper or opening a file. So, I know I need to redo some things. You eat an elephant one bite at a time, but I have the whole elephant in my mouth.

Theresa, meanwhile, envisions her ANGEL course as a place where students can do the following: read book reviews written by peers, post book reviews as evidence for meeting the state standard of reading 25 texts in a year, watch videos that explain informational literacy skills, and log in to online book clubs in which participants share text-to-text, text-to-self, and text-to-world connections through threaded discussions.

Theresa, however, indicated three concerns: lack of machines in the building, limited space on the school district's server, and working within the confines of the school district's Internet filter. She stated, "We have all of these great ideas and then when we go to implement them, sites are blocked or we don't have enough space. You wonder if the video will play. It's just aggravating."

Sixth Typology—Feelings of Surprise

In response to the fifth interview question of the Critical Incident Questionnaire (Brookfield, 1995) "What about the class surprised you the most?" two of the five participants interviewed mentioned a lack of interest in the discussion boards. Theresa, the media specialist, indicated that she would invested more time in the discussion boards of the *Using ANGEL/Blended Learning* online professional development course if the work was tied to a grade. She reported that she has engaged in "heated exchanges" on discussion boards with classmates in her master's and specialist's degree programs but admitted that "these discussion boards haven't really interested me. I opened one or two of them, but I didn't have anything to say back."

Laura, the family and consumer science teacher with 40 years of teaching experience, revealed that discussion boards in the online professional development class did not capture her interest either, saying:

> I don't like to talk on those darn things. I just delight in talking to people one on one. If you are down in your classroom and I'm in my room and we're talking to each other on a discussion board, I just think that's nonsensical. Will my generation ever be where we can get over that? I don't know. There are people my age—we might be dead before we can ever get adept at doing this.

Two of the five participants who were interviewed—Mary, the business and computer science teacher; and Donna, the graduation coach—indicated surprise for how much time and effort they were willing to invest in the creation of ANGEL content for

students. Said Mary, "If I could (add content) in my sleep, I would." Donna, meanwhile, has used this experience as a student in an online professional development course to show the students with whom she works that learning is a life-long endeavor. She stated:

> Every module I've opened, I've said, 'Ah, I didn't realize that!' I did not realize that I really enjoy learning. I'm new to education. It's exciting to learn all of this and do things that I've not done before. When I work with students, I tell them, 'Look at learning like you want it to happen your entire life' and I give myself as an example.

Overview of Quantitative Data Collection

At the conclusion of a 6-week online professional development course *Using ANGEL/Blended Learning,* 23 educators employed by one suburban school district in the southeast region of the United States took part in the quantitative phase of data collection of this research study by completing and returning the Classroom Community Scale (Rovai, 2002a), a 20-item, self-administered cross-sectional survey instrument.

Background and Demographic Information

Of the 23 respondents, 17 were female (74%) and 6 were male (26%). The majority of the participants (65.2%) indicated that they were in the 31 – 45 age group. Table 1 shows the age group distribution.

Table 1

Age of Participants

Age	Number	Percentage
Under 30	1	4.3
31 – 45	15	65.2
46 and older	6	26.1
No response	1	4.3

Note. *N*=23

Research Subquestion 1

The first research subquestion for quantitative analysis asked to what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their connectedness to colleagues while participating in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)? Survey items 1, 3, 5, 7, 9, 11, 13, 15, 17, and 19 are designed to measure the factor of connectedness.

Survey statements are followed by a five-point Likert-type continuous scale of *strongly agree*, *agree*, *neutral*, *disagree*, and *strongly disagree*. For survey statements 1, 3, 7, 11, 13, 15, and 19 the following scoring scale will be used: *strongly agree* = 4 points, *agree* = 3 points, *neutral* = 2 points, *disagree* = 1 point, *strongly disagree* = 0 points. Survey items 5, 9, and 17 are negatively worded, and a reverse-scoring scale will be used: *strongly agree* = 0 points, *agree* = 1 point, *neutral* = 2 points, *disagree* = 3 points, and *strongly disagree* = 4 points. Descriptive statistics for these survey items are presented in Table 2.

Table 2

Descriptive Statistics for Factor of Connectedness Survey Items

Rank	Survey Items	*M*	*SD*
1	19. I feel confident that others will support me.	2.87	0.869
2	17. I feel uncertain about others in my course.	2.83	0.937
3	9. I feel isolated in my course.	2.74	0.915
4	11. I trust others in my course.	2.61	0.722
5	13. I feel that I can rely on others in my course.	2.57	0.843
6	1. I feel that students in my course care about each other.	2.48	0.898
7	5. I do not feel a spirit of community.	2.30	1.02
8	3. I feel connected to others in my course.	2.17	0.887
9	7. I feel a sense of family with others in my course.	1.87	0.815
10	15. I feel that members of my course depend on me.	1.74	1.05

Note. *N*=23

For survey item #1—I feel that students in my course care about each other—2 of 23 participants (8.7%) said *strongly agree*; 11 of 23 participants (47.8%) said *agree*; 6 of 23 participants (26.1%) said *neutral*; and 4 of 23 participants (17.4%) said *disagree*.

For survey item #3—I feel connected to others in my course—11 of 23 respondents (47.8%) said *agree*; 5 of 23 respondents (21.7%) said *neutral*; and 7 of 23 respondents (30.4%) said *disagree*.

For survey item #5—I do not feel a spirit of community—7 of 23 participants (30.4%) said *agree*; 4 of 23 participants (17.4) said *neutral*; 10 of 23 participants (43.5%) said *disagree*; and 2 of 23 participants (8.7%) said *strongly disagree*.

For survey item #7—I feel a sense of family with others in my course—5 of 23 respondents (21.7%) said *agree*; 11 of 23 respondents (47.8%) said *neutral*; 6 of 23 respondents (26.1%) said *disagree*; and 1 of 23 respondents (4.3%) said *strongly disagree*.

For survey item #9—I feel isolated in my course—3 of 23 participants (13%) said *agree*; 4 of 23 participants (17.4%) said *neutral*; 12 of 23 participants (52.2%) said *disagree*; and 4 of 23 (17.4%) said *strongly disagree*.

For survey item #11—I trust others in my course—2 of 23 respondents (8.7%) said *strongly agree*; 11 of 23 respondents (47.8%) said *agree*; 9 of 23 respondents (39.1%) said *neutral*; and 1 of 23 respondents (4.3%) said *disagree*.

For survey item #13—I feel that I can rely on others in my course—2 of 23 participants (8.7%) said *strongly agree*; 12 of 23 participants (52.2%) said *agree*; 6 of 23 participants (26.1%) said *neutral*; and 3 of 23 participants (13%) said *disagree*.

For survey item #15—I feel that members of my course depend on me—1 of 23 respondents (4.3%) said *strongly agree*; 4 of 23 respondents (17.4%) said *agree*; 9 of 23 respondents (39.1%) said *neutral*; 6 of 23 respondents (26.1%) said *disagree*; and 3 of 23 respondents (13%) said *strongly disagree*.

For survey item #17—I feel uncertain about others in my course—1 of 23 participants (4.3%) said *agree*; 9 of 23 participants (39.1%) said *neutral*; 6 of 23 participants (26.1%) said *disagree*; and 7 of 23 participants (30.4%) said *strongly disagree*.

For survey item #19—I feel confident that others will support me—5 of 23 respondents (21.7%) said *strongly agree*; 12 of 23 respondents (52.2%) said *agree*; 4 of 23 respondents (17.4%) said *neutral*; and 2 of 23 respondents (8.7%) said *disagree*.

Research Subquestion 2

The second research subquestion for quantitative analysis asked to what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their learning after participation in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)? Survey items 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20 are designed to measure the factor of learning.

Survey statements are followed by a five-point Likert-type continuous scale of *strongly agree*, *agree*, *neutral*, *disagree*, and *strongly disagree*. For survey statements 2, 6 and 16 the following scoring scale will be used: *strongly agree* = 4 points, *agree* = 3 points, *neutral* = 2 points, *disagree* = 1 point, *strongly disagree* = 0 points. Survey items 4, 8, 10, 12, 14, 18, and 20 are negatively worded, and a reverse-scoring scale will be used: *strongly agree* = 0 points, *agree* = 1 point, *neutral* = 2 points, *disagree* = 3 points,

and *strongly disagree* = 4 points. Descriptive statistics for these survey items are presented in Table 3.

Table 3

Descriptive Statistics for Factor of Learning Survey Items

Rank	Survey Items	*M*	*SD*
1	(2) I feel that I am encouraged to ask questions.	3.22	0.518
1	(20) I feel that my course does not promote a desire to learn.	3.22	0.795
3	(14) I feel that other students do not help me learn.	2.87	0.815
4	(12) I feel that my course results in only modest learning.	2.74	1.05
5	(10) I feel reluctant to express myself openly.	2.65	1.03
5	(16) I feel that I am given ample opportunity to learn.	2.65	0.775
7	(8) I feel uneasy exposing gaps in my understanding.	2.61	1.12
8	(4) I feel that it is hard to get help when I have a question.	2.57	0.992
9	(6) I feel that I receive timely feedback.	2.26	0.964
9	(18) I feel that my educational needs are not being met.	2.26	1.01

Note. *N*=23

For survey item #2—I feel that I am encouraged to ask questions—6 of 23 participants (26.1%) said *strongly agree*; 16 of 23 participants (69.6%) said *agree*; and 1 of 23 participants (4.3%) said *neutral*.

For survey item #4—I feel that it is hard to get help when I have a question—6 of 23 respondents (26.1%) said *agree*; 15 of 23 respondents (65.2%) said *disagree*; and 2 of 23 respondents (8.7%) said *strongly disagree*.

For survey item #6—I feel that I receive timely feedback—12 of 23 participants (52.2%) said *agree*; 7 of 23 participants (30.4%) said *neutral*; 2 of 23 participants (8.7%) said *disagree*; and 2 of 23 participants (8.7%) said *strongly disagree*.

For survey item #8—I feel uneasy exposing gaps in my understanding—6 of 23 respondents (26.1%) said *agree*; 2 of 23 respondents (8.7%) said *neutral*; 10 of 23 respondents (43.4%) said *disagree*; and 5 of 23 respondents (21.7%) said *strongly disagree*.

For survey item #10—I feel reluctant to express myself openly—5 of 23 participants (21.7%) said *agree*; 2 of 23 participants (8.7%) said *neutral*; 12 of 23 participants (52.2%) said *disagree*; and 4 of 23 participants (17.4%) said *strongly disagree*.

For survey item #12—I feel that my course results in only modest learning—5 of 23 respondents (21.7%) said *agree*; 1 of 23 respondents (4.3%) said *neutral*; 12 of 23 respondents (52.2%) said *disagree*; and 5 of 23 respondents (21.7%) said *strongly disagree*.

For survey item #14—I feel that other students do not help me learn—2 of 23 participants (8.7%) said *agree*; 3 of 23 participants (13%) said *neutral*; 14 of 23 participants (60.9%) said *disagree*; and 4 of 23 participants (17.4%) said *strongly disagree*.

For survey item #16—I feel that I am given ample opportunities to learn—1 of 23 respondents (4.3%) said *strongly agree*; 16 of 23 respondents (69.6%) said *agree*; 3 of 23 respondents (13%) said *neutral*; and 3 of 23 respondents (13%) said *disagree*.

For survey item #18—I feel that my educational needs are not being met—1 of 23 participants (4.3%) said *strongly agree*; 5 of 23 participants (21.7%) said *agree*; 5 of 23 participants (21.7%) said *neutral*; 11 of 23 participants (47.8%) said *disagree*; and 1 of 23 participants (4.3%) said *strongly disagree*.

For survey item #20—I feel that my course does not promote a desire to learn—1 of 23 respondents (4.3%) said *agree*; 2 of 23 respondents (8.7%) said *neutral*; 11 of 23 respondents (47.8%) said *disagree*; and 9 of 23 respondents (39.1%) said *strongly disagree*.

Evidence of Quality

This aim of this mixed methods sequential exploratory approach study was to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. Perceptions of the online professional development course were investigated through interviews with a subsample of five female participants who enrolled in the 6-week online professional development course *Using ANGEL/Blended Learning*. Qualitative data were captured through the use of the Critical Incident Questionnaire (Brookfield, 1995). In order to gather quantitative data, the Classroom Community Scale (Rovai, 2002a) was used to determine to what extent connectedness

and learning are impacted by participation in the online professional development course *Using ANGEL/Blended Learning*. The rationale for employing a mixed methods sequential exploratory design was to strengthen the claims of the study.

Qualitative and quantitative data were collected during two separate time periods, and protocols were followed in order to confirm accuracy and protect participants. Five female educators who enrolled in the *Using ANGEL/Blended Learning* online professional development course agreed to be interviewed, and their identities were masked with pseudonyms. Once interview recordings were transcribed into a word processing program, I returned transcriptions to each participant for member checking to ensure accuracy. This method of establishing credibility of interview data was easy to conduct since interview transcriptions were delivered through the district's mail delivery service. None of the five participants requested any changes be made to the transcriptions. Data were removed from my laptop and saved to a flash drive, and digital recordings and paper copies of interview transcriptions are stored in a locking file cabinet in my residence for 5 years. Twenty-three educators who enrolled in the *Using ANGEL/Blended Learning* online professional development course returned surveys. Information provided by these participants and the identity of the school district which employs them will be kept confidential. All information compiled during data collection was to be used solely for the purpose of this research.

Summary

This study's inquiry examined attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban

school district in the southeast region of the United States. A mixed methods sequential exploratory research design was used for data collection. In phase 1 of data collection, the Critical Incident Questionnaire (Brookfield, 1995), a structured interview protocol, was used to collect qualitative data. In phase 2 of data collection, the Classroom Community Scale (Rovai, 2002a), a 20-item, self-administered cross-sectional survey instrument, was used to collect quantitative data.

Section 5: Discussion, Conclusions, and Recommendations

This section includes the following: a summary of the purpose of the study, interpretation of findings of perceptions of the online professional development course *Using ANGEL/Blended Learning*, implications for social change, recommendations for action, recommendations for future research, a personal reflection on the doctoral study process, and a conclusion.

Summary of the Purpose of the Study

The purpose of this mixed methods sequential exploratory approach study was to explore attitudes, experiences, and perceptions of middle grades educators enrolled in an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. Perceptions of the online professional development course were investigated through individual interviews with a subsample of five female participants who enrolled in the 6-week online professional development course *Using ANGEL/Blended Learning*. Qualitative data were captured through the use of the Critical Incident Questionnaire (Brookfield, 1995). In order to gather quantitative data, the Classroom Community Scale (Rovai, 2002a) was used to determine to what extent connectedness and learning are impacted by participation in an online professional development course authored by an information technology specialist employed by the school district. Twenty-three teachers consented to participate in the second phase of data collection and returned a completed survey.

Interpretation of Findings

For the qualitative phase of data collection, the central question was: How do middle school educators employed by one suburban school district in the southeast region of the United States describe online professional development experiences that impact their learning?

General Statement: Three teachers, one media specialist, and a graduation coach enrolled in the *Using ANGEL/Blended Learning* professional learning course agreed to participate in this phase of data collection. These participants were purposefully selected in an effort to reflect a variety of experiences, knowledge, and perspectives which enhance the credibility of the study's findings (Rubin & Rubin, 2005). Each of the 5 interviewees had previous experience with online learning; however, in terms of experience in the field of education, two had 4 years of experience; one had 5 years of experience; one had 19 years of experience; and one had 40 years of experience. Six typologies were identified once interview data were transcribed, reviewed, and coded: (a) initial impressions of the course, (b) feelings of engagement, (c) feelings of distance, (d) feelings of affirmation, (e) feelings of confusion, and (f) feelings of surprise.

When asked to reflect on their initial impressions of the *Using ANGEL/Blended Learning* online professional development course, some of the participants used words and phrases such as "excited" and "in awe" while other participants used words such as "overwhelmed" and "intimidated". This finding is consistent with the work of Yuping,

Chen, and Levy (2010) who described four phases of the learning process—wow, oh-oh, anxious, and internalizing—in online learning environments.

Participants in the qualitative phase of data collection for this study shared feelings of engagement and affirmation during a face-to-face work session hosted by a teacher at ABC Middle School who has experience with authoring content with the learning management system ANGEL. This finding mirrors the work of Khe Foon (2009) who described seven determinants that contribute to the success of online communities. One of Khe Foon's seven determinants is a willingness to share knowledge. This finding also agrees with the work of Vavasseur and MacGregor (2008) who described a setting where teachers were able to establish a climate of collaboration in an online community of practice.

Participants in the qualitative phase of data collection for this study acknowledged feelings of distance. Those feelings were attributed to the following: (a) coursework that was not tied to a grade or college credit, and (b) not being able to view some course materials on home computers. These findings confirm results from a study (Beckett, Amaro-Jiménez, and Beckett, 2010) which described ungraded participation in an online learning environment as demotivating. In a study of online professional learning courses for preservice teachers, accessibility—or lack thereof—is mentioned as a challenge to participants (Nuangchalerm, Prachagool, & Sriputta, 2011) while hardware and software issues were cited as an obstacle to learning by participants in a study of in-service mathematics teachers enrolled in a distance learning course (Heng-Yu, Akarasriworn,

Glassmeyer, Mendoza, & Rice, 2011) and in a university level beginner's Spanish course (Pena & Yeung, 2010).

Participants in the qualitative phase of data collection for this study acknowledged feelings of confusion. Those feelings were attributed to a course content sequence that relied heavily on the theoretical foundations of online and blended learning environments in the opening modules when participants wished to see course building tutorials instead. Participants wanted to build course content with ANGEL tools, not read lengthy articles about the benefits of online and blended learning. This finding is consistent with current educational literature in the field of online learning (Leong, 2011; Macdonald & Poniatowska, 2011).

Participants in the qualitative phase of data collection for this study acknowledge feelings of surprise. Those feelings were attributed to a willingness to dedicate time into the design and development of online and blended learning environments for their students to access despite busy schedules both at home and at work. This finding is echoed by other researchers who have posited that teachers will voluntarily spend time and money on professional development opportunities that they believe will enhance their practice and increase student achievement (Whitaker, Kinzie, Kraft-Sayre, Mashburn, & Pianta, 2007).

For the quantitative phase of data collection, the central question was: To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their sense of classroom community in an

online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)? The two subquestions were: (a) To what extent do middle school educators employed by one suburban school district in the southeast region of the United States perceive their connectedness to colleagues while participating in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)? and (b) To what extent do middle school educators employed by the same suburban school district described above perceive their learning after participation in an online professional development course as measured by the Classroom Community Scale (Rovai, 2002a)?

With regard to perception of connectedness to colleagues, results from the survey using the Likert-scale are mixed. Of the 10 survey statements that measure connectedness to colleagues, survey statements 19 and 17 had the top 2 mean scores. Survey statement 19—I feel confident that others will support me—had a mean of 2.87 while survey statement 17—I feel uncertain about others in my course—had a mean of 2.83. Since all participants in the *Using ANGEL/Blended Learning* course were employed by one suburban school district in the southeast region of the United States, it is possible that some of the respondents have previous work experience with each other or are currently working at the same school site. It is also possible that the absence of student-centered Web 2.0 tools in module 1 through module 4 of the course created or fostered the feeling of uncertainty reported by participants in survey statement 17.

Survey statements 9 and 11 are intriguing: I feel isolated in my course (M=2.74) and I trust others in my course (M=2.61). Because qualitative data were gathered first in

this sequential exploratory study and because I relied upon a structured interview protocol, feelings of isolation and trust were not explored. It is possible that the nature and sequence of course content was the cause of isolation, not social interactions with colleagues through discussion board postings.

Participants indicated that they felt like they could rely on others in the course, and participants reported that students in the course care about each other. As previously mentioned, it would be interesting to drill down in this data to determine if participants had prior work experience or current work experience with each other. Participants did not feel that members of the course depended upon them (M=1.74). Prior experience with online learning and perception of computer competence was beyond the scope of this research study, but those variables should be explored in future investigations.

With regard to perception of learning, results from the survey using the Likert-scale are mixed. Survey statement 2—I feel that I am encouraged to ask questions—and survey statement 20—I feel that my course does not promote a desire to learn—both generated a mean score of 3.22. It is possible that participants' agreement to those survey statements was influenced by previous or current work relationships with others in the course. It is also possible that participants' agreement to those survey statements was influenced by discussion board postings by the course facilitator. Researchers have described successful online learning environments in which the teacher or facilitator plays an active role in dialogue among students and in which student-centered technologies enhance learner outcomes and increase student satisfaction (Revere & Kovach, 2011).

Survey statements 6 and 18—I feel that I receive timely feedback, and I feel that my educational needs are not being met—each had a mean score of 2.26. An analysis of quantity and content of discussion board postings by participants and course facilitators was not included in the scope of this research study; however, results indicate that participants desired feedback which was more immediate. Participants indicated that they did not feel as if their educational needs were met and that the course resulted in only modest learning (M=2.74) It is possible that responses recorded by participants in this phase of data collection mirrored comments expressed by those in the qualitative phase who expressed a desire to do more hands-on work with the online learning management platform ANGEL instead of reading lengthy articles about the theory of online learning.

Implications for Social Change

As a result of this research study, a potential for positive social change exists on three levels: individual, community, and organization.

Teachers who seek to increase their professional knowledge in an era when district and school professional learning funds are scarce should be encouraged to investigate online professional development courses suited to their interests and perceived needs. Such learning opportunities allow teachers to collaborate with colleagues without the restrictions of time and travel. As teachers begin to incorporate research-based instructional strategies shared via learning management systems like ANGEL into their daily practice, student achievement scores may increase, graduation rates may climb, and a generation of learners will be better equipped to meet the challenges of a global economy.

At the middle school level, time is built into the school day for teachers to work together with grade level and subject area colleagues but rarely do teachers—at any level—have the opportunity to collaborate with colleagues who work in other schools. Online professional development courses such as *Using ANGEL/Blended Learning* eliminate obstacles such as time and travel by creating a community of learners through Web 2.0 tools. Novice and veteran teachers from across the district can create and foster collegial interactions where the focus of discussion is how to help a diverse population of students meet and exceed standards so that they are positioned to become productive members of society.

At an organizational level, the professional learning department in this district and in others have spent much time, effort, and energy to deliver the latest initiative to their teacher workforce. Too frequently those sessions have been "sit and get" workshops that researchers describe as ineffective. In addition, professional learning officials often adopt a model of redelivery where those in attendance are expected to return to their school sites and share the information with colleagues. Too often, that expectation is not met. With online professional development courses such as *Using ANGEL/Blended Learning*, professional learning departments at a district, region, or state level can create communities of practice that encourage inquiry and reflection and meet the criteria for effective professional learning—content that is authentic, form which is collaborative, and duration that is continuous (Duncan-Howell, 2010). These departments can also better utilize the expertise of teacher leaders within the district who could serve as course

facilitators. Consequently, K-12 teachers in all career stages will feel like they have the tools required to ensure the success for all students.

Recommendations for Action

Based on the data collected and a review of this study's findings and conclusions, the following recommendations for action are made:

Recommendation #1: Course Content

When purposefully designed and evaluated, online learning environments can increase teacher knowledge and create a sense of community (Salazar, Aguirre-Muñoz, Fox & Nuanez-Lucas, 2010). If this district and others are to design, develop, and implement online learning experiences that build teacher knowledge and improve teacher instruction (Ellis & Kisling, 2009), then student achievement data and an analysis of teachers' perceived and expressed professional learning needs must drive the decision-making process (Cavanaugh & Dawson, 2010). The *Using ANGEL/Blended Learning* course at the core of this research study was developed in response to a need for professional development in a suburban school district in the southeast region of the United States which is embracing an e-learning stance with middle and high school students. Course modules guide teachers as they develop and design an online component to their course which their students can access. However, an analysis of student achievement data across the district may reveal a need to create online professional development modules that are content specific and offer teachers an opportunity to collaborate with peers and share best practices through Web 2.0 tools such as blogs, chat sessions, discussion boards, podcasts, web conferencing, and wikis.

Recommendation #2: Course Design

It is recommended that the authors of the *Using ANGEL/Blended Learning* online professional development course review the findings of this research study and consider revising the sequence of course content. Participants indicated that the first 3 modules featured too much of the theory behind online and blended learning and not enough information about content building tools of the ANGEL platform which was needed in order to complete the final performance task.

In addition, authors of the *Using ANGEL/Blended Learning course* are encouraged to bolster the blended learning component of this professional development initiative and offer additional opportunities for course participants to work together to build course content. According to Pittenger and Doering (2010), student satisfaction and completion rates of online coursework increases with above-average motivational design features such as frequent emails from course instructors and high-quality course materials.

It is also recommended that this district and others carefully consider the time, expense, and resources required to create high-quality online learning experiences that meet the needs of their K-12 teachers. One possible solution is to partner with institutions of higher learning that work with pre-service teachers and have already authored online learning modules (Fenton & Watkins, 2007).

The findings of this study will be shared with the district's assistant superintendent for learning and leadership, the district's director of professional learning, the district's director of technology services, and any study participant who requests it.

Principals and school site leadership teams may also be interested in the results of this study as they plan and prepare professional learning opportunities that meet the needs of their faculty.

Recommendations for Future Study

In order to expand this mixed methods sequential exploratory inquiry of middle school educators' perceptions of online professional development, further research is recommended for the *Using ANGEL/Blended Learning* course specifically and online professional development in general.

An extension of this research study would be to conduct follow-up interviews with the five participants from the qualitative phase of data collection and ask to what extent did participation in the *Using ANGEL/Blended Learning* course change their teaching practice. Another extension of this research study would be to request permission to revise the Classroom Community Scale (Rovai, 2002a) so that "neutral" is removed from the Likert scale. Forcing participants to chose between *strongly agree*, *agree*, *disagree*, or *strongly disagree* may strengthen the results of the study.

Even though the *Using ANGEL/Blended Learning* course is touted by course designers as a blended offering that allows participants to work individually at their own pace with two face-to-face meetings with classmates and course facilitators, the work is done in isolation since one face-to-face meeting is introductory in nature, held during week 1, while the other face-to-face meeting is a finale of sorts during week 6 that serves as an opportunity for participants to present course content they have built while working through the modules. A comparison of this course format with one that incorporates

additional face-to-face meetings with classmates and course facilitators would be an interesting topic for investigation.

Researchers who wish to continue the exploration of perception of sense of community, sense of connectedness, and sense of learning for educators enrolled in the *Using ANGEL/Blended Learning* course could ask course designers to activate the live chat feature that already exists within the learning management system and/or add video conferencing via technologies such as Elluminate and Skype in order to launch an investigation of teacher use and perception of those Web 2.0 tools.

Researchers who wish to continue the exploration of perception of sense of community, sense of connectedness, and sense of learning for educators enrolled in the *Using ANGEL/Blended Learning* course have the ability to conduct data mining into student use logs. The number of times a study participant logged into the course and the number of minutes spent viewing material in a module would provide quantitative data while an analysis of discussion board postings would provide qualitative data. This information may be valuable to course designers as they seek to enhance and refine content to meet the professional development needs of the district's teaching force.

Researchers who wish to explore online professional development courses offered to teachers in K-12 settings should consider research methodology with a larger study group in order to acquire a deeper understanding of the how variables such as gender, years experience, area of certification, and previous experience with online learning affect perceptions of sense of community, sense of connectedness, and sense of learning.

Longitudinal studies of online professional learning environments that include a larger study group are encouraged in order to determine if sense of community, sense of connectedness, and sense of learning evolve over time. Also, an examination of student achievement in school settings which offer online professional development opportunities to teachers is also recommended.

Personal Reflections

As a first-year teacher in the fall of 1994, I was approached by my grade level assistant principal and asked if I wanted to attend a one day workshop for language arts teachers that would be held at a large conference center in the capital city of our state. I can vividly recall saying, "Thank you for the invitation, but I can't leave my students." Her reply was quick and emphatic. She said, "Oh, you must attend. Attending workshops is how you improve as a teacher." I had a change of heart and agreed to register. Even though I sat passively with hundreds of others in a "sit and get" style of professional learning that researchers say is not effective (Glassett, 2009; Glazer, Hannafin, & Song, 2005), I did leave with the feeling that I was among a community of professionals who wanted to improve their craft. In the years that followed, I had the opportunity to attend workshops, seminars, and conferences that featured a myriad of topics—reading in the content area, writer's workshop, differentiated instruction, working with exceptional children, and classroom climate. I left each event with something of quality to add to my tool box of instructional strategies and classroom management techniques; however, it was knowing that I was a member of a larger community of scholar-practitioners that

buoyed my sprits and made me want to return to my school setting and share my new knowledge.

Over the course of the past 5 years, opportunities to attend such events have been scarce. The reason is two-fold: (a) researchers who have described high-quality professional learning note that the work takes place in job-embedded situations during the school day and are continuous in duration; and (b) funds allocated to professional learning have been reduced as districts attempt to cope with budget cuts and teacher furloughs. However, the expectations placed on educators has increased exponentially since I began my career 18 years ago, and I have concern for the novice teacher who works in isolation in a school setting that does not embrace collaboration. One avenue to reduce the cognitive load for all teachers is to shift classroom instruction from teacher-centered to student-centered, and a pathway to reach students who are natives to the digital world is through online or blended instruction.

My study interest became clear when the principal of my school introduced the learning management system ANGEL to our faculty in the spring of 2009. I am a language arts teacher, and once I began using ANGEL tools with students I was encouraged by the depth of thinking I saw while reading their discussion board postings. During book studies in previous years, students would jot down a sentence or two just to complete the assignment; with discussion boards, however, I saw evidence of elaboration. In addition, students seemed eager to reply to the postings of others. The conversation about reading and writing was not confined to one class period; it was happening outside of school hours—in the evenings and on weekends.

In the spring of 2011, instructional technology staff at the district level designed self-guided modules which explain the theory behind online and blended learning and give educators tutorials on how to author course content to supplement face-to-face instruction. The course *Using ANGEL/Blended Learning* featured in this research study is a first attempt at online professional development by a district that has the desire, expertise, leadership, and technology infrastructure to continue this mode of delivery to its teacher force. I look forward to sharing the results of this research study to interested stakeholders, and I hope to join the efforts to design, develop, and evaluate additional online professional development opportunities for K-12 educators in the district. As a result of completing this doctoral study, I have evolved into a scholar-practitioner who not only mentors novice teachers, collaborates with grade level and subject area peers, and embraces reform efforts, but someone who has the knowledge and tools to add to the literature base of the profession.

Conclusion

This study emerged from an exposure to the learning management system ANGEL and a consideration of its role in teacher training for middle grades educators. A substantial body of literature addresses distance education in postsecondary teaching and learning settings, but there is a gap in the literature regarding the delivery and evaluation of online professional development for educators in K-12 settings (Donavant, 2009; Huss, 2007; Russell et al., 2009). This mixed methods sequential exploratory research study sought to address that gap.

The intent of the study was to explore attitudes of middle grades educators toward an online professional development course held for teachers employed by one suburban school district in the southeast region of the United States. Five middle grades educators voluntarily participated in the qualitative phase of data collection. Six typologies emerged after an analysis of interview transcriptions: (a) initial impressions of the course, (b) feelings of engagement, (c) feelings of distance, (d) feelings of affirmation, (e) feelings of confusion, and (f) feelings of surprise.

With regard to perception of connectedness to colleagues and perception of learning, results from the survey using the Likert-scale are mixed. Twenty-three educators voluntarily participated in the quantitative phase of data collection. In terms of connectedness to colleagues, these educators reported feeling confident that others in the class would offer support; however, they also reported feeling uncertain about others in the course. In terms of perception of learning, participants reported that they were encouraged to ask questions but indicated that the course did not promote a desire to learn.

It is my hope that the results of this study begin a thoughtful conversation in this district and others regarding the characteristics of effective online professional development for K-12 educators. While many tout online professional development as a means to circumvent obstacles such as expense, time, and travel, the participants in this research study remind stakeholders that careful consideration must be given to course content and course design. The current findings are consistent with previous research on online learning. Educators who enroll in distance learning professional development

courses value immediate feedback from the instructor and peers through discussion boards, instant messaging or emails; they want student-centered learning activities that utilize Web 2.0 tools; and they seek new knowledge and skills that will enhance their teaching practice, and thus, impact student achievement.

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Appendix A: The Critical Incident Questionnaire

1. At what moment in class this week did you feel most engaged with what was happening?

2. At what moment in class this week did you feel most distanced from what was happening?

3. What action that anyone (teacher or student) took in class this week did you find most affirming or helpful?

4. What action that anyone (teacher or student) took in class this week did you find most puzzling or confusing?

5. What about the class this week surprised you the most? (This could be something about your own reactions to what went on, or something that someone did, or anything else that occurs to you).

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Appendix B: The Classroom Community Scale

Directions*:* Below, you will see a series of statements about the professional learning course you are presently taking or have recently completed. Read each statement carefully and circle your response using the scale to the right of each statement. There are no correct or incorrect responses. Do not spend too much time on any one statement, but give the response that seems to describe how you feel. *Please respond to all items*.

SA = *strongly agree*
A = *agree*
N = *neutral*
D = *disagree*
SD = *strongly disagree*

	Strongly Agree (SA)	Agree (A)	Neutral (N)	Disagree (D)	Strongly Disagree (SD)
1. I feel that students in my course care about each other.	SA	A	N	D	SD
2. I feel that I am encouraged to ask questions.	SA	A	N	D	SD
3. I feel connected to others in my course.	SA	A	N	D	SD
4. I feel that it is hard to get help when I have a question.	SA	A	N	D	SD
5. I do not feel a spirit of community.	SA	A	N	D	SD
6. I feel that I receive timely feedback.	SA	A	N	D	SD
7. I feel a sense of family with others in my course.	SA	A	N	D	SD
8. I feel uneasy exposing gaps in my understanding.	SA	A	N	D	SD
9. I feel isolated in my course.	SA	A	N	D	SD

10. I feel reluctant to express myself openly.	SA	A	N	D	SD
11. I trust others in my course	SA	A	N	D	SD
12. I feel that my course results in only modest learning.	SA	A	N	D	SD
13. I feel that I can rely on others in my course.	SA	A	N	D	SD
14. I feel that other students do not help me learn.	SA	A	N	D	SD
15. I feel that members of my course depend on me.	SA	A	N	D	SD
16. I feel that I am given ample opportunities to learn.	SA	A	N	D	SD
17. I feel uncertain about others in my course.	SA	A	N	D	SD
18. I feel that my educational needs are not being met.	SA	A	N	D	SD
19. I feel confident that others will support me.	SA	A	N	D	SD
20. I feel that my course does not promote a desire to learn.	SA	A	N	D	SD

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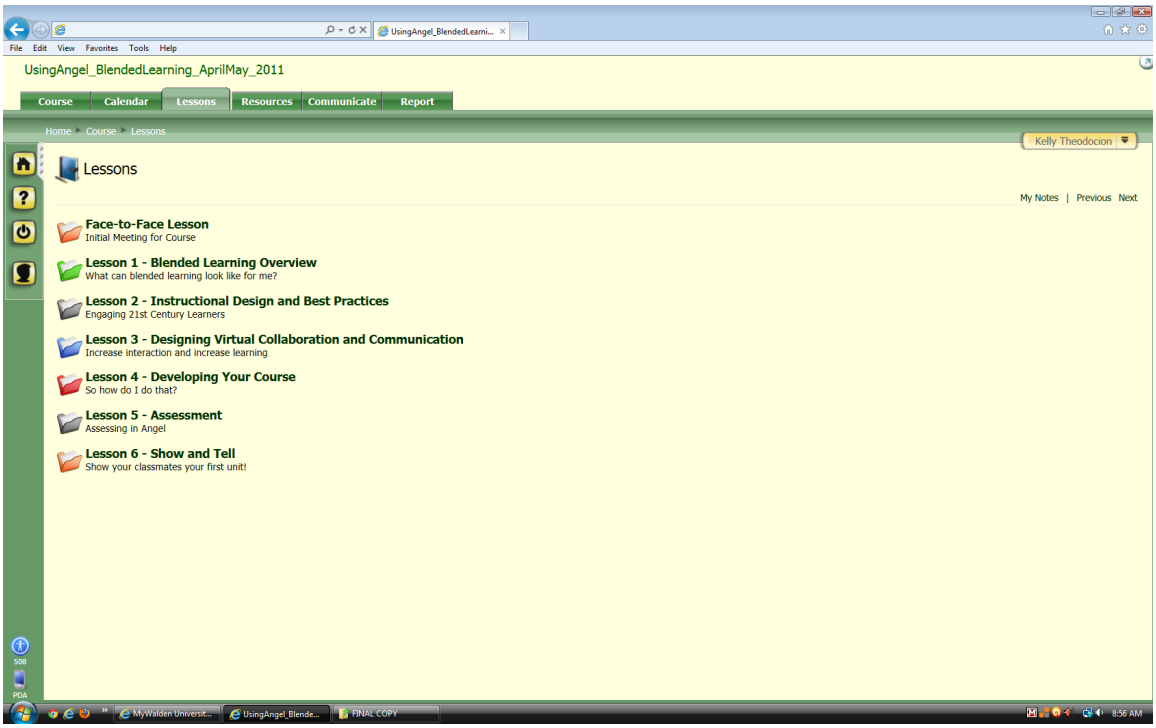
Appendix C: Online Professional Development Course Sequence

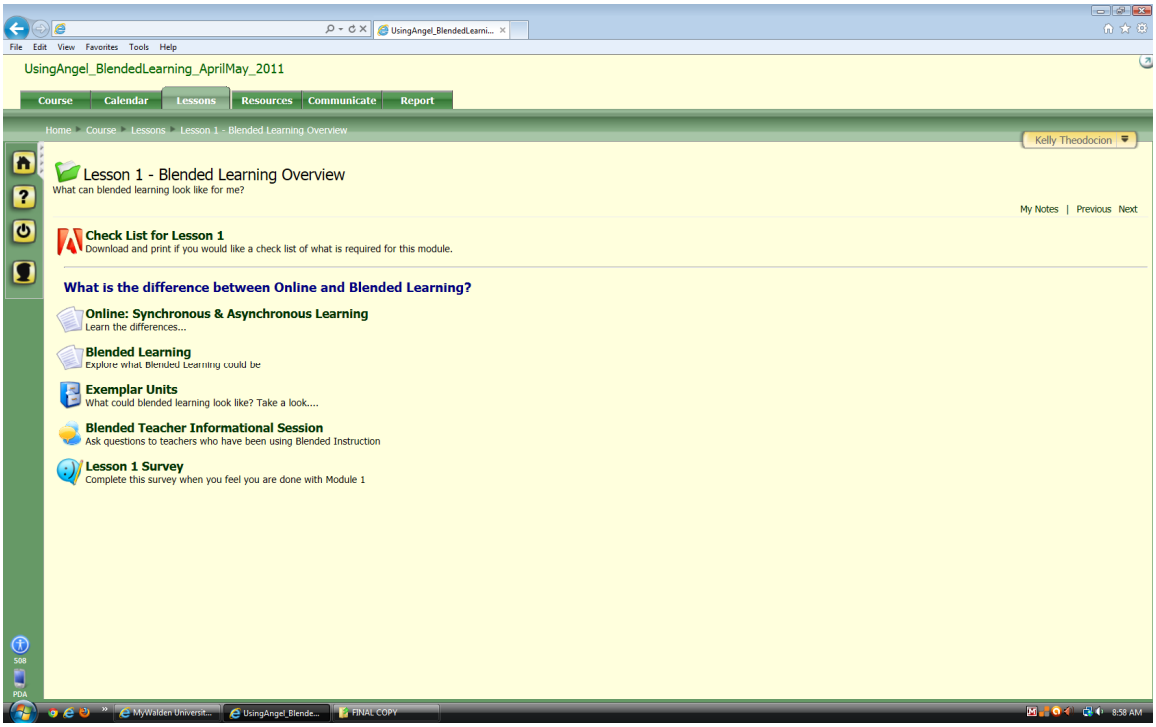
Week 1

- 90-minute face-to-face meeting between the course facilitator and course participants
    - Explanation of how to navigate the ANGEL site
        - calendar tab
        - communicate tab
        - lessons tab
    - Presentation of a 6th grade Social Studies unit by the author of that unit
    - Overview of the 5 modules in the professional learning course
    - Explanation of course outcome – design a unit for the course you teach and share at the next face-to-face meeting
- First Discussion Board Assignment: How is blended learning different from online learning. Submit an original posting and reply to at least 2 other colleagues.



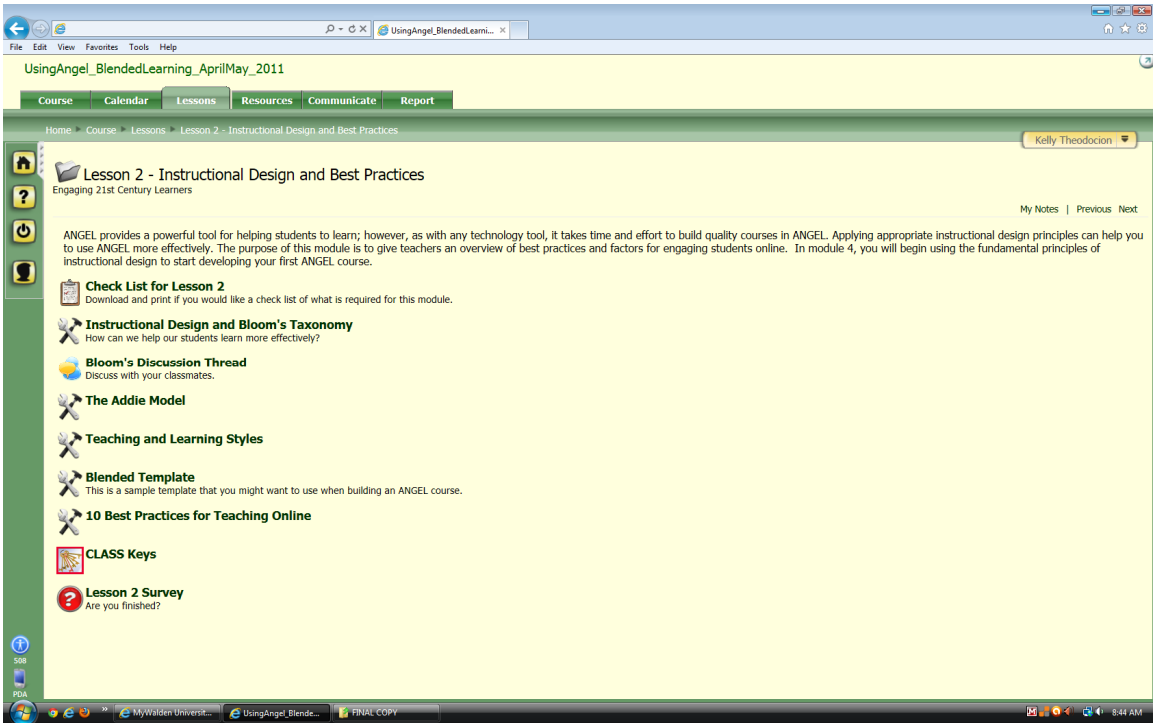
Module 1: Blended Learning Overview

- Review the definitions of synchronous and asynchronous teaching and learning.
- Watch 5-minute Edutopia video that features school districts which utilize synchronous and asynchronous online learning formats.
- Browse a link to the Florida Virtual School. Watch trailers for the following courses: Chinese 2, Psychology 1, Spanish 3, American History, and Computer Programming.
- Read article from iNACOL titled “Blended Learning: The Convergence of Online and Face-to-Face Education”.
- Browse exemplar units
    - a 6th grade Social Studies unit where students explore the meaning of culture in both a geographic and economic sense
    - a middle grades Agriculture Science unit where students explore the role of agriculture in the formation of the United States, explain the changes in agriculture over the last 200 years, and analyze the impact of technological advancement in agriculture
- Discussion Board Assignment: Participate in a threaded discussion with teachers who currently use blended learning.
- Complete Module 1 survey.



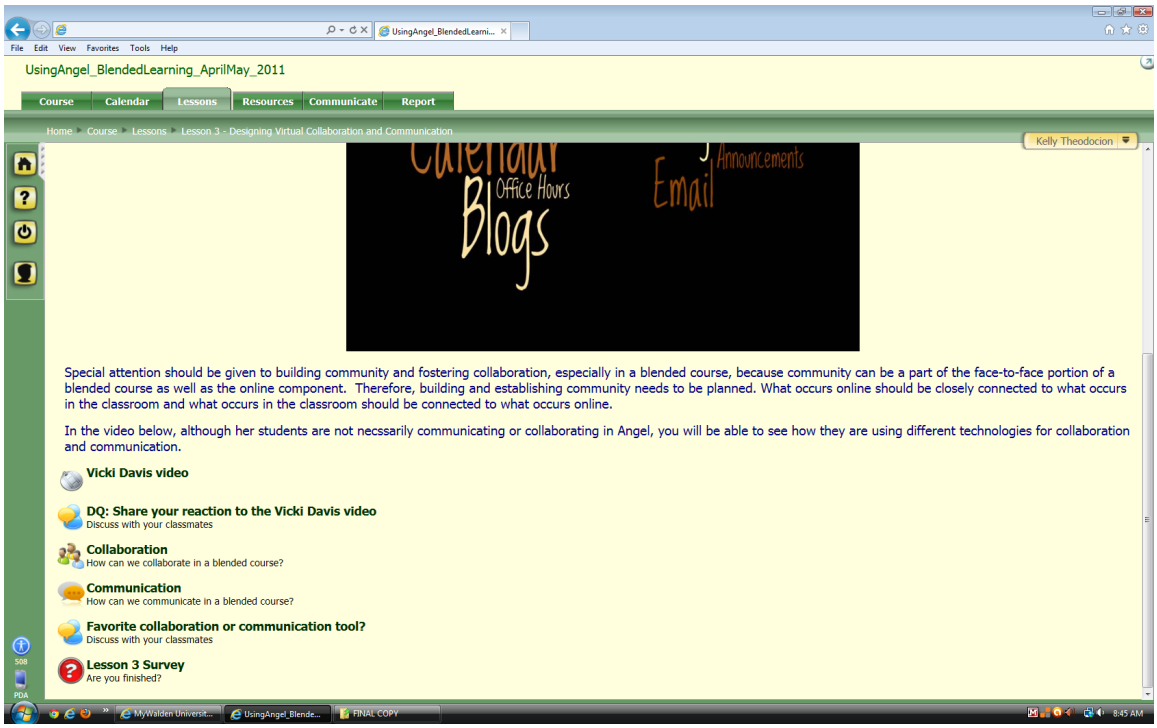
Module 2: Instruction Design and Best Practices

- Review Bloom's Taxonomy information.
- Play Bloom's Taxonomy game.
- Discussion Board Assignment: After looking at Bloom's pyramid and the skills displayed at each level, where do you think most of your instruction takes place?
- Review "ADDIE Model" slide show. The letter A in ADDIE represents an "analysis" of the problem; the letter D in ADDIE represents the "design" of objectives, strategies, and assessments; the letter D in ADDIE represents the "development" of materials, tools, and tests; the letter I in ADDIE represents "implementation; and the letter E in ADDIE represents formative and summative "evaluation".
- Watch learning styles video.
- Take learning styles quiz.
- Browse blended learning template which features discussion boards, drop boxes, and assessments.
- Read article titled "10 Best Practices for Teaching Online".
- Complete Module 2 survey.



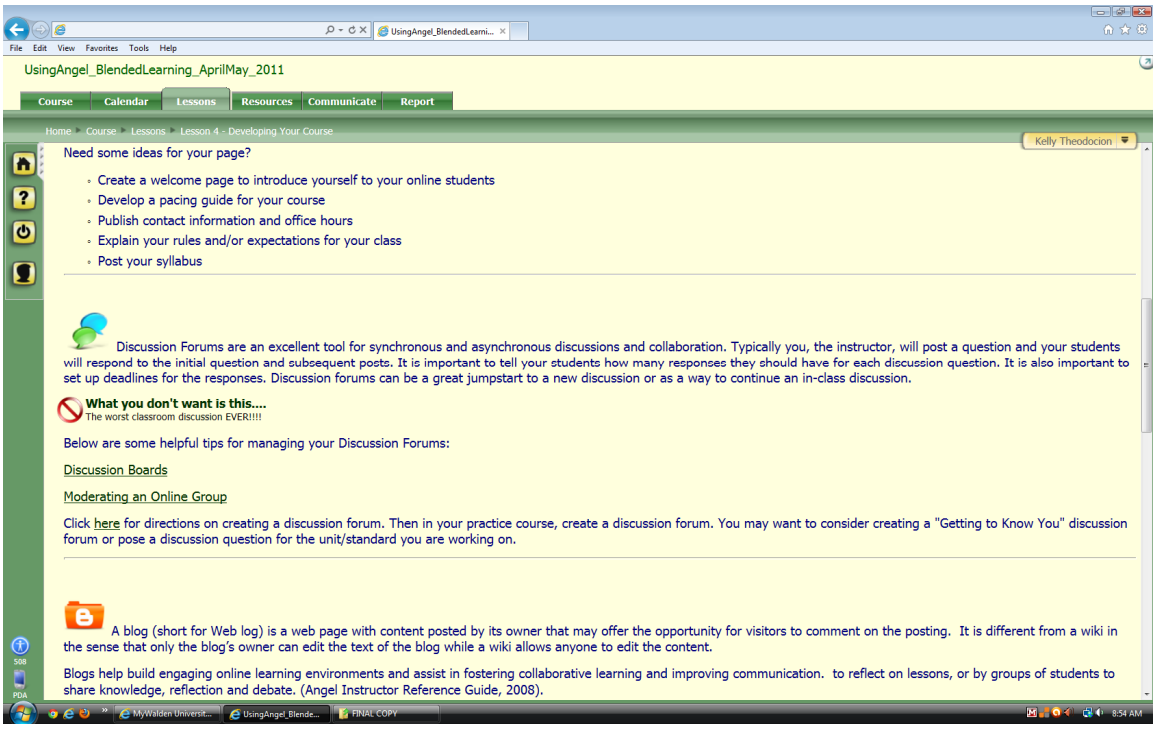
Module 3: Designing Virtual Collaboration and Communication

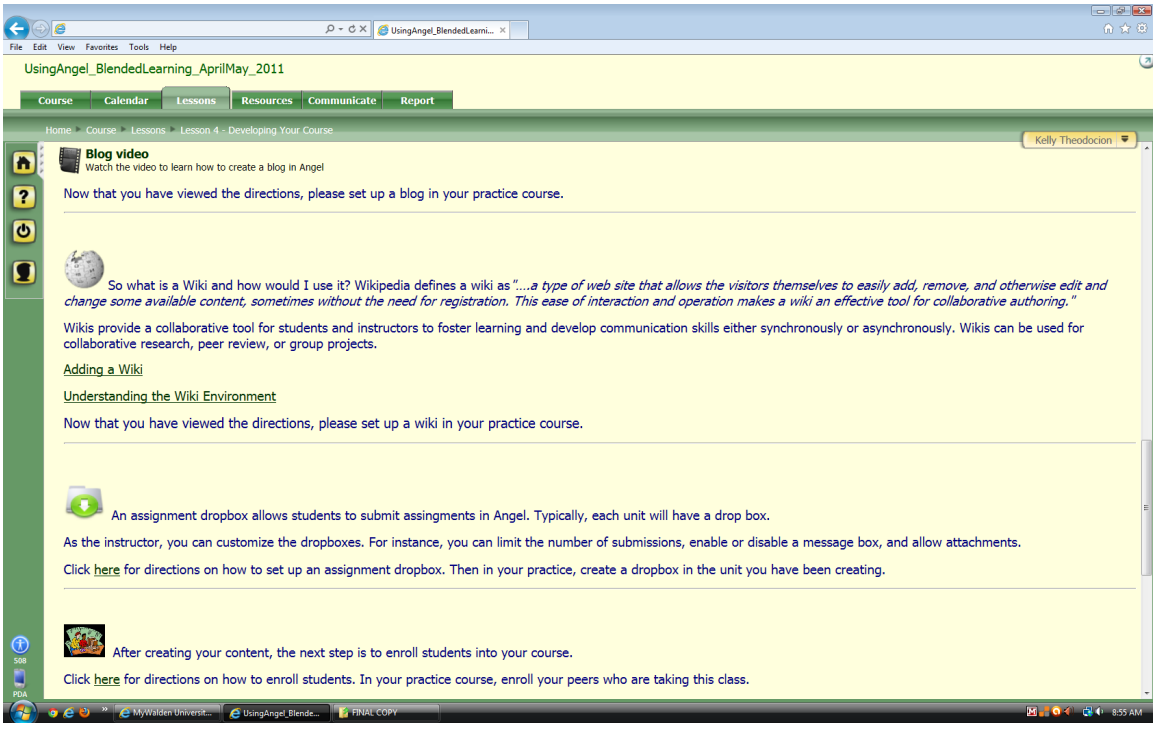
- Watch 4-minute Edutopia video titled “Harness Your Students’ Digital Smarts”.
- Discussion Board Assignment: After viewing the video, what are your reactions to this classroom and the technologies the students are using?
- Watch video titled “Blogs in Plain English”.
- Read article titled “The Role of a Teacher in Online Discussions”.
- Read article titled “Say Something Substantial”, a student guide to discussion board postings.
- View sample discussion board rubrics.
- Create a discussion board rubric for your classroom and submit via drop box.
- Watch video titled “Wikis in Plain English”.
- Review text that explains how to set up “office hours” and “announcements” .
- Review text that explains communication tools within ANGEL.
- Review text that explains “agents” – automated messages sent by instructors to student as they complete tasks.
- Discussion Board Assignment: After learning about the various collaboration and communication tools, which do you think you will use the most to enhance blended learning with your students and why?
- Complete Module 3 survey.



Module 4: Developing Your Course

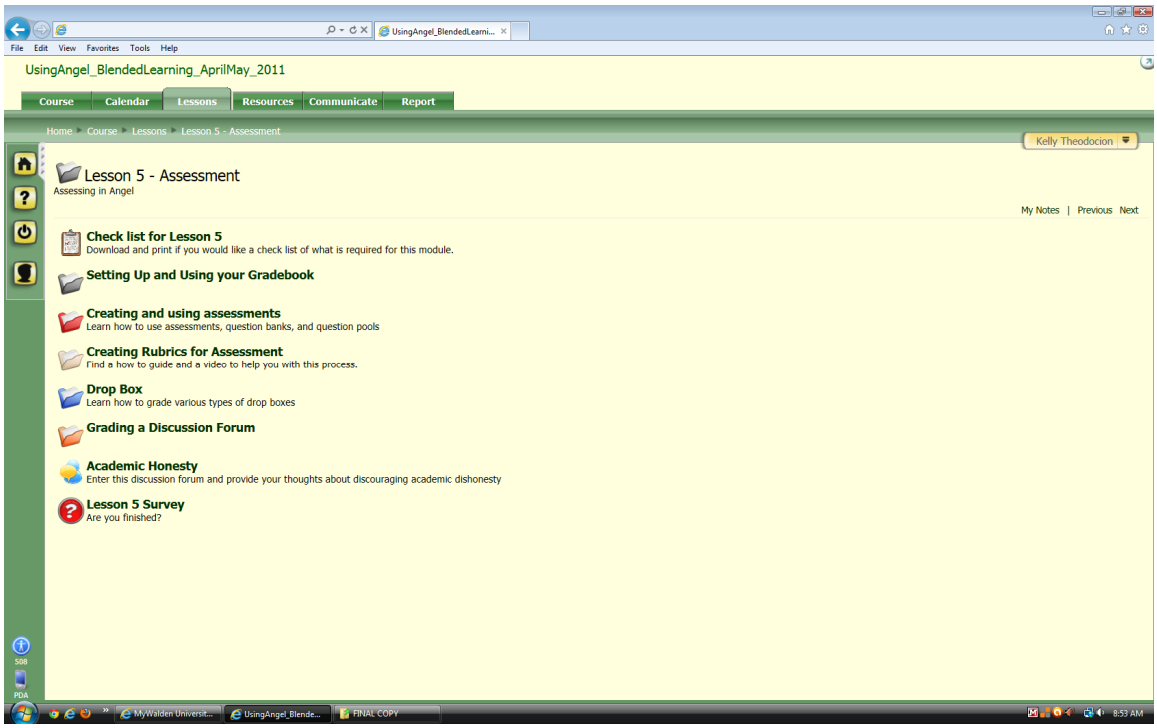
- Read directions for creating folders within ANGEL and create folders for your unit.
- Watch video that explains how to add pages within ANGEL and create pages for your unit.
- Read Edutopia article titled “How to Moderate an Online Group”.
- Read directions for creating a discussion board within ANGEL and create a discussion board.
- Watch video that explains how to add a blog within ANGEL and create a blog for your unit.
- Read directions for creating a assignment drop box within ANGEL and create a drop box for your unit.
- Read directions for enrolling students into your ANGEL course and add students.
- Read directions for creating teams of students within your ANGEL course and create 2 teams.
- Read directions and watch a video tutorial for setting up scheduled agents (e.g. send a reminder to student to log into ANGEL).
- Read directions and watch a video tutorial for setting up event agents (e.g. set up a goodbye alert when they leave the course).
- Read directions and watch a video tutorial for setting up content agents (e.g. send a thank-you message whenever students reply to a discussion board).
- Complete Module 4 survey.


UsingAngel_BlendedLearning_AprilMay_2011
Course
Calendar
Lessons
Resources
Communicate
Report
Home ▸ Course ▸ Lessons ▸ Lesson 4 - Developing Your Course
Kelly Theodocion
Need some ideas for your page?
Create a welcome page to introduce yourself to your online students
Develop a pacing guide for your course
Publish contact information and office hours
Explain your rules and/or expectations for your class
Post your syllabus
Discussion Forums are an excellent tool for synchronous and asynchronous discussions and collaboration. Typically you, the instructor, will post a question and your students will respond to the initial question and subsequent posts. It is important to tell your students how many responses they should have for each discussion question. It is also important to set up deadlines for the responses. Discussion forums can be a great jumpstart to a new discussion or as a way to continue an in-class discussion.
What you don't want is this....
The worst classroom discussion EVER!!!!
Below are some helpful tips for managing your Discussion Forums:
Discussion Boards
Moderating an Online Group
Click here for directions on creating a discussion forum. Then in your practice course, create a discussion forum. You may want to consider creating a "Getting to Know You" discussion forum or pose a discussion question for the unit/standard you are working on.
A blog (short for Web log) is a web page with content posted by its owner that may offer the opportunity for visitors to comment on the posting. It is different from a wiki in the sense that only the blog's owner can edit the text of the blog while a wiki allows anyone to edit the content.
Blogs help build engaging online learning environments and assist in fostering collaborative learning and improving communication. to reflect on lessons, or by groups of students to share knowledge, reflection and debate. (Angel Instructor Reference Guide, 2008).


UsingAngel_BlendedLearning_AprilMay_2011
Course
Calendar
Lessons
Resources
Communicate
Report
Home ▸ Course ▸ Lessons ▸ Lesson 4 - Developing Your Course
Kelly Theodocion
Blog video
Watch the video to learn how to create a blog in Angel
Now that you have viewed the directions, please set up a blog in your practice course.
So what is a Wiki and how would I use it? Wikipedia defines a wiki as "....a type of web site that allows the visitors themselves to easily add, remove, and otherwise edit and change some available content, sometimes without the need for registration. This ease of interaction and operation makes a wiki an effective tool for collaborative authoring."
Wikis provide a collaborative tool for students and instructors to foster learning and develop communication skills either synchronously or asynchronously. Wikis can be used for collaborative research, peer review, or group projects.
Adding a Wiki
Understanding the Wiki Environment
Now that you have viewed the directions, please set up a wiki in your practice course.
An assignment dropbox allows students to submit assingments in Angel. Typically, each unit will have a drop box.
As the instructor, you can customize the dropboxes. For instance, you can limit the number of submissions, enable or disable a message box, and allow attachments.
Click here for directions on how to set up an assignment dropbox. Then in your practice, create a dropbox in the unit you have been creating.
After creating your content, the next step is to enroll students into your course.
Click here for directions on how to enroll students. In your practice course, enroll your peers who are taking this class.

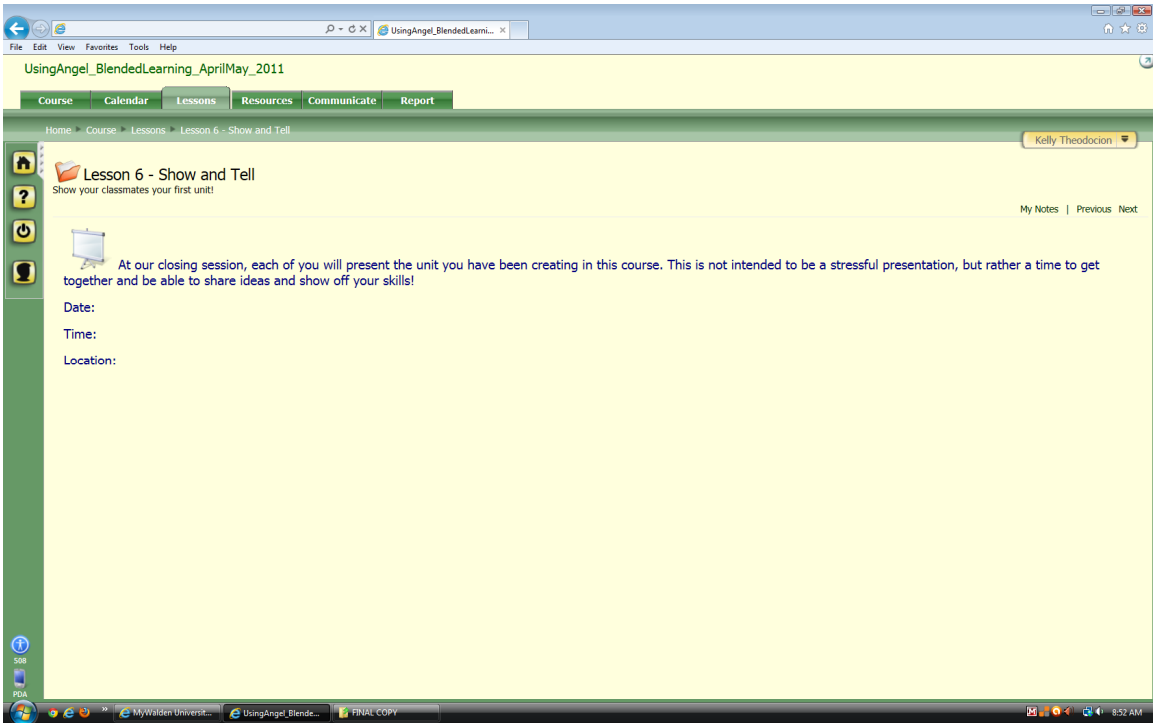
Module 5: Assessment in ANGEL

- Read directions and watch a video tutorial for gradebook tasks.
- Read directions and watch video tutorial for adding assessments into your ANGEL course.
- Read directions for creating a question bank in your ANGEL course.
- Read directions for creating an assessment with question pools – a group of questions selected from one or more question banks.
- Review text that reviews the process of creating rubrics.
- Read the directions for accessing and using the rubric manager in ANGEL.
- Read the directions and watch a video tutorial for creating rubrics within ANGEL.
- Watch a video tutorial that explains attaching a rubric to a drop box.
- Watch a video tutorial that explains grading a drop box submission with a rubric.
- Watch a video tutorial that explains grading a drop box submission without a rubric.
- Read the text and watch a video tutorial that reviews grading discussion board submissions.
- Listen to a 5-minute podcast from the University of North Carolina Charlotte's Center for Teaching and Learning regarding academic honesty.
- Discussion Board Assignment: How can teachers discourage dishonesty in an online/blended course? What are some strategies that are used in face-to-face classrooms that could be used to discourage cheating?
- Complete Module 5 survey.



Week 6

- 90-minute face-to-face meeting between course facilitator and course participants
- Presentation of units created by course participants
- Debrief



Appendix D: Informed Consent Form

Dear Teachers:
I am a Walden University doctoral student, and I write to request your participation in a research study. You have received an invitation to participate in the study because you are a educator at the research site. This informed consent form describes elements of the study so that you can decide whether or not you wish to participate.

Background Information:
The purpose of this study is to investigate middle school educators' perceptions of an online professional development course. The study is under the direction of Dr. John Ellis and Dr. Marilyn Cook.

Procedures:
If you agree to participate in this study, you will be asked to do the following:

- Complete a 6-week, 5-module online professional development course.
- At the end of the professional development course, complete a 20-item survey to capture your perceptions of the course. This should take 5 to 10 minutes.
- A sample of 5 teachers will have the opportunity to take part in the interview phase of data collection.
    - Teachers selected for this phase of the study will be determined by years of teaching experience. Of the 5 teachers, one will have less than 6 years of teaching experience; two will have 7 to 15 years of teaching experience; and two will have more than 16 years of teaching experience. Should more than 5 teachers volunteer, I will purposefully select 5 participants based on years experience.
    - If selected, participants will take part in an interview with the researcher at the conclusion of Module 5. Interviews should last approximately 45 minutes and will be audiotaped. Transcriptions of the interviews will be returned to each participant in order to check for accuracy.

Voluntary Nature of the Study:
Your participation in this study is voluntary. You may choose not to participate, and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Risks and Benefits of Participating in the Study:
There are no known risks to the participants who complete the 20-item survey; however, participants who elect to take part in the interviews may experience slight discomfort while answering questions. Although you may not benefit directly from participating in this study, administrators and those who develop professional development courses may be able to use data from this study to create online learning environments which meet the professional learning needs of teachers in their district.

Costs and Compensation:
You will not accrue any costs from participating in this study nor will you be compensated for participating in this study.

Protection of Confidentiality:
Any information you provide will be kept confidential, and the identity of the school district, the research site, and those who volunteer for interviews will be masked with pseudonyms. The researcher will not use information for any purposes outside of this research study. All information compiled during data collection is to be used solely for the purpose of this research.

Contacts and Questions:
Thank you for your consideration. For further information about the study, please contact Kelley Theodocion, the researcher, at Kelley.Theodocion@Waldenu.edu or Dr. John Ellis, the committee chair, at John.Ellis@Waldenu.edu. If you have any questions about the rights of research subjects, please contact Dr. Leilani Endicott at 1-800-925-3368 (extension 1210). She is the Walden University representative who can discuss this with you.

Cordially,
Kelley Theodocion

****

PARTICIPANT SIGNATURE
Your signature indicates that you are 18 years of age or older, that you voluntarily agree to participate in this research study, that you have been given time to read the document, that the study has been explained to you, and that your questions have been satisfactorily answered. You will receive a copy of the written informed consent prior to your participation in the study.

Printed Name of Participant: _____

Date of Consent: _____

Participant's Written or Electronic Signature: _____

E-mail Address (other than work) _____

Please indicate interest in taking part in the interview phase of data collection:

___ Yes, I am interested. ___ No, I am not interested.

RESEARCHER STATEMENT
I certify that the participant has been given adequate time to read and learn about the study, and all questions have been answered. It is my opinion that the participant understands the purpose, benefits, risks, and procedures that will be followed in this study and has voluntarily agreed to participate.

Printed Name of Researcher: _____

Date of Consent: _____

Researcher's Written or Electronic Signature: _____

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Appendix E: Informed Consent Form for the Online Survey

I am a Walden University doctoral student, and I am conducting a research study. You have received an invitation to participate in the survey phase of data collection because you are an educator at the research site. The purpose of this study is to investigate middle school educators' perceptions of an online professional development course.

Your participation in this study is voluntary. Your participation will involve completing that attached online 20-item research survey. This should take 5 to 10 minutes of your time. You may choose not to participate, and you may exit the online survey at any time. You will not be penalized in any way should you decide not to participate or to withdraw.

There are no known risks to the participants who complete the attached 20-item survey, and the identification of those who complete the online survey will not be collected or stored. If you choose to participate in the study, completion of the attached online survey will indicate consent.

Although you may not benefit directly from participating in this study, middle school administrators and those who develop professional development courses may be able to use data from this study to create online learning environments which meet the professional learning needs of teachers in their district.

You will not accrue any costs from participating in this study nor will you be compensated for participating in this study.

If you have questions or concerns, please contact the researcher at Kelley.Theodocion@Waldenu.edu. If you have any questions about the rights of research subjects, please contact Dr. Leilani Endicott at 1-800-925-3368 (extension 1210). She is the Walden University representative who can discuss this with you.

I encourage you to print this page for you records.

Cordially,
Kelley Theodocion

Appendix F: Permission to Use Classroom Community Scale

From: Alfred Rovai [alfrrov@regent.edu] **Sent:** Tue 5/11/2010 5:56 AM
To: Theodocion, Kelley
Cc: Kelley.Theodocion@Waldenu.edu
Subject: RE: Classroom Community Scale
Attachments:

Good morning,

You may reproduce and use the Classroom Community Scale for your dissertation research. The requirement is that you cite the following article as the source of the instrument in any report you write. The article also provides instrument validity and reliability data.

Rovai, A. P. (2002). Development of an instrument to measure classroom community. Internet & Higher Education, 5(3), 197-211. (ERIC Document Reproduction Service No. EJ663068)

Best wishes,
Fred

Alfred P. Rovai, Ph.D.
Associate Vice President, Academic Affairs, Regent University
1000 Regent University Drive, Virginia Beach, VA 23464-9800
757.352.4861

Sent: Tuesday, May 11, 2010 2:18 AM
To: Alfred Rovai
Cc: Kelley.Theodocion@Waldenu.edu
Subject: Classroom Community Scale

Dr. Rovai,

I am a Walden University Ed.D. student. My area of interest is online professional development for middle school teachers, and during the course of the literature review, I have discovered the Classroom Community Scale.

I write to ask permission to use the Classroom Community Scale for data collection. Also, I respectfully request permission to reproduce the Classroom Community Scale in my proposal.

Thank you in advance for your consideration.

Best regards,

Kelley Theodocion

Appendix G: Permission to Use Critical Incident Questionnaire

From: Brookfield, Stephen D. [SDBROOKFIELD@stthomas.edu] **Sent:** Thu 5/13/2010 10:50 PM
To: Theodocion, Kelley
Cc:
Subject: RE: Request to use CIQ
Attachments:

Hi Kelley
Yes, of course, go ahead and use it. Hope it's helpful.
Stephen Brookfield

Sent: Thursday, May 13, 2010 7:31 PM
To: Brookfield, Stephen D.
Subject: Request to use CIQ

Dr. Brookfield,

I am a Walden University doctoral student. I write to request permission to use the Critical Incident Questionnaire for data collection. Also, I respectfully ask that you grant permission for me to reproduce the Critical Incident Questionnaire in the dissertation.

Thank you in advance for you consideration.

Best regards,

Kelley Theodocion

Curriculum Vitae

Kelley E. Theodocion

Education

Walden University, Minneapolis, MN 2012
EdD, Teacher Leadership
Dissertation: *Middle School Educators' Perceptions of Online Professional Development*

Walden University, Minneapolis, MN 2007
MSEd
Concentration: Reading in the Content Area

University of Georgia, Athens, GA 1989
ABJ
Area of Concentration: Newspapers
Honors: Graduated Cum Laude

Licensure and Certifications

Areas of Certification: Middle Grades, Gifted, Special Education (General Curriculum)

Work Experience

Position: Middle Grades Language Arts teacher
August 1994 to present

Position: Journalist and Copy Editor
Athens Daily News and Banner-Herald
Athens, GA
1990 – 1994

Professional Organizations

Association for Supervision and Curriculum Development
National Council of Teachers of English
State Council of Teachers of English
International Reading Association
State Reading Association