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ENGAGEMENT IN AN ONLINE COURSE:
THE STUDENTS' VIEWPOINT

By

Michael B. Miller

A DISSERTATION

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ENGAGEMENT IN AN ONLINE COURSE: THE STUDENTS' VIEWPOINT

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University of Nebraska, 2013

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Distance education is not a new phenomenon, distance education had its beginning with correspondence education through postal services in the 19th century (Daniel, 2000) and progressed into the 21st century with the use of computer-mediated instruction. Even with all of its convenience and portability, the online classroom is still seen by many as lacking the human “connectivity” of face to face courses. Recent findings have shown that online learners’ levels of satisfaction, performance, and sense of community are related to the interactions they have with their instructors, including the type and frequency of feedback they receive on assignments and course material (Gallien & Oomen-Early, 2008).

A review of the published literature supports that interaction between instructor and student is an important aspect of learning and that students perform at a higher level when this interaction is available to them. What is not supported is what type of interactions are effective from the viewpoint of the student and lead to better engagement in the learning process by the student.

Twelve student participants were selected from an online course at a small southern community college. The institution where the study was performed used the Moodle platform to offer distance courses to their students.

The common themes identified from student interviews were (a) strategies of instructors in virtual classroom instruction, (b) intrinsic motivation of students' engagement in virtual classroom, (c) factors that facilitates completion of online tasks, (d) creation of sense of community, (e) domains of engagement in virtual learning environment, and (f) technologies that enhances students' engagement.

Findings suggest that students believe that technology is important to their engagement in an online course. Technology is important to this “classroom” to keeping students engaged in the course through either videos, interactive websites, or other interactive technologies such as Skype or Elluminate Live. These types of connections is what keeps the students engaged and what students are looking for from their instructors and their courses.

Copyright page

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Thank you to the faculty member who allowed me to interview their students for this project and allowing me to be “enrolled” in your course to see what engagement activities were used in the course. Thank you to Dr. Torracco who was my first contact at UNL and who guided me through the registration process and early parts of my dissertation. Thank you to Dr. Cejda for guiding me through the dissertation process and taking the time to answer all of my questions, I greatly appreciate all of your help.

Dedication page

To my grandfather who paid for my first semester at the community college, I wish you were to see today. To my uncle Curtis, sadly you do not know how much you helped me to get to this day, wish you were here to celebrate with me. Lastly, to my parents who supported me and continually encouraged me to continue the dissertation process to the end, thank you for all of your love and support, I appreciate everything you have done for me.

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CHAPTER 1

INTRODUCTION

A survey of headlines in The Chronicle of Higher Education over the past decade reveals increasing momentum in distance education. In 1989 The Chronicle declared, "Distance Learning' Found To Be Effective" while in 2002 it advised, "University Systems Urged to Invest in Distance Learning ." By 1996 The Chronicle covered "The Virtues of Virtual Universities," in 1998 it informed readers that, "A Philanthropy Puts Millions Into Asynchronous Learning," and another article heralded, "Top Business Schools Seek to Ride a Bull Market in On-Line M.B.A.'s."

Distance education is not a new phenomenon, distance education had its beginning with correspondence education through postal services in the 19th century (Daniel, 2000) and progressed into the 21st century with the use of computer-mediated instruction. Online enrollments at United States higher education institutions (HEIs) are growing significantly, 6.7 million students were enrolled in at least one online course in the fall 2011 semester (Allen & Seaman, 2013). The number of students enrolling in online classes continues to increase as fall 2011 enrollments increased by 570,000 students over fall 2010 (Allen & Seaman, 2013).

Table 1: Five year growth in students taking at least one online course, fall term

	Total Enrollment	Students Taking at Least One Online Course	Online Enrollment Increase over Previous Year	Annual Growth Rate Online Enrollment	Online Enrollment as a Percent of Total Enrollment
Fall 2007	18,248,133	3,938,111	449,730	12.9%	21.6%
Fall 2008	19,102,811	4,606,353	668,242	16.9%	24.1%
Fall 2009	20,427,711	5,579,022	972,669	21.1%	27.3%
Fall 2010	21,016,126	6,142,280	563,258	10.1%	29.2%
Fall 2011	20,994,113	6,714,792	572,512	9.3%	32.0%

Source: Babson Survey Research Group

Such rapid growth raises numerous concerns, such as how are students responding to the move from the classroom to the computer. The shift to distance education would appear to lead to greater student isolation, and therefore decreased engagement with peers, in the educational experience. However, some proponents of online distance education argue that computer mediated communication can actually increase student engagement (Kulik & Kulik, 1991; Richardson & Swan, 2002). This raises the questions: what types of student engagement has been employed by online distance education programs? From a students perspective, what types of strategies keep them engaged throughout the course?

To understand engagement within virtual classes, it is helpful to place online education within the larger history of distance education. The author will present a brief history of distance education, with a particular emphasis on the role of student engagement, followed by a discussion of the rise of online distance education. The focus will then turn to the methods that have been employed to facilitate student engagement and what has been effective from the students viewpoint. The author will conclude with some commentary about the resources available for further research into online student engagement.

Context of the Problem

Even with all of its convenience and portability, the online classroom is still seen by many as lacking the human “connectivity” of face-to-face courses. In fact, many studies note that a major reason why many faculty who teach online still prefer to teach face-to-face is because they perceive they are more capable of “connecting” with their students and assessing their understanding in a traditional setting (Allen & Seaman, 2006; Bower, 2001; McKenzie, Mims, Bennett, & Waugh, 1999; Oomen-Early & Murphy, 2008).

Recent findings have shown that online learners' levels of satisfaction, performance, and sense of community are related to the interactions they have with their instructors, including the type and frequency of feedback they receive on assignments and course material (Gallien & Oomen-Early, 2008). Until recently, studies have examined text-based feedback only, either delivered through email or via the course management system (e.g., BlackBoard or Moodle). In a 2000 study, Garrison, Anderson, and Archer concluded that text-based courses had the "potential for creating an educational community" but also stated that there was much work to be done in the text-based education arena to have a quality educational experience. Tagg and Dickinson (1995), concluded that student activity can be increased due to the text-based messages received from tutors, however there was no "ideal" type of messaging found and the increase in activity from the students was not based on the frequency of the text-based messages. Heiman (2008) studied the effects of email messages on students in an online course by studying two different courses. In one course students were sent six different emails during the semester while students in the other course did not receive any emails. The findings of the Heiman study indicated that students who received the emails "perceived higher levels of social and academic support" and were more satisfied with the course (Heiman 2008). The nature of this type of feedback (i.e., lack of verbal and nonverbal information) challenges two important factors related to successful online learning: social presence and instructor immediacy behaviors.

Social presence refers to the degree to which individuals perceive others to be real in the learning environment, a model long-established in the literature (Short, Williams & Christie, 1976). Research has been conducted on social presence in an online course by sending surveys at the conclusion of an online course to enrolled students and asking them to rank social presence criteria, complete short answer questions relating to social presence, or a combination of both

methods. According to the findings of Richardson and Swan (2002), this perception of human presence is essential for students and faculty to develop personal relationships and communities online, which in turn appears to have a positive influence on learner satisfaction and performance (Newberry, 2001; Richardson & Swan, 2002). Newberry's research and the Richardson and Swan research concluded that not only should the topics of the class be presented to the students, but also through the design and instruction of the course there should be an element of social presence. Hackman and Walker (1990) said, "social presence is influenced by the delivery modes utilized for specific communication functions," including the way in which feedback is delivered. As with the Richardson and Swan study, and Newberry study, Hackman and Walker concluded that the design of the class along with the social presence of the instructor "strongly impacted student learning and satisfaction" (Hackman & Walker, 1990).

Teacher immediacy is defined as "those nonverbal behaviors that reduce physical and/or psychological distance between teachers and student" (Andersen, 1979). Andersen found that smiling at students, using eye contact to connect with them, and using gestures improved the students attitude towards the course material and the instructor. By reducing this distance between the teacher and the students the students performed better in the classroom and were eager to understand the concepts being discussed.

Teacher immediacy has been described by researchers as the most important teacher behavior that affects students (Moore, Masterson, Christophel, E Shea, 1996). In an effort to use positive immediacy behaviors teachers will nod their head, smile, and use eye contact in the classroom to increase student information seeking strategies (Myers & Knox, 2001). These positive immediacy behaviors have been shown through research studies to increase the students motivation to study and to decrease student apprehension (Ellis, 1995; Frymier, 1993; Messman

& Jones-Corley, 2001) and student resistance in the classroom (Kearney & Plax, 1991). Teacher immediacy behaviors enhance closeness (relationships) as well by reducing the psychological distance (i.e., perceived distance) between individuals (Hackman & Walker, 1990). These studies have found that having these immediacy behaviors exhibited by the instructor in the course allow for a relaxed atmosphere of learning which allows the students to embrace learning more than students in a course where they do not feel connected. Some of the behaviors used by teachers to produce immediacy and build a sense of psychological closeness include verbal encouragement, praising, asking questions, using humor, and self-disclosure (Hackman & Walker, 1990; Woods & Baker, 2004). Studies have shown that instructors can project teacher immediacy behaviors through text-based interactions (Arbaugh, 2001). Arbaugh (2001) concluded that if online instructor's imbedded the "use of personal examples, humor, and openness toward and encouragement of student ideas and discussion" they could create immediacy in a text-based environment.

Most institutions offer online classes as a way to increase enrollment numbers without having to build additional spaces. However, the rush to add online classes to the schedule can lead to the loss of connectivity with the students if the proper pedagogy is not followed. "Online learning possesses two distinguished pedagogical features that were inefficient in the earlier generations of distance education. One is interaction; the other one is collaboration" (Shu-Fang & Aust, 2008). In the Shu-Fang and Aust (2008) study of undergraduate and graduate students enrolled in online courses the researchers found that a sense of community by the students increased their satisfaction and perceived learning. With the technology currently available to instructors students can be engaged in ways never thought of before in an online class. For example, YouTube videos posted to the online class for students to view can engage the students

in a particular topic of discussion; podcasts of important lecture topics can enhance the students understanding of a topic and can be downloaded to a portable device that can be listened to at any time or place; Twitter postings can be used as short (140 characters) topical thoughts on a current event that is happening; Skype and Elluminate Live can be used to engage students in a synchronous environment and allow for an immediate question and answer opportunity for students. Some of the distance learning platforms have applications that can be downloaded to smartphones which allows the student to access their class at any time from their phone keeping them engaged in the course.

There is no doubt that instructor feedback is important to enhance student learning and engage students in the class. However, much of what has been researched about instructor feedback and student engagement has been exclusive to the traditional classroom and from the instructors or administrations viewpoint (Flaherty & Pearce, 1998; Gorham, 1988; Walther & Burgoon, 1992). These studies found that verbal feedback to the students and using different types of verbal feedback such as calling students by name or recognizing their contribution to the discussion in the classroom led to an enhancement in learning by the students. Only recently have researchers begun to investigate the complex role instructor feedback plays in engagement in online education, but these studies have been from the instructors viewpoint (Gallien & Oomen-Early, 2008; Ice, Curtis, Wells, & Phillip, 2007; Offerman, Pearce & Tassava, 2006). Ice, Curtis, Wells, and Phillip concluded that the use of audio feedback by the instructor enhanced learning over text-based feedback in the course. A text-based message to a student asking “is this what you found?” could have a negative connotation to the student by allowing the student to think the instructor was degrading them, when the instructor may be simply asking for more clarification. With the use of audio feedback the student may not have perceived any

negative connotation and been able to better understand what was being asked simply by the voice inflection. The negative connotation in the text-based message could lead to a student becoming less engaged in the course or withdrawing from the course. After the study concluded, students submitted unsolicited emails to the instructors stating they preferred the audio feedback over text-based feedback, there were no negative emails from students. In the above studies the instructors found students to be more engaged if the instructors were responsive and supportive of the students in the instructors feedback to the students. Indeed, understanding how feedback facilitates or hinders online learning is key to creating effective instruction and enhancing “interpersonal” communication.

Studies have used different definitions of engagement to describe how students are active in an online course. Vonderwell and Zachariah (2005) define engagement as "taking part and joining in a dialogue for engaged and active learning". Wenger (1998) defined engagement as "a process of taking part and also to the relations with others that reflect this process". These researchers concluded in their studies that there is more to engagement in an online class than posting to a discussion board or logging into the class. These researchers concluded that being active and taking part in a discussion is an important aspect of being engaged, students can post to the discussion board but it is the dialogue that continues from the original post that is the actual engagement. For purposes of this study the author defines engagement as taking an active part in the course by interacting with the instructor and peers in discussion boards and chat rooms as well as devoting time and effort to the course by searching the Internet for course-related information, using the library to secure resources, and reviewing on line course materials.

The learning domains of cognitive, affective, and psychomotor made famous by Benjamin Bloom in 1954 have been expanded in recent years to include the “social” or

“interpersonal” learning domain. Education researchers such as Anderson and Krathwohl (2001) suggest that developing skills of interaction and collaboration have never been more important than in today’s volatile world. The interpersonal domain is not best handled with just text on a screen. Web 2.0 technology includes a number of communication tools which connect people more effectively and allows them to share information, ideas, and opinions online almost instantaneously. Some of these tools include wikis, blogs, videoblogs, digital video such as Youtube, digital photo hosting and sharing services such as Flickr or Photobucket; webcasts, podcasts, instant messaging, social bookmarking, satellite mapping such as Googlemaps, and asynchronous audio communication (just to name a few!). Could use of this technology contribute to more “interpersonal” online classrooms and enhance connectivity and collaboration between students and instructors? How might integration of these tools impact students’ motivation and improve upon retention? These questions largely remain unexplored in the initial attempts to look at student engagement.

Purpose of the Study

The purpose of this phenomenology study is to describe what strategies, from the students perspective, affect their engagement in distance education courses. Experiences examined during this study include class discussion boards, videos, synchronous meetings, instructor interactions, and other activities designed to engage the student in the class. This study will explore the experiences of the students in an online course and describe what strategies, behaviors, and types of interaction kept them engaged, from their perspective, in the course and should be duplicated in the instructional design of online courses.

Research Questions

The central question of this study is “In distance education courses what strategies are effective, from a students perspective, in keeping the students engaged in the course?” To assist in answering the central question the following sub questions were explored:

- How do participants describe the activities and techniques the instructor used to help them connect with their classmates and also with the instructor?
- How do participants describe the activities and techniques the instructor used to engage them in the content of the class?
- How do participants describe the activities and techniques the instructor used to keep them on task?
- How do participants describe the activities and techniques the instructor used to create a sense of community (a feeling that you matter to class and each other) in the online course?
- How do the participants describe their level of engagement in the online course?
- How do the participants describe any barriers they encountered to being engaged in the course?
- How could the instructor:
 - Help them connect more with their classmates and also the instructor?
 - Engage them more in the content of the class?
 - Keep them more on task?
 - Create more of a sense of community?

- From the perspective of the participants, how could the instructor use cutting edge technologies (i.e., twitter, Facebook) that would assist in keeping them engaged in the course?

Methodology

The researcher used the phenomenology qualitative approach for this study.

Phenomenology studies the experience of several individuals from their lived perspective (Creswell, 2002). For this study the experience of the students in the same online course was studied, they all have the same experience because they are enrolled in the same course during the same semester at the same higher education institution. Criterion sampling was used “to review and study all cases that meet some predetermined criterion of importance” (Patton, 1990). The students chosen to participate in this study were selected through a purposeful criterion sample of an online class in a different division of the college than the researcher in order to avoid a conflict of interest, an online class with a minimum of 20 students enrolled in the course, and an online class that was available in programs that were offered 100% online.

The researcher identified a sample of 12 students enrolled in an online course taught at the selected southern community college and interviewed them regarding their thoughts on engagement, as it is defined in this study, in the online course in which they were currently enrolled and what engagement strategies were effective or ineffective. Polkinghorne (1995) recommends from 5 to 25 individuals who have shared the experience be interviewed.

These interviews were conducted in an unstructured, open-ended manner while the researcher recorded the interview. From these interviews the researcher followed the three steps of coding the data discussed by Creswell as open coding, axial coding, and selective coding. All data gathered was analyzed by the researcher to develop a conclusion about what strategies are

effective, from a students perspective, in keeping the students engaged/participating in the course.

Definitions

Distance Learning or Online Learning

Education in which students take academic courses by accessing information and communicating with the instructor asynchronously over a computer network.

Personalized Learning Environments

Personal learning environments (PLEs) are environments where the learner can access and share a range of tools and services in an integrated way for supporting their own needs.

Online Course Environment

These environments are the platform environments used to deliver the course content to the students. Examples of online course environments include, but are not limited to BlackBoard and Moodle.

Moodle

Moodle is a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It is a Free web application that educators can use to create effective online learning sites (Moodle).

BlackBoard

BlackBoard is a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE).

BlackBoard is an online collaboration platform providing web conferencing,

virtual meeting rooms, mobile collaboration, instant messaging, and voice authoring capabilities (BlackBoard).

Teacher Immediacy

“Nonverbal behaviors that reduce physical and/or psychological distance between teachers and student” (Andersen, 1979).

Institutional (virtual) learning environments

A Virtual Learning Environment (VLE) is designed to act as a focus for students' learning activities and their management and facilitation, along with the provision of content and resources required to help make the activities successful. They can collaboratively share and generate knowledge in the virtual environment without having to travel out of their local setting.

Mobile And Immersive Learning Environments

These environments may include: integrated social software tools, mobile learning, game-based learning, simulation-based learning, producing 'seamless' learning experiences and often place an emphasis upon collaborative learning.

Assumptions and Limitations

The current study has definite limitations that need to be taken into account when considering the research and its contributions. The underlying assumption of this study is that the participants of the study have familiarity with engagement components and how they are/can be employed in distance learning courses. It is assumed that the participants of the study are engaged in the course being studied through some means prescribed by the instructor of the course. It is assumed that the participants responded to the questions posed to them during the interviews openly and honestly.

Delimitations

The students selected to participate in this study are all enrolled in the same course, at the same school, in the same semester, and with the same instructor. Selected students have a background in distance education courses and have taken at least one other course in an online environment prior to the course being selected for the study. Students enrolled in other distance education classes may have different experiences and may have access to different technological tools used to engage students in class.

The Significance Of The Study

Although there are critics who believe learning is hindered in an environment without physical presence, several studies have shown this not to be true (Gallien & Oomen-Early, 2008.; Gunawardena and Zittle, 2007; Ice, Phillips, and Wells, 2007). Gunawardena and Zittle (2007), for example, found that a sense of presence was established through the use of emoticons. The researchers found that 60% of the variance in student satisfaction was related to students' perceptions of presence, which was enhanced by the use of emoticons as a replacement for nonverbal cues. Gallien and Oomen-Early (2008) demonstrated that online instructors now have the capability through Web 2.0 technologies to enhance social presence and student engagement without having a "real time" physical presence. Recently, Ice, Phillips, and Wells (2007) found that audio feedback positively influenced students' perceptions of the instructor as a caring individual. These studies suggest that human relationships can be mediated by technology, and that physical presence is not necessary to provide presence, awareness, and "interpersonalization."

What makes this study significant is that this study focuses on the students, the learners, and what strategies in a distance learning class affect their engagement and learning in the

classroom from their viewpoint. This study will be significant to higher education institutions and faculty teaching in distance learning programs for the following reasons:

1. The engagement and learning by the student lead to higher retention rates for the institution and degree completions for the student.
2. Both faculty and Distance Education administrators may be able to use the findings of this study to implement decisions about engagement strategies into distance courses currently under their direction.
3. Institutions may also be able to use the findings of this study to develop guidelines for the design and delivery of new and existing distance education courses offered.
4. Many of the studies completed previously regarding distance education courses have been completed from the faculty viewpoint, this study would allow the faculty to develop an understanding about effective engagement strategies by hearing from the student.

Summary

Distance learning is a growing phenomenon and students will continue to enroll in these courses as their personal schedules continue to get busier. As schedules get busier and some educational institutions require students to enroll in distance education courses enrollment in distance education courses will continue to rise. As students enroll in these courses, keeping students engaged in the content and with their classmates becomes imperative to their retention and completion. Faculty have tried different tools to keep students engaged, but asking the students directly what will keep them engaged has not occurred. This study will attempt to fill that gap.

There are 4 additional chapters to this dissertation. Chapter 2 is the literature review which contains information about the growth, effectiveness, and future of distance education in addition to information on student engagement. Chapter 3 contains the methodology used to complete this study. Chapter 4 presents the results and analysis from the research performed for this study. Chapter 5 contains the summary, conclusions and recommendations for future study.

CHAPTER 2

LITERATURE REVIEW

This chapter provides a review of the literature pertaining to the engagement of students in an online learning environment. Many of these studies have occurred in the past 20 years as the online learning environment has grown during this time. The studies reviewed topics related to distance education including the meaning of distance education, growth, effectiveness, needs of learners, issues, and the future of distance learning. The review is organized starting with the meaning of distance education, to the growth of online enrollment, to the effectiveness and quality of online education, student engagement, and ending with the future of distance education.

The Meaning Of Distance Education

Although the label "distance learning" could be applied to any situation where students are learning at remote sites, the term is normally restricted to teaching via satellite or other long-distance telecommunication technology. One author defines distance learning as "an educational process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner" (Perraton, 1980). Two-way communication between teacher and student can take place through writing, television phone-in programs, two-way video, or telephone. The label "distance learning" is catchy, but, unfortunately, easily over interpreted. Most systems to which this label is applied are simply one-way broadcasting stations that transmit audio and video signals to students at one or more remote sites. However, other systems are available that provide two-way audio, and, in some cases, even two-way video between the teacher and the students.

Broadly defined, distance learning offers a delivery mode in which the physical classroom, the instructor, and the students are not all present in the same time and location. As table 2 shows distance learning delivery systems can be categorized as those that help eliminate barriers posed by location (lower left quadrant), those that help eliminate barriers of timing (upper right quadrant) and those that help eliminate both spatial and temporal barriers simultaneously (lower right quadrant). In most cases, the shift to distance learning involves a movement to a more facilitative model of teaching that more closely approaches the Socratic method, as opposed to more traditional lecture-based models.

Table 2: Overcoming Barriers of Location and Time via Deployment of Distance Learning Systems

	Same Time	Different Time
Same Space	<u>TRADITIONAL</u> <ul style="list-style-type: none"> • Face-to-Face Meetings • Classes 	<u>WORK STATION</u> <ul style="list-style-type: none"> • VCR • Computer • Interactive Video Disk
Different Space	<u>REAL-TIME DISTANCE LEARNING</u> <ul style="list-style-type: none"> • Audio Conferencing • Interactive Television (Two-way video and two-way audio) • Satellite Courses (One-way video and two-way audio) • Synchronous Computer Communications 	<u>ASYNCHRONOUS DISTANCE LEARNING</u> <ul style="list-style-type: none"> • Correspondence Courses • Video-based Telecourses • Online Computer Courses (computers and modems) • Multimedia on Demand (Just-in-time)

Distance education refers to “any formal approach to learning in which a majority of the instruction occurs while the educator and learner are at a distance from each other” (Verduin and Clark, 1991). The term “distance education” probably first appeared in the 1892 catalog of the University of Wisconsin (Rumble, 1986). It was popularized by the German educator, Otto

Peters (1968), in the 1960's, and became commonly used in the USA in the 1980's. The first distance education was provided through printed and written correspondence by mail.

Subsequently, the print materials were supported by audio tapes, video tapes, or both. Later, the print materials used in correspondence study were supported by radio or television broadcast signals, but with no direct real-time communication between the teacher and learner. In all of these distance education activities, the teacher/learner interactivity was minimal, feedback from teacher to student was delayed, and the interaction among students was virtually nonexistent (Barker *et al.*, 1989).

The problems described above have been resolved by recent innovations in computer and audio/video communications technology. Now a student can engage in "live" interaction with the teacher and with other students through a variety of telecommunications systems, even if they are a great distance from each other. In addition, because of advances that have been made in computer technology, it is now possible for an educational experience to take place that is interactive, yet asynchronous. The traditional teaching/learning model is no longer essential because of these developments. Effective education can be achieved even though the teacher and learner interact while apart from each other in time and location (Raymond and Pike, 1997).

Interactive computer applications are especially helpful as aids in teaching course-specific knowledge and skills. Interactive computer applications not only allow the student to select a variety of functions within the program, but also make it possible for the student to access information in nonlinear ways. Depending on the application, students can obtain information about their performance from the application (Raymond and Pike, 1997).

Interactive video disks (IVD), one of the first types of interactive computer applications to be developed (Falk and Carlson, 1995), can be effectively used to provide distance education.

Students in remote sites can move through IVD programs at their own paces and schedules. IVD programs normally provide the student with three or four selections, with each choice initiating various video segments. Depending on the student's choice, the video tape will continue, remedial instruction will be provided, or feedback will be given about the option selected. When computer applications are used in this way, the computer becomes a teaching machine to deliver education to learners in distance locations. Although there is no real-time interaction with the faculty member, the student interacts with the instructional units presented through the computer. The level of interaction can range from low to high, depending on the type of computer application used. Six modes of computer-assisted instruction can be used effectively for distance education purposes: drill and practice, tutorial, gaming, simulation, discovery, and problem solving (Heinrich *et al.*, 1985).

The delivery of distance education has also been advanced by recent developments in audio and video communications (AVC) systems. These systems facilitate the transmission of knowledge between teacher and learner. As a result of these developments, students at remote locations can engage in live interaction with the teacher and with other students in real-time. This interaction can be achieved in one of several ways, depending on the type of AVC equipment that is utilized (Raymond and Pike, 1997).

The first type of system entails two-way audio communication, with no video. This learning situation is similar to an audio conference or conference call, but includes more participants. Students at remote locations interact with the instructor using a speaker phone or comparable technology. The second type of AVC delivery system utilizes two-way audio and two-way video communication. Students at distant locations can see the professor and can speak with the professor and other students. The signals can be delivered by a number of means,

including telephone lines, satellite systems, cable television, and closed-circuit television.

Multiple technologies are often used as an integrated system of system delivery (Conklin and Osterndorf, 1995).

A third type of AVC system makes it possible for two-way audio and two-way video interaction to occur. In this learning scenario the teacher can see, hear, and interact with the students and, at the same time, the students can see, hear, and interact with the teacher and each other. Multiple technologies can be used to facilitate this interaction. These include satellite systems, cable television and closed-circuit television.

Distance education can also be provided through the use of computer-mediated education systems. Computer-mediated education technologies are like audio/video-mediated education technologies in that they facilitate the transmission of knowledge between the teacher and the learner. These systems do not provide actual instruction, as is the case with computer-assisted technologies. Computer-mediated education systems include facsimile machines, electronic mail systems, computer networks, and interactive compressed video (ICV) systems.

A final example of computer-mediated education, the use of ICV systems, has had a profound impact on the delivery of distance education. ICV systems combine computers with telephone lines to transmit signals. This technology involves the use of codecs – devices that compress or decompress the signal on both ends of a digital phone line. Depending on the type of equipment that is used, there may be a slight delay of sound and some impairment in video quality (Conklin and Osterndorf, 1995; Freddolino, 1996). ICV systems are now relatively inexpensive to purchase and operate. Consequently, these systems have become the most commonly-used form of technology used to deliver distance education in the USA.

There is a danger in assuming that replacing traditional teaching techniques with new technologies can cause a significant improvement (Dede, 1996; Moore, 1996). There are many examples where attempts have been made to use electronic communication to cope with increasing student numbers (Daniel, 1998) (and proportionately diminishing resources) or to improve learning outcomes (Bischoff et al., 1996; Scardamalia and Bereiter, 2002; Moskal et al., 1997). However, it is vital to discover whether the pressure to increase student numbers overshadows the need to provide students with a meaningful educational experience, and whether course appraisal techniques disguise the quality of the courses that are presented.

The Growth Of Distance Education

During recent years there has been a dramatic growth in the number of students who attend education programs on a part-time basis, at both the graduate and undergraduate levels. A number of factors have contributed to this growth. Increasing costs of education have made it difficult for many students to attend full-time. Financial aid is not available for many of the students who need it in order to attend school full-time. A large number of students who attend colleges and universities have work and family responsibilities which preclude full-time school attendance. Finally, often students do not live in close proximity to education programs, and commuting long distances to study full-time is extremely difficult for them, if not impossible.

In 1998, 44 percent of all higher education institutions offered distance-based courses, an increase of one third from 1994–95 (CHEA, 1999). A 1999 national survey of information technology in higher education (CHEA, 1999) revealed that 47% of the studied institutions offered at least one course entirely over the Internet, 54% were using e-mail, 61% had a strategic plan of information technology, and access to student services via the Internet was increasing significantly. In addition, 39% of the college courses were using Internet resources

as part of the syllabus and 28% had a web site. In 1996, participation in web-based higher education courses was estimated to be 1 million students and projected to be 3 million by 2000 (Edelson, 1998).

The Instructional Technology Council (ITC) issued the results of its 2010 survey report, “Distance Education Survey Results- Trends in eLearning: Tracking the Impact of eLearning at Community Colleges,” a study based on a survey of 226 community colleges. Some of the key findings were:

- Campuses report a 22 percent increase for distance learning enrollments, while Sloan-C reports increases in overall campus enrollments averaged less than two percent.
- Most programs struggle to recruit faculty and offer additional sections to meet the ever-increasing student demand. Older, non-traditional students are attracted to online classes and degree programs since they fit into their busy schedules to offer a solution for career advancement and/or change.
- The completion rate gap between distance learning and face-to-face student has significantly narrowed. Completion rates jumped to a reported 72 percent, just below the 76 rate for face-to-face classes.

During the 12-month 2000–2001 academic year, 56 percent (2,320) of all 2-year and 4-year Title IV-eligible, degree-granting institutions offered distance education courses for any level or audience, (i.e., courses designed for all types of students, including elementary and secondary, college, adult education, continuing and professional education, etc.). Twelve percent of all institutions indicated that they planned to start offering distance education courses in the next 3 years; 31 percent did not offer distance education courses in 2000–2001 and did not plan to offer these types of courses in the next 3 years. Public institutions were more likely

to offer distance education courses than were private institutions. In 2000–2001, 90 percent of public 2-year and 89 percent of public 4-year institutions offered distance education courses, compared with 16 percent of private 2-year and 40 percent of private 4-year institutions. College-level, credit-granting distance education courses at either the undergraduate or graduate/first-professional level were offered by 55 percent of all 2-year and 4-year institutions. College-level, credit-granting distance education courses were offered at the undergraduate level by 48 percent of all institutions, and at the graduate level by 22 percent of all institutions. Fifty-two percent of institutions that had undergraduate programs offered credit-granting distance education courses at the undergraduate level. Further, college-level, credit-granting distance education courses were offered at the graduate/first-professional level by 52 percent of institutions that had graduate/first-professional programs.

Recently, there has been explosive growth in the array of distance learning delivery modes and information technologies. Interactive television, video and audio conferencing, and Web technology, in addition to multimedia simulations, optical storage technology (CD-ROM and CDI), and video-based telecourses, have added a dazzling array of options for program and course delivery. Given this prolific and ever-expanding variety of instructional alternatives, what implications arise for teaching in colleges and universities in the 21st century?

The Effectiveness Of Distance Education

Numerous studies have demonstrated the effectiveness of distance education technologies. Research has shown that both computer applications and computer networks are effective means of facilitating student learning (Haile and Richards, 1984; Kulik, 1983; Kulik and Kulik, 1986, 1987; Kulik and Kulik, 1987; Siegel *et al.*, 1986). In most of the situations described in these studies, the teacher and learner were separated in time and location.

As early as 1975, a meta-analysis examined research reports that compared courses taught through AVC systems with equivalent courses taught in the conventional classroom, looking at all academic levels (Chu and Schramm, 1975). It was revealed from this secondary analysis of data that most courses can be taught successfully by AVC, and that usually there are not significant differences in the cognitive outcomes of AVC teaching and conventional teaching. More recent meta-analyses of studies comparing AVC teaching versus conventional teaching, reveal that in almost all of these studies, students who took courses through telecommunication showed cognitive outcomes comparable to or better than those of students who took traditional classroom courses (Verduin and Clark, 1991; Whittington, 1987).

As developments in technology continue to make better tools available to support distance education, one of the biggest challenges faced by academicians will be that of redefining their roles in terms of a new pedagogical philosophy. In using these tools to deliver distance education, the instructor is no longer a purveyor of knowledge to students as in the traditional classroom setting. Rather, the educator, apart from the student in location and perhaps in time, plays a different role during the teaching-learning process. Under this new paradigm, the role of the teacher includes acting as a facilitator to suggest actions and research implications; updating information to make current research findings and literature available to the students; identifying and discussing with the students new technological possibilities and obstacles; and serving as an “information navigator” to help the students in their search for information through computer applications and networks (Resnick, 1996).

In this approach to education the students become more active participants in the learning process, assuming responsibility for their own learning. They use electronically-supported

instruction to access information independently, to establish educational goals and objectives, and to measure learning achievements.

Accepting and learning to operate within this new educational paradigm may be the greatest challenge for teachers and students as they strive to make the most efficacious use of new technologies to enhance distance education and learning. The challenge is clearly worthwhile given the many benefits that can be realized when distance education programs are offered by institutions of higher education. Walther (1994) characterizes computer-mediated conferencing as “*hyper-personal*” rather than impersonal. In reviewing previous studies Walther states “experienced computer-mediated conferencing users rated text based media, including e-mail and computer conferencing, “as rich or richer than telephone conversations and face-to-face conversations”.

In his classic text *Scholarship Reconsidered* (1993), Ernest Boyer defines the scholarship of teaching as “not only transmitting knowledge, but transforming and extending it as well”. Good teaching begins with the teacher’s knowledge base, but includes all the pedagogical procedures that facilitate student learning in class and into the future (lifelong learning). This suggests that the scholarship of teaching finds expression in nontraditional ways. Boyer writes that “preparing quality computer software, for example, is increasingly a function of serious scholars, and even videocassette and television offer opportunity for communicating ideas to non-specialists in creative new ways”. In a similar vein, developing and adapting courses and programs for delivery via distance learning should be considered a form of serious scholarship—especially by those within academia.

Based on the premise that the pedagogical procedures incorporated into distance learning programs offer serious scholarship opportunities, what are the implications for institutions that

tout teaching as being equally important as research? Three specific issues seem to be critical here:

1. What are the differences between traditional on-campus and nontraditional distance learning classrooms?
2. What are the implications of these differences for curriculum and instructional design?
3. What are the implications of these differences for decision-making with regard to faculty hiring, training, and tenure?

Some professional educators feel that the on-campus strength of their institution is the only prerequisite necessary to achieve the same performance in the distance learning environment. While an institution's current expertise and experience base with traditionally-delivered courses and programs certainly provides a strong foundation, faculty need to possess or acquire additional skill sets in order to achieve the same degree of success in distance learning environments. Faculty must still be content-experts, but they must, in addition, be skilled in learning facilitation techniques, agile in their ability to manage distance learning tools and technology, and quick and practiced problem-solvers.

In order to achieve success with distance learning programs, therefore, an institution needs to consider how it will acquire faculty who possess these skills, and how current faculty members' skill sets can be expanded to include those necessary for successful delivery of distance courses.

With online courses, for example, instructors' competency to successfully convert traditional classes to online form is directly related to their experience in applying computer applications to teaching and learning. Acquiring faculty who already possess these skills may well entail altering definitions of hiring criteria for faculty. Those faculty who are products of

traditional, on-ground institutions only rarely come with knowledge of or experience in teaching via distance learning technologies. They, and their degrees, are traditional in title, content, and course process/delivery format. These instructors may lack the skills to adequately engage in distance education, and will require instruction or extensive guidance.

There may, in addition, be some learning outcomes that are more readily achieved in a distance learning environment than in a traditional classroom. Distance learning courses may inherently better support students' ability to develop and hone certain abilities, such as self-directed learning, communication, teamwork, and problem-solving skills. In any case, instructional strategies developed in order to take advantage of the attributes of a distance learning system create potentially powerful environments for facilitating students' acquisition of these skills.

Research in educational settings has shown that computer-mediated conferencing will support interpersonal interactions. Angeli, Bonk, and Hara (1998) found that 27% of a course conducted via distance “consisted of expressions of feeling, self-introductions, jokes, compliments, greetings, and closures”. Weiss and Morrison (1998) researched a graduate seminar that was delivered via distance education. Their hypothesis was that the course “would result in dry dialogue devoid of emotion”. Their research uncovered 54 instances of humor and even some instances of individuals with hurt feelings.

While the existing curriculum and instructional design can serve as a foundation, this curriculum will probably require modification to fit distance learning formats. It will require rethinking the desired academic outcomes and course objectives, the range of learning activities that are best able to facilitate their accomplishment, and the appropriateness of distance learning

technology, in order to take optimal advantage of the strengths and attributes of each particular learning technology in facilitating learner attainment of course outcomes.

Distance learning modes and technologies have the potential to drastically change the teaching and learning paradigm. New and exciting opportunities abound that extend students' access to programs and courses. They also enable colleges and universities to tap new markets, in many cases without heavy investment into bricks and mortar. Distance learning courses expand student access to higher education by helping overcome barriers of time and location, and may be better than traditional teaching and learning paradigms at helping learners develop certain kinds of skills. In order for teaching institutions to be successful, however, it is important that administrators and faculty alike recognize the skills and mindset needed to engage in distance learning programs.

As in all else, students will be most satisfied when technologies are deployed, not as an ends in themselves, but as the means to facilitate and support learning and instructional goals—the mission of the teaching institution.

Distance learning environments have evolved along with technological advancements in computers, radio and television broadcasting, and audio and video recording. They have moved toward virtual classrooms, where instruction can be provided from a host site to distance sites using a combination of live, two-way interactive audio; asynchronous video; and synchronous-asynchronous computer-based interactions that take advantage of local area networks (LANs), wide area networks (WANs), the Internet, and the World Wide Web.

Distance education strategies vary widely and include traditional materials and strategies, low and high technology, and emerging technologies. For example, printed materials, audio- and videotapes, personal computer teletraining, e-mail, and listservers may be considered passive

distance learning, meaning that a student has no opportunity to interact with the instructor (at a different location) in real time. These approaches are asynchronous because the student and instructor transmit messages one way and receive responses after some time has passed.

Approaches that may be considered active include two-way audio, one-way video/two-way audio teletraining, and two-way interactive audio/video transmission. They are synchronous because they all have the ability to transmit messages simultaneously between the sender and the receiver and to receive immediate feedback and interaction among distant sites. In between passive and active approaches lies a middle ground, in which students are required to respond to information through exercises generated by the instruction. These approaches include such media as computer-based training disks, CD-ROMs, DVDs, and laser disks. Highly interactive environments combine the virtual classroom elements just mentioned with the use of the Internet and World Wide Web.

In recent years, a shift in paradigms has occurred in higher education. The traditional paradigm of the university as an institution that provides instruction is shifting to a new paradigm of the university as an institution that produces learning. The goal of the new paradigm is to achieve learning through any means that results in the best learning, not just through the traditional series of lectures.

This shift from “teaching” to “learning” requires a movement away from the passive lecture-discussion toward new approaches that promote students’ discovery. “The learning college places learning first and provides educational experiences for learners anywhere, anyplace, anytime” (O’Banion, 1997). Thus, rather than use a format in which instructors talk and students listen, in the new paradigm students are empowered to take an active role in their own learning. Therefore, a university must identify the knowledge and skills that its graduates

will require without imposing a traditional way of teaching the curriculum. The students and instructors become the coproducers of learning, and the instructors become designers of learning methods and environments. The role of the university is no longer simply to transfer knowledge but instead to create environments and experiences that prepare students to discover and build knowledge for themselves. The instructor is no longer exclusively the “sage on the stage” but becomes the “guide on the side,” and often switches back and forth between the two roles.

This new paradigm strategically fits the development of distance education. In distance education, the focus is on developing nontraditional ways of producing learning in addition to lecturing. Thus, distance learning can be plotted on a continuum that ranges from providing instruction on-site at distant locations to providing education through the virtual classroom. The virtual classroom can be defined as instruction that is provided wholly or partially using media that permit interaction with students without the need for face-to-face meetings. The most salient characteristic of the virtual classroom is the use of technology to allow interaction between the instructor and students and among individual students, thus creating a virtual environment.

There is evidence that distance education is as effective a means for delivering information as the more traditional on-campus approaches. Gunawardena and Boverie (1993) found that the learning styles and satisfaction of on- and off-campus students were not significantly different. Furthermore, in comparing the performance of face-to-face and two-way video conferencing on complex problem-solving tasks requiring a high level of interaction, Rosetti and Surnyt (1984) found that the video conference group actually outperformed the face-to-face group. Haynes and Dillon (1992) compared traditional learning and two-way video conferencing on instructional tasks described by Gagne and Briggs (1979) and found no significant differences in learning gains. Smith, Smith, and Boone (2000) conducted a 2 x 2

repeated-measures analysis of variance to compare online instruction as an alternative to three modes of traditional instruction in special education: lecture, guided instruction, and collaborative discussion. They found that there were no significant differences between learning using the traditional and the online methods of instruction and found more interaction in the online discussions than in the face-to-face discussions.

The development of distance education materials should follow sound principles of instructional design. The decision of what is to be taught and how it should be taught should be governed by the development of an instructional strategy (Jonassen, Grabinger, and Harris, 1990). The overall instructional strategy is like a blueprint that diagrams what must be taught to achieve the desired outcomes. It then becomes a product that can be used as a prescription to develop, evaluate, and revise materials and as a framework from which class lecture materials, interactive group exercises, and homework assignments can be developed.

Distance education can be used for some aspects of most disciplines. For example, several institutions of higher education already have developed certificate programs, undergraduate programs, and graduate programs in health and physical education that are delivered using distance education methods. Eastern Oregon University, Emporia State University, Kutztown University, LaSalle University, the Medical College of Wisconsin, University of Wisconsin at Stevens Point, and Virginia Tech are among institutions integrating distance technology into their physical education programs.

Traditional programs that are heavily based in skill development and demonstration or require laboratory work can be offered in a distance education framework using interactive video interfaced with computers to facilitate a hands-on learning approach at a distance. Classes that use lecture and laboratory experiences are easily adapted to a distance education situation.

Course materials, including animals for dissection, are sent to class participants with video and written instructions and assignments.

Students in distance education settings perform as well or better on assignments, class activities, and exams when compared to campus-based students (St. Pierre, 1998). Nevertheless, students must maintain persistence and a clear focus to succeed in a distance learning situation. Self-direction, a passion for learning, and strong individual responsibility are important influences on achievement. There are indications that distance education works best for more mature, motivated, well-organized, and already accomplished learners (Rintala, 1998).

A common stereotype is "the loneliness of the long distance learner" (Eastmond 1995). Learning at a distance can be both isolating and highly interactive, and electronic connectedness is a different kind of interaction than what takes place in traditional classrooms; some learners are not comfortable with it. Lack of nonverbal cues can create misunderstanding, but communications protocols can be established and relationships among learners developed. Because humans are involved, social norms do develop in cyberspace, but they require new communications competencies. Online courses often feature consensus building and group projects, through which learners can develop skills in collaborating with distant colleagues and cooperating with diverse individuals. Such skills are increasingly needed in the global workplace (Dede 1996).

Answering charges that computer learning environments cannot duplicate the community of the classroom, Cook (1995) argues that the assumption of a sense of community in traditional classrooms may be false. If community is defined as shared interests, not geographic space, electronic communities are possible. Wiesenbergs and Hutton (1995) conclude that building a learning community is of critical importance to the creation of a successful virtual classroom.

Dede (1996) agrees that "to succeed, distributed learning must balance virtual and direct interaction in sustaining communion among people".

Perhaps more than any other distance media, the Internet and the Web help overcome the barriers of time and space in teaching and learning. Educational uses of the Internet are burgeoning. The University of Wisconsin-Extension's Distance Education Clearinghouse lists numerous institutions offering online instruction and corporate training is featured on AT&T's Center for Excellence in Distance Learning website. INTERNET WORLD's October 1995 issue gives examples of "The Internet in Education," including online degree programs offered by traditional institutions such as Penn State and Indiana University as well as nontraditional entities such as University Online and the Global Network Academy. Distance learning on the Internet usually takes one of the following forms (Wulf 1996): (1) electronic mail (delivery of course materials, sending in assignments, getting/giving feedback, using a course listserv, i.e., electronic discussion group); (2) bulletin boards/newsgroups for discussion of special topics; (3) downloading of course materials or tutorials; (4) interactive tutorials on the Web; (5) real-time, interactive conferencing using MOO (Multiuser Object Oriented) systems or Internet Relay Chat; (6) "intranets," corporate websites protected from outside access that distribute training for employees; and (7) informatics, the use of online databases, library catalogs, and gopher and websites to acquire information and pursue research related to study.

Examples of the use of these modes include the following. High school students with disabilities in Project DO-IT (Disabilities, Opportunities, Internetworking, Technology) connect with the University of Washington (UW) to receive instruction via e-mail, join worldwide discussion groups, and access online resources (Burgstahler 1995). The Distant Mentor project pairs workplace experts with school-to-work "apprentices" online; they can also simulate work

environments through desktop software with an audio channel connected through the Internet (Dede 1996). CUSeeMe software enables technology teacher education supervisors to observe student teachers using a desktop videoconference through the Internet ("Agricultural Education" 1996).

Advantages of delivering distance learning on the Internet include the following (Eastmond 1995; Wulf 1996): (1) time and place flexibility; (2) potential to reach a global audience; (3) no concern about compatibility of computer equipment and operating systems; (4) quick development time, compared to videos and CD-ROMs; (5) easy updating of content, as well as archival capabilities; and (6) usually lower development and operating costs, compared to satellite broadcasting, for example. Carefully designed Internet courses can enhance interactivity between instructors and learners and among learners, which is a serious limitation of some DL formats. Equity is often mentioned as a benefit of online learning; the relative anonymity of computer communication has the potential to give voice to those reluctant to speak in face-to-face situations and to allow learner contributions to be judged on their own merit, unaffected by "any obvious visual cultural markers" (Bates 1995). The medium also supports self-directed learning--computer conferencing requires learner motivation, self-discipline, and responsibility.

As with any medium, there are disadvantages. Reliance on learner initiative can be a drawback for those who prefer more structure. Learner success also depends on technical skills in computer operation and Internet navigation, as well as the ability to cope with technical difficulties. Information overload is also an issue; the volume of e-mail messages to read, reflect on, and respond to can be overwhelming, and the proliferation of databases and websites demands information management skills. Access to the Internet is still a problem for some rural areas and people with disabilities. Social isolation can be a drawback, and the lack of nonverbal

cues can hinder communication. Although the Internet can promote active learning, some contend that, like television, it can breed passivity (Filipczak 1995).

Filipczak (1995) notes that distance learning on the Internet can be cheaper, faster, and usually more efficient than other learning modes, but not necessarily more effective. As Dede (1996) puts it, "access to data does not automatically expand students' knowledge; the availability of information does not intrinsically create an internal framework of ideas". To help learners make effective use of distance learning methods, skilled facilitation is essential. Rohfeld and Hiemstra (1995) suggest ways to overcome the challenges of the electronic classroom: (1) establish the tone early in the course; (2) to overcome the text-based nature of online discussion and to build group rapport and cohesion, introduce participants to each other, match them with partners, and assign group projects; (3) offer training and guidelines to help learners acquire technical competence and manage discussions; (4) provide a variety of activities, such as debates, polling, reflection, and critique; and (5) use learning contracts to establish goals for participation. The following strategies are intended to make distance learning more effective (Bates 1995; Dede 1996; Eastmond 1995; Filipczak 1995):

- Understand the technology's strengths and weaknesses
- Provide technical training and orientation,
- Plan for technical failures and ensure access to technical support,
- Foster learning-to-learn, self-directed learning, and critical reflection skills,
- Develop information management skills to assist learners in selection and critical assessment,
- Mix modes--e.g., combine e-mail discussion with audio/video methods to enhance the social aspect,

- Structure learner-centered activities for both independent and group work that foster interaction.

In a report for the School of Continuing Studies at Indiana University and AT&T one of the questions raised is whether or not the use of distance learning technologies actually contributes to student learning. Hundreds of studies that attempt to assess the instructional effectiveness of new technologies in schools have been and continue to be conducted. This paper maintains that most studies focus their research on the mode of instruction, media attributes, the context of learning, and distance learning success factors. The learning effectiveness is measured in terms of traditional student achievement, such as test scores and final grades. Research summaries show positive results in learning effectiveness when education employs educational technology (AT&T, 1995).

A related concern to the question of learning effectiveness is the quality of the educational experience as demonstrated by: the quality of learning materials, the process of learning, the degree of freedom in pace, content, etc., and the level of the independence of the students. Ensuring high quality in distance education programs is a top priority of distance educators and should be a critical component in developing and assessing any program (AT&T, 1995).

Another concern, addressed in the first issue of Flexnews (1996), states that there can be poor education either in the traditional classroom setting or when delivered over a computer network in a new model. This assertion focuses on the need not to replicate a classroom, but to maximize the attributes of computer mediated communications technology. The article finishes by promoting the idea that educators must explore how to best integrate this new learning

context into their teaching styles and into the delivery of their particular subject matter (Flexnews, 1996).

Student Engagement

Researchers have defined student engagement in various ways, however all have agreed that students need to be engaged in the course at some level in order to be successful in the course. The following table lists some of the studies that have been completed along with the definition used to for student engagement or participation.

Table 3: Studies on Student Engagement and Participation

Author (s) & Date	Engagement and Participation theories
Saljo (1999), Wenger (1998)	Social learning states that learning occurs by interaction with others, and learning and participation are not separate activities.
Bento & Schuster (2003); Leidner & Jarvenpaa (1995); Webster & Hackley (1997)	Online learning is best accomplished when learners participate and collaborate in the class.
Wenger (1998)	Participation is a process of taking part and also to the relations with others that reflect this process.
Hrastinski (2008)	Online learner participation is a process of learning by taking part and maintaining relations with others. It is a complex process comprising doing, communicating, thinking, feeling and belonging, which occurs both online and offline.
Davies & Graff (2005)	The number of times a learner accesses the online course platform.
Lipponen et al., (2003)	One can define at least two forms of participation in CSCL (computer-supported collaborative learning) environments: writing notes and reading notes (lurking).
Vonderwell & Zachariah (2005)	Participation (is) taking part and joining in a dialogue for engaged and active learning. Participation is more than the total number of student postings in a discussion forum.
Vrasidas & McIsaac (1999)	The process consisting of the reciprocal actions of two or more actors within a given context.
Jiang & Ting (1999)	Learner participation in online learning is often related to the percentage of grade weight assigned to discussions.
Mason (1994)	Learners fall into three distinct groups in their online participation: active participants, lurkers (those who read

	messages but do not post messages), and those who do not take part.
Bloom (1984); Chickering & Gamson (1987); Fleming (1984)	Learner participation is an essential element for active and engaged learning.
Rovai & Barnum (2003)	Active interaction, counted as the number of messages posted by a student each week, is a predictor of perceived learning.
Dixson (2010)	Multiple communication channels may be related to higher engagement and student-student and instructor-student communication are strongly correlated with high student engagement.
Heiman (2008)	Students who received emails from the instructor had a higher rate of academic and social support than students who did not receive emails.

Vonderwell & Zachariah (2005) conducted their research using a case study to explore two graduate online courses being taught via the online delivery method. Two classes were explored with one class having 13 in-service teachers enrolled and the other class having 12 students, some of whom had technology planning in the K-12 educational system. The question that guided the research was “What factors influence learner participation?”. Some of the students in the classes were assigned roles such as: facilitator, critical reflector, and summarizer for discussion posts. The researchers found that those students who were assigned roles maintained more of an online presence and were engaged more in the class than those who did not have roles assigned.

Vrasidas & McIsaac (1999) examined face-to-face and online interaction in a graduate course using the interpretivist approach. The researchers collected all of the student work and email messages from the instructor’s mailbox to analyze student interaction with the instructor and the frequency of these interactions. Emoticons were also counted. The data showed that four areas affected the students’ engagement in the course.

1. Structure – If the students were required to engage in a discussion they would do so, but if engagement was not required the students did not participate as often as they did in the required discussion.
2. Class size – With a larger class of 15 students, if 2 do not engage there are still 13 other students who can participate and will allow for more discussion/participation by the remaining students. If a class has only 5 students and 2 do not engage that leaves only 3 students to participate and the discussion does not carry forward due to lack of numbers.
3. Feedback – If the instructor feedback is lacking to the students they then look to their classmates for feedback and interaction. However, when instructor feedback is lacking, students start to lose interest and do not engage so students lose not only instructor feedback but also feedback from classmates.
4. Prior experience – If students are comfortable with the course platform (Moodle, BlackBoard, i.e.) then their engagement increases. The opposite is also true so that if a student is not comfortable in maneuvering around in the platform their engagement is less.

Jiang & Ting (1999) studied 78 web based courses instructed using the same template at the State University of New York. The researchers employed an electronic survey of 14 questions given to all of the students enrolled in the 78 courses. 287 responses, 58%, were received to the electronic survey. The researchers discovered through the surveys that the student-instructor interaction and online discussion activity was related to the students perceived learning in the class. The more grade weight the instructor placed on the engagement of the students in the class discussions, the more the students were engaged.

Chickering and Gamson (1987) developed the seven principles of good practice in education:

1. *Encourage contact between students and faculty* – an important factor to keeping students motivated and involved is to have frequent contact with faculty members.
2. *Develop reciprocity and cooperation among students* – instead of having students working alone and being competitive, have them work together in groups and learn from each other. Share their ideas with classmates and then respond to their classmates ideas “sharpens thinking and deepens understanding”.
3. *Encourage active learning* – regurgitating what the student has been told in class does not assist in the learning process. Students need to talk about, write about, and become a part of what they are learning.
4. *Give prompt feedback* – when administering an assessment, faculty should give timely feedback in order to contribute to the learning process. Feedback not given in a timely manner, or worse, no feedback at all “contributes little to learning”.
5. *Emphasize time on task* – students should learn to use their time wisely.
6. *Communicate high expectations* – if students are held to high expectations and are required to meet those expectations, faculty are helping students to achieve course goals.
7. *Respect diverse talents and ways of learning* – not all students will learn the same way, they should be encouraged to use whichever way of learning works for them.

Hrastinski (2008) stated that being a part of a community is an important aspect of participation. Students who feel a part of the group will be more willing to participate and share with others than those who do not feel like a part of the community. In addition, the use of the

internet has made it easier to communicate more frequently with students and engage in collaborative work versus the self-directed learning of early distance education. Hrastinski also stated that participation can occur without talking or writing, it can also occur through thinking and reflective observation which assists in understanding. He concluded that engagement is a complex process comprising doing, communicating, thinking, feeling and belonging, which occurs both online and offline.

Davies and Graff (2005) conducted research to determine if online interaction improved student learning based on the final course grade. The study involved 122 first year students that were enrolled in a business degree course. Over the course of one year the researchers studied the number of times students accessed the learning platform and then compared these numbers to the students' final grades. They discovered in their study that the number of times a student accessed the learning platform, the higher probability they received a high grade in the course. Students who received a high-pass or medium pass grade had accessed the learning platform more times than those students with low passing grades. The researchers concluded that greater activity in the learning platform led to better a better grade in the course.

Lipponen et al. (2003) studied 23 students in an online science course with a focus on who participates and to what extent do they participate. The results showed that all students participated in the discussion boards, with participants making "between 7 and 39 posts with an average 16.00 (SD = 8.02)" posts. Almost 26% of the posts did not receive any response from other participants. The researchers' analysis showed that an average thread contained the starting post and two responses to that post. Three students had a very high number of posts while four participants had a very low number of posts. A conclusion resulting from the study was for the teacher to have the students who had a low number of posts become more actively involved in

the class and not allow them to be isolated, however no suggestions were made as to what methods the instructor should employ to increase the engagement of the students who had a low number of postings.

Webster and Hackley (1997) conducted research to study teacher effectiveness in distance learning classes. The study was conducted on 29 distance learning courses during two semesters at six different North American universities, courses covered eight different topics. One of the hypotheses proposed by the researchers was that a more interactive teaching style would increase participation by the students. Through a qualitative study the researchers concluded that students that were enrolled in a more interactive course did have a higher participation rate. In another hypothesis it was proposed that a positive relationship between students would support participation in the class. There was little to support this hypothesis but the researchers did notice that while discussing technology with one of the participants who was positive about the technology used in the course another student joined the conversation and made negative comments about the technology. The student who was positive about the technology eventually began to agree with the student who was making the negative comments.

Rovai and Barnum (2003) conducted their research with 328 graduate students who were enrolled in 19 different online courses. All of the courses studied were completed in one semester and used the BlackBoard platform as the course management system. In order to measure perceived learning in the course, students self-reported their learning using a scale of 0 to 9 and answering the question “how much did you learn in this course with 0 meaning you learned nothing and 9 meaning you learned more than in any other course” (Rovai & Barnum, 2003). Using the BlackBoard system researchers generated reports on course usage and activity. To gauge active interaction the number of messages posted on the discussion boards by the

students per week was calculated. To gauge passive interaction the number of times a student accessed the course discussion boards per week were counted. Passive interaction was defined as students logging into the discussion board but no posting was done, students may have been reading other posts or developing ideas for their posts. The evidence from this study suggested that the “students perceived that learning from online courses was positively related to quantitative measures of course interaction” (Rovai & Barnum, 2003). Evidence also suggested that students perceived that if they participated less than others in the discussion boards, they learned less. The researchers also concluded that faculty should promote active interaction because students perceived that their learning was greater and this perception may lead to higher levels of learner satisfaction.

Heiman (2008) examined the effect on students of email messages sent to students by the academic staff of the institution. The study was completed on 229 students that were enrolled in a graduate online program in social sciences during one semester. “The study examined the students’ perceived social support, academic satisfaction, academic outcomes, and the coping strategies of the students” (Heiman, 2008). Heiman hypothesized that there would be differences between the students who received the emails and the control group who did not receive the emails. Emails were sent out to the students private email account every two weeks throughout the semester and were two to three sentences in length. The emails were sent to express an interest in the “students’ academic studies and social feeling” (Heiman, 2008). The conclusion reached in the study was that students that received the email messages perceived higher levels of social and academic support, and were more satisfied with the course than the students who did not receive the emails.

Dixson (2010) developed four questions to research, one of which was “what types of active learning in online courses do students report as engaging”. Dixson studied 186 students enrolled in 38 various courses over the span of one semester. To gather data for the study students were asked to complete a modified Student Course Engagement Questionnaire which was originally developed in a 2005 study by Handelsman, Briggs, Sullivan, and Towler. The findings of the study listed some of the activities students found to be engaging such as; “application activities (having to apply the concepts to case studies or problem solving); discussion forums about the concepts, labs and group projects, research papers, and current events assignments” (Dixson, 2010). There was no significant difference between active and passive activities leading to student engagement which led to a conclusion that many different types of activities can be used to engage students in an online course. The researcher concluded that the path to engagement was not about the type of activity but rather the ways developed to create “meaningful communication between the students and their instructor” (Dixson, 2010).

The studies mentioned above all define engagement in similar ways to each other with a few varying ideas included. These studies all agree on one thing and that is that engagement is needed for the students to have learning occur in the class. This engagement can be a form of written dialogue, verbal dialogue, or simply logging into the class platform site. Whichever method of engagement the students subscribe to or are required to perform in the class the studies show that there needs to be some form of engagement for learning to occur.

The Future of Distance Learning

What is the future of distance learning technologies in education? What are the prospects and implications? The report "Reinventing Schools: The Technology is Now!" states that education will look different than it does in most schools today. In a year-round model, schools

might be open all day and all year, with groups of students rotating in and out of session.

Following the trend toward multi-age grouping, classrooms might include students of different ages. Traditional 50-minute classes will stretch or disappear to accommodate activities made possible by technology. A multi-disciplinary approach toward teaching and learning will result in longer-term projects that cut across disciplines, combining the subject matter of previously separate classes. Multiple choice tests will be replaced by new kinds of assessments that measure the acquisition of higher-order skills. The ultimate goal of this new model of education is to foster communities of lifelong learners, where intellect and cooperation are highly valued. Within these communities, decisions will be made by those in the best position to make them - by students, teachers, and educational administrators. The elements of this new model of education are starting to appear in scattered communities across the United States. Schools are experimenting with new organizational structures, new forms of governance, and new uses of technology that are designed to reflect the constant flux of modern society. This trend is about to accelerate dramatically. As distance learning technologies become more powerful and plentiful, and as the needs of society more urgently call for a new model of education, American schools will be called irresistible forces of change (National Academy of Sciences, 1996).

Distance learning provides an excellent opportunity to those who would otherwise be unable to seek a higher education. By pursuing an online college degree, the student has flexibility in planning their schedule on a daily basis and therefore more control of their day to day life.

Technology is a driving force that should be used for the benefit of education but not as an end in itself. It should be used to extend opportunities for learning to new groups, to make learning more efficient and flexible, and to enrich the learning process. Technology has the

potential to augment three major goals of educational reform: better access, quality, and productivity. It is up to professionals in the field to embrace it, challenge it, help in its development, and use it to enable the fields of education and rehabilitation of individuals who are visually impaired to bring quality, appropriate, and timely services to those they serve.

Although distance education is a rapidly growing educational and training strategy and confidence is growing that it will be an important element of future education and training systems, it is not a cure all. Some of the most common obstacles are the inadequate technology infrastructure, planning and program deficiencies, the lack of human capacity and expertise, inadequate economic resources, the lack of recognition of educational equivalence, and the neglect of learning conditions and cultural aspects.

During the 1910–20's, lantern slides, motion pictures, and the radio, which were considered promising new technologies for correspondence instruction, had a dramatic effect on people's lives. Radio, television, cable networks, and now the Internet and the World Wide Web have had a major effect on and role in the learning process and educational systems of the baby-boomer, yuppie, and X generations. Now the present generation is being referred to as the net generation and the millennials (Howe and Strauss, 2003), and as television affected the baby-boomer generation, the Internet, World Wide Web, virtual reality experiences, and yet-to-come technologies will affect the current and future generations in ways that cannot even be imagined. Today's students are more comfortable with self-directed learning and using electronic learning tools than are most of their teachers. Educators must not only be aware of a nation without boundaries, but must keep up to date with existing and emerging technologies and be prepared for students who are more divergent thinkers and help to create opportunities for new learning methods and modes of service delivery.

Summary of the Literature

Distance education has used the technology available at the time to deliver instruction since the early 1900's. However, distance education has only become popular in the United States since the 1980's. Distant education course offerings have evolved from correspondence through mail, to being supported by either video or audio tapes, to radio and television broadcasts, to the use of technology in various means to support the instruction. The use of technology to deliver instruction has allowed students to engage in the course through either sound or videos, and most recently through both sound and video simultaneously.

As institutions face increasing numbers of students the question arises if distance education is a way to cope with the rising enrollment numbers or is it a meaningful educational experience. Enrollment in distance education courses is growing at all levels of education as more students look to this medium to gain their academic credentials. The percentage of students enrolled in distance learning classes is rising faster (22%) than the overall campus enrollment percentage (2%). Students are enrolling in distance education classes at the undergraduate level and also at the graduate level as more institutions are offering these types of courses. As technology advances the options to offer distance education courses for institutions increase.

The research supports that interaction between instructor and student is an important aspect of learning and that students perform at a higher level when this interaction is available to them. What is not supported is what type of interactions are effective from the viewpoint of the student and lead to better engagement, as it is defined in this study, in the learning process by the student. What is also not supported is if the interaction is more effective in a synchronous or asynchronous method from the viewpoint of the student. Simply taking a skilled face-to-face faculty member and placing them in the online environment does not ensure a successful learning

experience. Faculty need to be trained in technology and understand how to manage distance learning tools in order to be an effective instructor in the online environment. The instructor should follow the same sound principles of instructional design for the online course as they do for the face-to-face course. A carefully designed online course can enhance the interactivity between instructors and learners and among learners.

There can be disadvantages to online learning. If students do not have the ability to handle technological issues such as: their computer crashing, navigation of the Internet, and access to the Internet their success in the course may not be achievable. Taking an entire program of study via the Internet can also lead to isolation and hinder the students' social skills. Even with these disadvantages to online learning a high quality distance education program can be achieved if the course is properly designed and instructed.

Researchers have agreed that students need to be engaged in an online course in order to be successful in the course. The level of engagement and what constitutes engagement has varied depending on the research being studied. The levels of engagement have varied from the students logging into the course constituting engagement up to students having to post written dialogue or participating in some online discussion activity to be considered engaged. The studies reviewed all show that there needs to be some form of engagement for learning to occur.

As technology continues to move forward, so must the institutions thinking of how to best use this technology to educate students. Distance education will be an important part of educating students and training professionals in all careers. Just as television affected the baby-boomer generation and how they learned, the Internet and World Wide Web will affect the net generation and millennials. Educators need to be aware of these new technologies and develop new learning methods around these technologies in order to create opportunities for learners.

CHAPTER 3

RESEARCH METHODOLOGY

Research Design

The goal of this study is to explore what strategies are effective, from a student's perspective, in keeping the students engaged/participating in the course. This qualitative research study will follow the phenomenological methodology. This research design will allow the experiences and thoughts of the students to be presented about what strategies kept them engaged in the course.

The class that was purposefully selected to be interviewed was chosen based on the criterion method using the following criteria; an online class in a different division of the college than the researcher in order to avoid a conflict of interest, an online class with a minimum of 20 students enrolled in the course, and an online class that was required in programs that were offered 100% online. The instructor of the class that was interviewed was contacted by the researcher to determine if they were agreeable to allowing the researcher to study the class and to understand what methods of engagement were currently used in the course. The class purposefully selected for this study met during the spring semester in an online format. The institution where the study was performed used the Moodle platform to offer distance courses to their students.

The instructor of the course won the Outstanding Faculty award at the institution two years ago for their work in the online environment. When the researcher spoke to the instructor they were very open to allowing the researcher the opportunity to interview the students. The researcher purposefully selected a course where the following techniques of student engagement were used by the instructor: discussion boards, videos, email, phone calls, video conferencing,

and assignments that **MUST** be completed on time. The students also perform labs for the course at home and then must discuss their results with other students in the class about what was discovered.

The particular class selected through criterion sampling had 22 students enrolled and the researcher had 12 students agree to be interviewed. The researcher emailed the class (Appendix D) and asked for 12 volunteers to take part in the interviews. A preference was given to those who had previous online experience in other courses in order to better evaluate student experiences.

The research study is designed around one central question “In distance education courses what strategies are effective, from a students perspective, in keeping the students engaged/participating in the course?” To assist in answering the central question the following sub questions were explored:

- How do participants describe the activities and techniques the instructor used to help them connect with their classmates and also with the instructor?
- How do participants describe the activities and techniques the instructor used to engage them in the content of the class?
- How do participants describe the activities and techniques the instructor used to keep them on task?
- How do participants describe the activities and techniques the instructor used to create a sense of community (a feeling that you matter to class and each other) in the online course?
- How do the participants describe their level of engagement in the online course?

- How do the participants describe any barriers they encountered to being engaged in the course?
- How could the instructor:
 - Help them connect more with their classmates and also the instructor?
 - Engage them more in the content of the class?
 - Keep them more on task?
 - Create more of a sense of community?
- From the perspective of the participants, how could the instructor use cutting edge technologies (i.e., twitter, Facebook) that would assist in keeping them engaged in the course?

The participants' responses to these questions will provide new insight into the effectiveness of strategies employed to engage students in distance education courses from the viewpoint of the student. Exploring the answers to these questions will allow for the development and adaptation of additional practices to be imbedded in future distance education courses in order to enhance the pedagogy of distance education degree programs. As mentioned earlier, this study focuses on the student's viewpoint of the engagement strategies in distance learning classes, whereas other studies have focused on the instructor's viewpoint.

Personal Disclosure Statement

My educational background has centered on studies in business from the management and administration viewpoint. I have attended a community college and a private catholic college that became a university during my attendance. To continue my education I chose a large, Midwestern, tier 1 research institution because of the flexibility of the program I wanted to complete.

My experience with face-to-face education has been as both a student and an instructor in a post-secondary environment. As a student enrolled at a community college and private catholic college all of my courses were completed via the traditional mode of delivery. At the time of my undergraduate studies distance education was not as popular an offering as it is today, and many individuals frowned upon the mention of taking distance education courses. As a graduate student I enrolled in two distance education courses to complete my Master's degree at a private catholic college. As a doctoral student all of my courses have been completed via the distance education mode of delivery. As an instructor I have taught in the traditional face-to-face mode for nine years and in the online mode for the past three years. Throughout my experience in distance education courses, I have encountered different teaching styles and the use of digital audio was not prevalent. As I complete my degree I want to develop information on the use of engagement strategies in online courses so that future students and instructors can take advantage of this technology in their courses. This information is needed if students and instructors are to improve the educational experience for everyone.

Qualitative Research

A qualitative research process is an analysis of some social phenomenon and non-statistical methods of inquiry. "Interpretivists study phenomena in their natural settings and strive to make sense of, or to interpret, phenomena with respect to the meanings people bring" (Denzin & Lincoln, 2005). Qualitative research is used when quantitative measures and statistical analysis simply do not fit the problem" (Creswell, 2007). It is these factors that make the qualitative approach the most appropriate choice for this study.

Many books have been written on developing a qualitative research study (Creswell, 2007; Richards & Morse, 2007; Stake, 1995; Hatch, 2002). Some key qualitative research findings from these authors are as follows:

- Qualitative research questions typically orient to cases or phenomena, seeking patterns of unanticipated as well as expected relationships (Stake, 1995).
- For qualitative researchers, the lived experiences of real people in real settings are the objects of study (Hatch, 2002).
- Qualitative research seeks to understand the world from the perspectives of those living in it (Hatch, 2002).
- Qualitative researchers tend to collect data in the field at the site where participants' experience the issue or problem under study. They do not bring individuals into a lab (a contrived situation), nor do they typically send out instruments for individuals to complete (Creswell, 2007).
- Qualitative researchers start with areas of interest or general, rather than specific, research questions. They may not know very much about the topic at the start, and even if they do, they seek to learn more through the data (Richards & Morse, 2007).

Phenomenological Research

“Phenomenologist’s focus on describing what all participants have in common as they experience a phenomenon” (Creswell, 2002). The researcher collects data from individuals who have shared the experience and “develops a composite description of the essence of the experience for all of the individuals” (Creswell, 2002).

It is important in a phenomenological study to set aside the researchers experience and concentrate on the study being conducted, a concept called bracketing. As an individual who has

enrolled in and instructed online courses it is important that this researcher bracket those experiences in order to conduct an effective study.

Study Participants

According to Creswell (2002), criterion sampling is an appropriate methodology for qualitative phenomenology research, where the goal is to gather in-depth input and insights about the topic from a few participants who have met some criterion. Criterion sampling “works well when all individuals studied represent people who have experienced the phenomenon” (Creswell, 2002). Accordingly, criterion sampling was used to select participants to interview for this study.

In selecting participants for the sample, in order to present “multiple perspectives of individuals in order to represent the complexity” of the issue, a criterion sampling (Creswell, 2002) technique was used to select the student participants. Therefore, a group of participants currently enrolled in a distance education course was selected from a small sized North Carolina community college. Participants were selected from the same online class at the community college to ensure the same lived experience. The class selected was selected from a division not associated with this researcher, an online class with a minimum of 20 students enrolled in the course, and an online class that was required in programs that were offered 100% online. In addition, the faculty member of the class selected was not a direct report to this researcher to ensure that there was not a conflict of interest. Volunteer participants to be interviewed were selected via email from the class roster of the selected course.

Data Collection Procedures

Interviews were completed with the participants and transcribed to form the raw data for this research study. The interviews revealed the participants thoughts about the engagement strategies employed in their course and how it affects their engagement, as it is defined in this

study, in the course. The raw data in this study includes the interviews with the participants, and insight provided by the participants.

Participants for this study were asked to participate in a semi-structured interview which is appropriate to use “when the researcher knows enough about the study topic to frame the needed discussion in advance” (Richards & Morse, 2007). The goal of the interviews was to discover the participants’ experiences with being engaged in the online course in which they are enrolled. Questions were asked in an effort to get as much detail as possible from the participants and followed the format in Appendix A. Interviews were conducted during the spring 2013 academic semester. Interviews were scheduled between March and April of 2013 to allow for the participants availability and lasted no more than ninety minutes.

Interviews took place through telephone calls and meeting at an interview site. The interview protocol (Appendix A) was followed and the researcher allowed the participants to share any additional information the participants deemed necessary to the interview. To ensure consistency and standardization, participants essentially answered the same questions. The interviews consisted of open-ended questions that explored teacher immediacy behaviors and engagement strategies in the course and their effectiveness:

- What does your instructor do to help you connect with the instructor and your classmates in the virtual classroom?
 - How does this make you engage in the class?
 - What techniques from other classes could this instructor have used to engage you?
- What did the instructor do to engage you in the content of the class?
 - What did the instructor do to engage you in learning the material?
 - What kept you engaged in learning the material?

- Describe how the course was facilitated to keep you on task?
- How did the instructor create a sense of community (a feeling that you matter to class and each other) in the online course?
 - If none was present, what could the instructor have done to accomplish this feeling of community?
- Did you have a high (or low) level of engagement in the online course environment?
 - Why did you have that level of engagement?
 - How was engagement achieved in this course?
 - Describe how you were engaged through assignments, discussion boards, required login times, etc?
- What could your instructor do to enhance your engagement in an online course?
- What barriers have you encountered to being engaged in the course? For example was your microphone working, were you able to download all materials, did your internet connection work properly, were you able to access everything used in the course?
- What technologies do you perceive to be cutting edge that could assist in keeping you engaged in the course?

Interview questions were pilot-tested on a colleague to gauge time required and fluency of responses. All interviews were recorded first, and then transcribed verbatim by the researcher. The researcher then sent the interview transcript to each participant for review, validation and feedback and obtained signed consent forms (Appendix B) from each participant.

Data Analysis Procedures

“Data analysis in qualitative research consists of preparing and organizing the data (i.e., text data as in transcripts, or image data as in photographs) for analysis, then reducing the data

into themes through a process of coding and condensing the codes, and finally presenting the data in figures, tables, or a discussion” (Creswell, 2007).

The data gathered during the interview process was transcribed into text exactly as told to the researcher by the participant. The transcripts were then sent out to the participants for their review of accuracy and correction of any errors. After the transcripts were verified for accuracy, Stake (1995) advocates that the data is aggregated in order to develop themes that are evident. Data from the interviews was analyzed at two levels: within each case and across the cases (Stake, 1995; Yin, 2003). The researcher did not use qualitative software for storing data, coding and developing themes; opting instead to analyze the data manually in the following way: (1) carefully reading and re-reading the data collected; (2) coding the data from the respective interviews by segmenting and labeling the text; (3) developing themes based on the codes in the data; (4) reviewing all the transcripts and codes to verify and ensure agreement; (5) reviewing themes and codes across all the cases, and developing general themes across all the cases; (6) comparing and contrasting the results with the literature.

The researcher compared codes and themes across all interviews, and categorized the themes into the following eight main topics that were selected based on the number of participants who have articulated the similar perceptions and experiences. These include: (a) strategies of instructors to virtual classroom instruction, (b) engagement in virtual classroom, (c) facilitation of tasks, (d) creation of sense of community, (e) engagement in virtual learning environment, (f) enhancement of learning engagement, (g) barriers of engagement, and (h) helpful technologies in online learning.

Validation Strategies

In order to ensure that data analysis is valid and accurate the researcher incorporated three commonly used standards in qualitative research. According to Creswell (2007), the three commonly used forms of validation for qualitative research are triangulation, member checking, and external auditors. In addition, Merriam (1988) lists six strategies that allow the researcher to ensure internal validity including: Triangulation, member checks, long-term observation, peer examination, participatory modes of research, and researcher's biases.

“Triangulation is the process of corroborating evidence from different individuals, types of data, or methods of data collection in descriptions and themes in qualitative research” (Creswell, 2007). The researcher accomplished triangulation through the interviews of the students and searching the data for evidence to support a common theme. The researcher interviewed the students to discover consistencies in their answers in order to develop ideas and themes. A peer reviewer also reviewed the transcripts of the interviews to determine the accuracy of the researchers' analysis.

Member checking “is a process in which the researcher asks one or more participants in the study to check the accuracy of the account” (Creswell, 2007). As mentioned earlier the researcher transcribed the interviews of the study participants and then requested each participant review the transcript of their interview to ensure its accuracy. This process ensured that the transcripts were accurate and allowed for fair interpretations of the data by the researcher. This also ensured that the student's thoughts and ideas on engagement in a distance education course were heard and recorded by the researcher.

An external audit, whereby “the researcher hires or obtains the services of an individual outside the study to review different aspects of the research” (Creswell, 2007) was employed to

ensure the data valid and accurate. A colleague at the institution where the researcher is employed volunteered to review the study both during and at the conclusion of the study to ensure its validity and accuracy. The auditor reviewed the methodology, transcripts of the interviews, and the results and analysis to determine if the data supported the conclusions and findings of this study. The researcher consulted with their advisor, supervisory committee, and other professors familiar with the pedagogy involved in different modes of instruction on the methodology of this study.

Strategies for protection of Human Subjects

Before undertaking this research study, the researcher obtained approval for the study from the University of Nebraska Institutional Research Board (IRB) (Appendix C). Signed consent forms (Appendix B) were obtained from all research participants prior to any research being conducted and all participants were informed via verbal and written form that their participation in the study was voluntary. Any names contained in the study have been changed in order to protect the study participants. All transcribed and recorded data will be destroyed at the conclusion of this dissertation and in accordance with IRB guidelines.

CHAPTER 4

RESULTS AND ANALYSIS

The purpose of this qualitative phenomenological study was to explore the experiences of the students in an online course by describing the strategies, behaviors, and types of interaction that engages the student in the course. The data gathered from the results could then be used for the improvement of the instructional design of online courses. Phenomenology studies allow the researcher to relive and understand the phenomenon by exploring the experiences and thoughts of students concerning effective and ineffective strategies that engages students enrolled in a distance online course.

The present study is bounded at examining the experiences of students in class discussion boards, videos, synchronous meetings, instructor interactions, and other activities designed to engage the student in the class. A purposeful, criterion sample of 12 students were selected from a different division of the college from where the researcher has been assigned. The online class that has been selected for this study used the Moodle platform as its course management system to offer online learning. This sample population has been asked to answer the following research questions: (a) What does your instructor do to help you connect with the instructor and your classmates in the virtual classroom? (b) What did the instructor do to engage you in the content of the class? (c) Describe how the course was facilitated to keep you on task? (d) How did the instructor create a sense of community (a feeling that you matter to class and each other) in the online course? (e) Did you have a high (or low) level of engagement in the online course environment? (f) What could your instructor do to enhance your engagement in an online course? (g) What barriers have you encountered to being engaged in the course? and (h) What

technologies do you perceive to be cutting edge that could assist in keeping you engaged in the course? These questions will be answered in the subsequent section.

Data Organization and Analysis

Data organization involves the arrangement of transcript data in selected format for data reduction process. In this stage, only the data that are relevant were coded and arranged in categories that corresponded to the research and interview questions. This process is known in phenomenology as the process of reduction, coding, and condensing of codes that are relevant to the phenomenon examined (Creswell, 2007). This study followed the data coding protocols discussed by Creswell (2007) as open coding, axial coding, and selective coding, which are geared towards addressing the research goal of determining appropriate strategies that are effective in keeping the students engaged/participating in the course. These coding protocols guide the reduction, codification, and selection of relevant experiences concerning the phenomenon examined in this study. Open coding refers to the terms and phrases associated to the interview and research questions. The researcher matched and classified the responses of the participants to the interview and research questions. In this stage, open codes were noted for each of the responses that answers the interview question. For instance, the open codes for the research question on strategies of instructors in virtual classroom instruction were taken from the terms and phrases the participants articulated in their responses to the three interview questions: what does your instructor do to help you connect with the instructor and your classmates in the virtual classroom? (b) how does this make you engage in the class? and (c) what techniques have you seen or used in other classes. Each of the responses in these questions were identified to proceed with the axial coding.

Axial coding refers to the process of categorizing the open codes into themes. In this stage, the researcher grouped the open codes with shared meaning. For instance, the open code *forum* articulated by Participant #1 as a response to the strategy of how teachers connect with their students was grouped into the open code *active participation of the instructor*. These two open codes were grouped into one open code, which was then renamed as “regular online postings to virtual learning platform” to define that online forums should be made regular components of online courses to initiate the active participation of students and instructor. Each theme was then examined in the selective coding stage and the number of occurrences it appeared in the interviews with the participants was determined. This protocol illustrates how voluminous textual data are reduced, coded, and selected to provide answers as well as evidences to the research questions that the researcher of the study intends to address.

During the process of data organization and analysis the following steps were observed: (1) carefully reading and re-reading the data collected; (2) coding the data from the respective interviews by segmenting and labeling the text; (3) developing themes based on the codes in the data; (4) reviewing all the transcripts and codes to verify and ensure agreement; (5) reviewing themes and codes across all the cases, and developing general themes across all the cases; (6) and as will be discussed in chapter 5 of this study, comparing and contrasting the results with the literature. In this process, eight thematic categories emerged from the open coding process, and were selected based on the number of participants who have articulated the similar perceptions and experiences. These include: (a) strategies of instructors to virtual classroom instruction, (b) engagement in virtual classroom, (c) facilitation of tasks, (d) creation of sense of community, (e) engagement in virtual learning environment, (f) enhancement of learning engagement, (g) barriers of engagement, and (h) helpful technologies in online learning. These axial codes

emerged based on the questions posed during the interviews with the participants. However, selective coding combined two of the axial codes due to limited frequency. The participants had supported the themes corresponding to the axial codes and subsequently merged other relevant codes to thematic categories that received higher responses. The axial categories of codes that were combined are: (a) barriers of engagement, and (b) enhancement of learning engagement. These codes include technical difficulty, subjects requiring high end technology, use of software infrastructure, reading online materials, use of browser, actual discussion, regular and speedy communication, interaction, video reviews, and graphical presentation. The decision to combine these categories of codes was justified because of the belief that all barriers of learning engagement require appropriate enhancement mechanisms such that the codes within the enhancement of learning would indicate certain barriers requiring improvement strategy.

Results of the Selected Coding

Analysis of the data generated six thematic categories from the review of the individual transcripts of the 12 participants involved in the study. These thematic categories were supported with the common elements culled from the open, axial, and selective coding process designed to answer “what strategies, based on the students’ perspective, are effective in engaging students in virtual learning?” The categories identified were: (a) strategies of instructors in virtual classroom instruction, (b) intrinsic motivation of students' engagement in virtual classroom, (c) factors that facilitates completion of online tasks, (d) creation of sense of community, (e) domains of engagement in virtual learning environment, and (f) technologies that enhances students’ engagement.

The first thematic category, *strategies of instructors in virtual classroom instruction*, emerged because of the 10 common elements representing the current strategies the students had

experienced with their online instructors. Table 4 shows the strategies the online instructors used with the number of participants who offered this observation.

Table 4: Thematic Category 1- Strategies of Instructors in Virtual Classroom Instruction

Common Elements	No. of participants to offer this experience	Percent (%) of participants to offer this experience
Regular online postings to virtual learning platform	12	100%
Graded assignments and discussion board participation	12	100%
Use of interactive teaching materials (video, web based tutorial, lecture notes)	9	75%
Use of virtual laboratory (e.g., biology class)	8	67%
Initiated group contacts	8	67%
Instructors publicly appreciates coursework achievers	8	67%
Use of discussion forum for students to discuss learning content	8	67%
Use of email forum	7	58%
Instructors initiated private emails to follow-up students	7	58%
Provides regular feedbacks with submitted requirements and online postings	7	58%

Two of the common elements, regular online postings and graded assignments and discussion board participation were responded to by all 12 participants. This indicates that these are the commonly adapted online strategies of instructors in facilitating instruction via the online format. Participant #2 stated:

“Every discussion board they just require us to actually do work different than reading the text or the lab work itself, it actively engages us to go and do a critical thinking kind of a mode into actually indulge the question and kind of break it apart and answering different various texts and modes. And she's always posting

in a forum where all the students are chatting with the instructor and it keeps it going.”

Participant #6, on the other hand, stated:

“All of my instructors encourage us to partake in discussion forums. Some of them are graded and they're required. And others are, um, have been discussions on whatever topic might be available for the class. And they are not graded on grammar and such, so that we can feel free to talk about whatever we want to without, you know, worrying about if we're covering any type of criteria during our discussions.”

The third common element, *use of interactive teaching materials (video, web based tutorial, lecture notes*, had been reiterated by nine participants across their interview responses.

Participant #9 described this material as:

“The use of interactive websites. They have really helped as far as, uh, illustrating. But, uh, I, I, I've noticed that the PowerPoint really helped it as far as helping me to understand what's going on.”

Participant #7 supported this by stating:

“...would personally like maybe some more video or graphics in learning online, sometimes I could be a visual learner. One thing I have to say is one instructor I have had in the past has done like media conferences or Skype type sessions with you, the entire class could join and go over notes and stuff like that.”

Eight of the participants claimed that technical classes that require the laboratories to enrich understanding used the virtual laboratories. These participants noted that instructors linked their virtual classrooms thru websites that provide the students with engagement

laboratory activities. For instance, Participant #6 described the biology class experience where the instructor led them to a website that offers activity with the use of a microscope. Participant #6 shared:

“I have instructors that have, um, virtual, uh, they have links to outside websites that are virtual experiences. For example, in biology they have virtual labs, where you're looking through a microscope, but you're really just looking at a computer screen, which is very engaging, very engaging, especially when you're learning online and you're not in a lab.”

Eight of the participants also commented that their instructors initiated the group contacts to motivate students in interacting with their classmates concerning their assignment and projects. While there were participants who commented on the effectiveness of this strategy in engaging students in learning, a few of the participants indicated some difficulty in having this activity in the virtual classroom environment. Participant #1 said:

“Without a classroom there really isn't. Group projects were attempted but even in the group project participation was low, around fifty percent of the group.”

Eight of the participants also confirmed that their instructor utilized positive affirmation to inspire and motivate the students in the coursework. Participant #7 said:

“I've had a lot of one on one emails from professors saying what positive and good things that I have done in a class and discussions, discussion boards and stuff professors have commented on. Multiple people's discussion and got engaged in the conversation with them.”

The participants highlighted the use of a discussion forum in the students' engagement to course learning contents. The participants claimed that the forum provides a good venue to interact and to be given immediate feedback. Participant #8 described this as:

“Occasionally we have the class discussions and what not and that's a good little forum posting area in case we have any questions regarding whether it be biology labs or just the test itself is useful. And of course he does have his office number, his office times and different ways of contacting her which, I mean, it is good enough. But as far as actually bringing everyone together, I think the farthest it would go is to simply having us call her on each other's lab results.”

Two common codes from over 50% of the study participants mentioned that important aspects of keeping them engaged in the class revolved around emails from the instructor. Participants mentioned the use of emails to keep them focused on what was happening in the class particularly the scheduling and knowing what assignments were coming due in the near future. In addition, an email from the instructor providing some form of feedback on the assignment allowed the student to understand where they did well and where they needed to work harder, keeping the students focused and engaged.

The second thematic category, *intrinsic motivation of students' engagement in the virtual classroom*, emerged from the eight common elements that represent all intrinsic motivations that online instructors must note to ensure the effective delivery of learning content via the online learning environment.

Table 5: Thematic Category 2 - Intrinsic motivation of students' engagement in virtual classroom

Common Elements	No. of participants to offer this experience	Percent (%) of participants to offer this experience
Personal commitment to finish the coursework	12	100%
Appreciation received from instructor engages students	12	100%
Interactive teaching materials facilitates students' engagement	11	92%
Provides regular feedbacks with submitted requirements and online postings	10	83%
Depends on the students' interest on the subject and modular matter	10	83%
Depends on the subject that the students are enrolled	10	83%
Commitment to earn higher grade	9	75%
General technical courses require less opinion	6	50%

Among the top motivations identified by students were (a) personal commitment to finish the coursework, and (b) appreciation received from instructor engages students. It can be noted that these students are paying their tuition fees to attend a specific course, thus their main motivation is to finish the course work in which they have a significant investment. Participant #9 stated:

“And knowing that I signed up for it. And spent my money. I signed up for it. And I want to see it through.”

Meantime, the common element, *appreciation received from instructor engages students*, suggests that students are motivated when their coursework has been appreciated by their online instructors. For them, the hard work of completing the requirements is paid off by an instructor who does not just ignore their work. Participant #4 particularly shared:

“I’ve had a lot of one on one emails from professors saying what positive and good things that I have done in a class and discussions, discussion boards and stuff professors have commented on. Multiple people’s discussion and got engaged in the conversation with them.

The third element, *interactive teaching materials facilitates students’ engagement*, suggests that though students are enrolled via an online learning environment, the clamor of getting interaction with different learners in a specific topic remains. This means that while students are expected to be an independent learner, they too need other perspectives that may not be aligned with their individual opinion but are important in shaping their perspective in a specific topic of interest. This situation has been specifically shared by participant #10 who clarifies the need for face-to-face interaction. They said:

“I would like if there was more kind of face-to-face interaction with things like looking on Skype, anything like that. Or I guess like taking pictures of posting like Instagram or something. I mean, I know that’s kind of not possible right now, probably. But it’s just hard sometimes when everybody is just a name and a little picture in our discussion forum. It’s not like you really can see them or get to know them, you know.

Ten of the participants claimed that regular feedbacks on submitted requirements and the online postings facilitate the students’ interest to interact and assert their ideas further. Participant #10 explained that feedback from the instructor becomes their basis in improving their performance in class. Participant #10 said:

“I’m not sure. I guess that in our discussion questions I feel engaged in, in the discussions. And I get feedback from other students. And my teacher at the end,

she'll like look at assignments. And she'll give me feedback so I'll know what to do. And how to do it better, I guess?

Meantime, 10 of the participants said that even if students are given some regular feedback concerning their performance in the academic requirements, engagement in coursework depends largely with the interest of students in the subjects as well as the modular core course.

Participant #12 particularly stressed their interest on:

“Some of my other classes, um, it's really more about um, if the subject interests me.”

Seventy-five percent of the participants in the study mentioned that the motivation for the course came from wanting to be successful in the course and earn a passing grade. Participant #1 supported this and stated:

“Part of it is the grade. Part of it, yeah, I don't even know, for me, I don't think that it's anything that could be improved as far as on the school side, or the software, or the teachers. It's just, uh, self-discipline and, you know, personal goals, and wanting to do your best and apply yourself and get it done.”

Participants were enrolled in this course to earn their degree at the community college but also needed a passing grade to ensure the grade would then transfer to a 4-year institution.

Some participants like #6 stated:

“Um, it depends on the subject, again, and, and the, for me, it depends on the subject and the interest. I'm much more interested in economics and business than I am in biology and math, so it's hard to engage. I can't think of any way that for, as far as the, the subjects that I'm not personally interested in.”

Participant #3 stated:

“For one, my interest because I am already in a science field, um, every day to day, two, I had more time and I was more interested in the topic. And when you’re more interested in a topic versus just the ACA class which is talking about elements of thoughts and critical thinking and the nickel and dime’s book, you know, that’s kind of boring stuff. Whereas science where you’re talking about the elements and chemicals and all kinds of stuff, that’s pretty cool.”

The third thematic category, *factors that facilitates completion of online tasks*, emerged from the four common elements that represent how instructors facilitated the modular requirements set forth upon the start of the class. These factors include (a) course modules track all coursework and deadlines, (b) regular announcements and/or reminders from instructor, (c) organized platform assist students’ timely submission, and (d) students’ initiated the course activities to a calendar.

Table 6: Thematic category 3 - Factors that facilitate completion of online tasks

Common Elements	No. of participants to offer this experience	Percent (%) of participants to offer this experience
Course modules track all coursework and deadlines	12	100%
Regular announcement and/or reminder from instructor	10	83%
Organized platform assist students’ timely submission	9	75%
Students’ initiated the course activities to a calendar	7	58%

Course modules guide the students in accomplishing the course requirement. Modules also set the direction of the course work and deadlines of the requirements. Participant #3 stated:

“I like to plan ahead. I want to know what's due next Friday, what's due this Friday. I don't want to wait until the last minute to get my work done, even though I don't want to work too far ahead, because I want to stay with the, the pace of the course. It's very difficult to figure out what your, your current teacher wants when you're looking at material that last semester's teacher wrote and her name's all over it and her due dates are all over it, and the year's wrong, and the month's wrong, and it's just concerning.”

Although all participants stressed the value of modules in terms of setting the requirement schedules, 10 of the participants articulated that online notices from the instructors reminds the students of their deliverables, which are helpful in submitting the coursework requirements on time and within schedules. Participant #7 said:

“Possibly sending out some more emails or announcements, not just the maybe weekly email that has just the notes that you need to know on it.”

The participants stated in various ways that the platform of the course is very important as far as the consistency of the platform. As mentioned in the above statement, it is important for the instructor to ensure that all dates have been changed in the course from one semester to the next semester. Participants also mentioned that the course platform itself was very important because they find it difficult to go from one semester where the platform is Moodle to the next semester where the platform is BlackBoard or some other platform.

A regular announcement or reminder from the instructor is something students stated assisted them in completing the online tasks of the course. Participant #8 stated:

“Most of my instructors send out weekly or multiple emails throughout the week to go over different information that is being studied in that week's material. Go

over notes that we might have questions for, talk about key points in our textbooks that we might need to go over a little bit more on our own.”

Some of the students have developed a calendar from the course syllabus to list all due dates and then they strictly follow that calendar for the semester to ensure that they are on task with assignments and other course submissions. Participant #1 stated:

“Uhm, well, like I said, each week we have modules and we have the dates for the module listed under it. You pretty much just follow the dates that are posted in the syllabus and in the class that I have transferred to my personal calendar. And you almost have that specific amount of time to do the work. So once that module, like the quiz or this test for that module will close right after the due date. So, that’s how you stay on task. Because it’s not like you can work at your own pace. Or, go back to stuff you’ve missed. It’s once the due date’s past, you’re done. And you get to keep moving forward.”

The fourth thematic category, *creation of sense of community*, emerged from the resulting four common elements that represent the perspectives of the students concerning the strategies that make an online learning environment a community of learners. Three of the common elements such as (a) discussion boards or forums that are avenues for building camaraderie, (b) instructors ensure that every student participates in online posts, (c) establish effective personal introduction (getting-to-know activities) had the highest number of responses, and (d) instructors’ feedback or online involvement assure students’ participation.

Table 7: Thematic Category 4 - Creation of Sense of Community

Common Elements	No. of participants to offer this experience	Percent (%) of participants to offer this experience
Discussion boards or forums that are avenues for building camaraderie	12	100%
Instructors ensure that every student participates in online posts	12	100%
Establish effective personal introduction (getting-to-know activities)	12	100%
Instructors' feedback or online involvement assure students' participation	9	75%

Sense of the community has been defined as an environment with some fun learning activity participated in by the students and instructors. Twelve of the participants shared that the discussion board becomes an avenue where everyone in the class has the opportunity to share their thoughts with the class. A lot of students who responded implicated the relationship of the community to his or her opinions delivered via online post. Participants stated they felt more of a community in their core courses because they had classes with students they knew from other classes. In a general education course the sense of community was not as evident as Participant #12 described this situation as:

“The only ways I know of are generally when you first introduce yourself to the course. Um. After that, especially, you know, your general education classes. It just kind of goes out the window.”

Further, a more personalized approach such as emailing privately the students concerning his or her non participation in an online discussion, and making the instructors' private phone line accessible for students creates a good environment for the community of learners who may have encountered difficulties in learning a specific topic. Participant #8 shared:

“Occasionally we have the class discussions and what not and that’s a good little forum posting area in case we have any questions regarding whether it be biology labs or just the test itself is useful. And of course he does have his office number, his office times and different ways of contacting her which, I mean ...it is good enough. But as far as actually bringing everyone together, I think the farthest it would go is to simply having us call her on each other’s lab results.

This type of student-instructor relationship supports individual challenges including that of the instructor upon whom students depend largely for their learning exercises. Participant #9 said:

“I think just about every online class I’ve had. We have like a little sort of opening forum where we tell each other, uhm, a little bit about ourselves. Uhm, our backgrounds; what we’re interested in. We, you know, as far as studies – that, uh, really helps us to kind of open up. Uhm, now, uh, I know in the last semester, I had an instructor that, that had, uh, I think a death in her family. And it was really, you know, almost as if she was there. And we were, uhm, you know, speaking to her. And trying to encourage her, you know.”

The fourth common element, *instructors’ feedback or online involvement assure students’ participation*, suggests that feedback starting from their classmates is significant in embracing the strengths and weaknesses of each member of the class. By recognizing these strengths and weaknesses would mean an improvement on the strengths and the development of the weaknesses. Participant #10 specifically emphasized the importance of feedback as a mechanism that guides them in making the coursework better. They said:

“I guess that in our discussion questions I feel engaged in, in the discussions. And I get feedback from other students. And my teacher at the end, she’ll like look at assignments. And she’ll give me feedback so I’ll know what to do. And how to do it better.

The fifth thematic category, *domains of engagement in virtual learning environment*, lists the areas that online instructors have to consider in their online instruction management. The common elements appeared as a reiteration across other thematic categories; however, these elements summarized the patterns of student engagement issues that can be used to model a typical high student engagement online class.

Table 8: Thematic Category 5 - Domains of engagement in virtual learning environment

Common Elements	No. of participants to offer this experience	Percent (%) of participants to offer this experience
Students are motivated to learn more when virtual learning is engaging	12	100%
Values such as dedication, commitment, and motivation engages students in virtual learning	12	100%
Indicators of engagement such as regular posting, regular platform visit, assignments are done on set deadline, doing more on what is required, participates in online forum, preparation of checklist	12	100%

While the first and second elements, (a) students are motivated to learn more when virtual learning is engaging and (b) values such as dedication, commitment, and motivation engages students in virtual learning have been discussed earlier, the third element demonstrates the indicators that instructors may use in determining whether his or her students are engaged in

the class, and/or with his or her prepared instruction approaches, and teaching materials.

Participant #2 stated:

“I check my Moodle every single day. I’m constantly replying to other students’ forums every day. I’m constantly bugging my teacher about something.”

Participant #4 stated:

“Um, I always try to get on their every day, get on the Moodle website and just click on the assignments and classes and make sure that anything new, nothing new has come up. If it has something new then I try to look at it and fit it into my schedule when it's due. Like lately we’ve had a lot of formal lab reports to write for (instructors’ name). And that takes a lot of time because you’re writing a formal paper so you’re having to do your research and work cited list, and that’s time consuming.”

Participants also mentioned not only the need for regular platform visits but also some methods that faculty have used in their online classes to keep them engaged not only on a single day but throughout the class week. Students mentioned various instructor methods to keep them engaged in the discussion forums as far as points awarded for number of posts, the need in discussion boards to research and cite their posts to classmates, and additional points for going above the “required” number of posts. Participant #6 stated the following about discussion forums and how an instructor had used the discussion boards to engage the students:

“Um, I would say 95% of the discussion forums are required. I have one particular professor that goes as far as not only requiring that you make a post and that you reply to other students, but that you do it on different days so that you are actively in the class more than once a week.”

The sixth thematic category, *technologies that enhances students' engagement*, includes the recommendations of students concerning their engagement in the online classroom. It can be recalled that the axial thematic category, *barriers of engagement*, has been merged with enhancement of learning engagement due to less favorable responses from the participants. The participants related their inability to determine specific strategies that instructors can adapt to ensure high students' engagement. From the responses, only two participants had shared specific barriers of engagement, which were not shared by the remaining 10 participants. Participant # 4 stated the only barrier they encountered was:

“Um, there were, there were some barriers. I found that Moodle doesn't like Internet Explorer. It was frustrating in the beginning. And it wasn't until we got to the actual V Scope assignment in biology that (instructors' name) took a vote on, hey, who is using what browser? Are you having any problems? If you're having problems what are they specifically? And we all shot back, you know, what we were using. And so we all figured out, okay, um, this doesn't work very well with internet explorer. So from that point on I've used Google Chrome and I haven't had any problems. Um, I have been disconnected a couple time when I've been in the middle of a quiz, um, but that's my internet I guess on my end, not you guys. I just reconnected right quick and went about my business taking the quiz. It didn't shut it down or anything.”

Review of the participants' transcripts indicated that use of appropriate technology could enhance the students' learning experience. The common elements emerged in the analysis includes: use of live interaction software, teleconferencing (e.g., skype), (b) platform designed for mobile applications (e.g smartphones, podcast), and (c) instructor videotaped instruction

Table 9: Thematic category 6 - Technologies that enhance students' engagement

Common Elements	No. of participants to offer this experience	Percent (%) of participants to offer this experience
Use of live interaction software, teleconferencing (e.g., skype)	12	100%
Platform designed for mobile applications (e.g smartphones, podcast)	12	100%
Instructor videotaped instruction	6	50%

When participants were asked about tangible online products such as applications and software, all participants are in agreement in the use of online applications that promote face-to-face interactions. These are the use of Skype and platform specific applications for mobile gadgets such as a smartphone. This is particularly reasonable for participants who favor verbal communications over written communication. Participant #3 said:

“I’ve only downloaded it or installed it, or whatever. It’s Skype. Is there a way that we could somehow Skype to all of our classmates and our teacher and have a discussion board that way instead of posting things?”

Participant #7 supported the use of teleconferencing to associate the online class with the regular class they had been enrolled in during a previous semester. Participant #7 said:

“I think video always helps it, because it's -- you can always make it a classroom setting if you, um, have video. And so I always think that helps, can you talk to someone face-to-face. Some people learn better that way.”

Summary

This chapter presented the results of the 12 interviews conducted among the students enrolled at a small southern community college in an online course using the Moodle platform to

instruct the course. The data organization and analysis procedures were thoroughly discussed in the context of seeking answers to the strategies, behaviors, and type of interactions that result in students' engagement, as it is defined in this study, in an online learning environment. Analysis of the data generated six thematic categories, which include: (a) strategies of instructors in virtual classroom instruction, (b) intrinsic motivation of students' engagement in virtual classroom, (c) factors that facilitates completion of online tasks, (d) creation of sense of community, (e) domains of engagement in virtual learning environment, and (f) technologies that enhances students' engagement.

Based upon the responses from students in this study, the researcher suggests faculty attempt to maximize engagement in an online course by employing the elements listed below. These common elements were referenced by the participants in this study. The 10 elements that enhance students' engagement, in the perception of students in this study, include:

1. Regular online postings to virtual learning platform;
2. Graded assignments and discussion board participation;
3. Use of interactive teaching materials (video, web based tutorial, lecture notes);
4. Use of virtual laboratory (e.g., biology class);
5. Initiated group contacts;
6. Instructor publicly appreciates coursework achievers;
7. Use of discussion forum for students to discuss learning content;
8. Use of email forum;
9. Instructors initiated private emails to follow-up with students;
10. Provide regular feedback to submitted requirements and online postings.

In determining a positive virtual learning environment, this study suggests three domains:

- (a) engaging learning environment, (b) positive values and intrinsic motivation of students, and
- (c) active participation of instructor and students in online learning activities.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The number of students enrolling in distance education courses continues to rise each year at colleges across the country. This chapter summarizes the purpose of this study and the central question of this study. It then discusses how students are engaged in distance education courses and how students want to be engaged in distance education courses. Lastly, it will make recommendations, suggestions for future research, and conclusions.

Summary

The purpose of this phenomenology study was to describe what strategies, from the students perspective, affected their engagement, as it is defined in this study, in distance education courses. The review of the literature examined distance education courses and the engagement of students in an online learning environment. Many of the studies occurred in the past 20 years as the online learning environment grew during this time. The literature review began with topics related to distance education including the meaning of distance education. It then explored the growth in the number of students who attend class via distance education at both the graduate and undergraduate level. Next, it reviewed the effectiveness of distance education technologies, the needs of the learners, and issues facing distance education. Finally, the literature review explored the future of distance learning in education.

The literature suggested that distance education has used the technology available at the time to deliver instruction since the early 1900's. As institutions face increasing numbers of students the question arises if distance education is a way to cope with the rising enrollment numbers or is it a meaningful educational experience. The research supports that interaction

between instructor and student is an important aspect of learning and that students perform at a higher level when this interaction is available to them. Researchers have agreed that students need to be engaged in an online course in order to be successful in the course. However, many of the studies completed previously regarding distance education courses have been completed from the faculty viewpoint, this study allows the faculty to develop an understanding about effective engagement strategies from the students viewpoint.

The study interviewed 12 of the 22 students registered in the same distance education course during the spring 2013 semester at a small southern community college. Each interview was conducted either via the telephone or in a face-to-face meeting with the interviewee being asked the questions found in appendix A. The interviews were then transcribed and reviewed for engagement related terms and coded. Coding the interviews led to eight themes being identified, however two of the themes were combined due to limited frequency of participant support.

The method for this qualitative study was phenomenology, a method that allows the researcher to relive and understand the phenomenon by exploring the experiences and thoughts of those being studied. The analysis followed the following steps: (1) carefully reading and re-reading the data collected, (2) coding the data from the respective interviews by segmenting and labeling the text, (3) developing themes based on the codes in the data, (4) reviewing all the transcripts and codes to verify and ensure agreement, (5) reviewing themes and codes across all the cases, and developing general themes across all the cases, and (6) comparing and contrasting the results with the literature. This study allows faculty and administration to understand what students are wanting in a distance education course in terms of engagement, as it is defined in this study. The researcher has already been approached by individuals who supervise distance

education faculty and programs asking to review the results of the research so they can develop new policies and procedures for the courses for which they are responsible.

Explanation of Findings

The six thematic codes that emerged from this study are important for distance education faculty and administrators to understand. It is important for faculty to not only develop a great online course with the necessary content for the course, but to also build opportunities for the students to engage in the class. This engagement of the students will build a more fulfilling course for all participants and enhance learning for the students. Without the engagement, students are simply taking a course they are required to complete to fulfill the requirements of the credential they are hoping to achieve.

In the perception of the students in this study the 10 elements that enhance students' engagement in an online class include:

1. Regular online postings to virtual learning platform;
2. Graded assignments and discussion board participation;
3. Use of interactive teaching materials (video, web based tutorial, lecture notes);
4. Use of virtual laboratory (e.g., biology class);
5. Initiated group contacts;
6. Instructor publicly appreciates coursework achievers;
7. Use of discussion forum for students to discuss learning content;
8. Use of email forum;
9. Instructors initiated private emails to follow-up with students;
10. Provide regular feedback to submitted requirements and online postings.

Element 1

Regular online postings to virtual learning platform

Online postings were discussed by 100% of the students in this study under thematic category 1, strategies of instructors in virtual classroom instruction. This strategy would be employed in online courses or courses that are taught in the hybrid format where some of the class hours are held in a face-to-face setting and some class hours are held in the online environment. Students stated that faculty created a “chat-room” where the discussion was not graded and the topic could be about the course content or a current event that did not deal with the course topic. These chat-rooms could be about the big game that happened this past weekend, asking if the students have started shopping for the holidays yet, or is everyone ready for the test this week on the first four chapters of our textbook and does anyone have any questions on any of the concepts discussed. The faculty member would also be a participant not only in discussion boards but in these “chat-rooms” which keeps the students engaged because the faculty member is taking an active role in all aspects of the class. This type of engagement allows the students to build a relationship with their classmates and the instructor which would then transfer over to the course discussion boards because the students feel comfortable with their classmates and the instructor. Relationship building was mentioned in thematic category 4 of this study, creation of sense of community. One hundred percent of the students had the perspective that discussion boards or forums are avenues for building camaraderie and is a strategy that makes an online learning environment a community of learners. The literature supports that regular online postings to the class by the instructor will help keep students engaged in the course (Chickering & Gamson, 1987; Hrastinski, 2008; Davies & Graff, 2005; Dixson, 2010; Rovai & Barnum, 2003). In thematic category 5 of this study, domains of engagement in virtual learning

environment, 100% of the students mentioned that online instructors should consider regular postings to the class and discussion forums as a means to keep high levels of student engagement in an online class.

If the students are accessing the course frequently and reading the posts of their classmates and the instructor they might read a post that raises their interest and respond to the post, thereby keeping them engaged in the course. The instructor, by regularly posting to the virtual learning platform, assists all students feel a part of the group by chatting with them on various topics.

Element 2

Graded assignments and discussion board participation

Discussion boards and grading was discussed by 100% of the students in this study under thematic category 1, strategies of instructors in virtual classroom instruction. The class discussion boards were used by faculty to engage the students in the online course and the students were required to post to these forums in order to stay engaged. In thematic category 4 of this study, creation of sense of community, 100% of the students mentioned that the instructor ensured they all participated in the discussion boards by reminding them when they have not participated. One hundred percent of the students also mentioned the personal introduction discussion board as a strategy to create camaraderie because students were able to get to know a little bit about their classmates from this discussion board.

Students were graded on the content of the posts and were also required to post to at least two of their classmates threads in order to receive full credit for the discussion, which made the students stay engaged in the course. Students were comfortable with having to respond to two other discussions in addition to their own, however some of the students did mention that they

only responded to the minimum requirement so that they would receive full credit for the assignment. This finding was consistent with earlier studies, which suggested that instructors put more weight on grading students' participation in online discussions than the course assignments and homework (Jiang & Ting, 1999; Vonderwell & Zachariah, 2005; Rovai & Barnum, 2003). The more weighted the grade is for the discussion boards and the greater the required number of posts by the instructor is to each discussion, the more engaged the students enrolled in an online course would become because some students only complete the minimum number of posts needed to earn all of the points associated with the discussion. This is supported by the students in this study who stated they only completed the minimum number of posts required to receive full credit for the discussion. If the instructor raised the required number of posts, those students doing the minimum number of posts required to achieve full credit would be more engaged in the course because they would be required to post more in the discussion forum in order to achieve full credit. In thematic category 5 of this study, domains of engagement in virtual learning environment, 100% of the students mentioned that online instructors should consider regular postings to the class and discussion forums as a means to keep students engaged.

Elements 3 & 4

Use of interactive teaching materials (video, web based tutorial, lecture notes)

Use of virtual laboratory (e.g., biology class)

Seventy-five percent of the students stated, under thematic category 1 of this study, strategies of instructors in virtual classroom instruction, that instructors employed some type of interactive teaching material (video, web based tutorial, lecture notes) to keep them engaged in the course. Some of these interactive course materials are now available from the textbook publisher for the faculty to use in both the online and face-to-face environments. Students stated that faculty had

posted links to YouTube videos or other videos to enhance their learning of the content and this kept the students engaged in the course by sitting and watching the video while learning about the current topic of class discussion. The posting of these videos allows students to review the content anytime they have questions or are unsure about a concept, and they can watch the video as often as they want, or need, to ensure understanding. The students in this study mentioned that some instructors from previous classes had videotaped the classroom lecture on important topics and students could watch the video anytime they wanted in order to reinforce the concept being discussed. These taped lecture videos allow the student to see and hear the instructor and any hands on demonstrations that are being completed during class. In thematic category 6 of this study, technologies that enhance students' engagement, 50% of the students mentioned having the instructor videotape their lectures and then post them to the learning platform. The use of a virtual laboratory in courses that have a laboratory component associated with the class, allows the students to use the computer to accomplish tasks like looking through a microscope at cells. In thematic category 2 of this study, intrinsic motivation of students' engagement in virtual classroom, 92% of the students mentioned wanting some form of interactive teaching materials, suggesting that though students are enrolled via an online learning environment, the clamor of getting interaction with different learners in a specific topic remains. In thematic category 5 of this study, domains of engagement in virtual learning environment, 100% of the students mentioned they were more inclined to be engaged in the course if the learning was engaging to them. These interactive teaching materials are in fact noted as a crucial element in engaging students in online learning (Weiss & Morrison, 1998; Webster & Hackley, 1997; Dixon, 2010; Rovai & Barnum, 2003).

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Technology is an important aspect of the online course environment, the students interviewed for this research project agreed that technology is also important to their engagement in the course. In thematic category 6 of this study, technologies that enhance students' engagement, 100% of the students also mentioned the use of some form of teleconferencing to promote face-to-face interactions as a means to keep them engaged. Students are interested in some face-to-face interactions with their instructors even in a distance learning environment. Faculty use various interactive platforms to communicate with their students, some of the tools available to the faculty include BlackBoard Collaborate, Elluminate Live, Adobe Connect, and Skype. These tools can be employed to meet with the students in a synchronous format and allow for interaction by the students whereby they can receive feedback to questions instantly. The internet has made communicating more frequently with students easier as faculty employ these interactive methods in their online classes (Hrastinski, 2008). In addition, students are interested in applications that could be loaded onto their smartphones that would allow them to access the course and the instructor. This would allow them to engage in the course and with classmates at anytime from anywhere. The students stated this type of face-to-face interaction would be especially helpful for students who are visual learners.

Element 5

Initiated group contacts

Having students work in a group in the online environment was mentioned by 67% of the students in this survey under thematic category 1 as a strategy instructors should employ to engage students in the class. Having students work in groups is a strategy that is used in the face-to-face classroom in an effort to better prepare students for the collaboration they will encounter

when they enter the workforce. To meet the need of creating the same learning outcomes in the online course as are created in the face-to-face course, faculty are using group work in their online courses. Earlier studies also supported that when students are assigned roles in the online environment they maintained more of an online presence and were more engaged in the class (Vonderwell & Zachariah, 2005; Dixon, 2010). However, it was noted by one of the participants of this study that even though they were put into groups during the class, participation of the group was around 50%. This particular participant may have been placed into a group containing the other members of this study who did not mention group contact as a successful strategy for instructors to employ in the online environment. It is also not known how much grading weight was placed on the group assessment by the instructor. If the grading weight was low did students not participate because they believed it would not have a great effect on their overall course grade, or were the students not interested in taking part in a group activity?

Elements 6 & 10

Instructor publicly appreciates coursework achievers

Provide regular feedback to submitted requirements and online postings

Students appreciate knowing when they have done a good job on an assignment or are on task on an assignment through means other than it being reflected in their grade. This appreciation can occur in the face-to-face setting and also in the online learning environment and was mentioned as a means to engage students by 67% of the students in this study under thematic category 1. The participants in this study had an instructor who consistently let them know that their performance was good or needed to be improved upon in order to meet course standards. The instructor of the course that was studied also let the students know what assignments were coming due and when tests or quizzes were about to be posted in the class. The

students enjoyed this constant communication because it kept them focused on what was happening in the class and they stated that this type of communication kept them engaged in the course. When students receive these types of communication it shows them that the instructor is aware of what they have done, or not done, and cares about their progress in the class. Feedback to the students' needs to be prompt in order to serve the purpose intended of encouraging students and keeping them engaged in the course. Prompt and encouraging feedback to the students along with other types of feedback keeps students engaged in the course and was mentioned by 58% of the students under thematic category 1 of this study. The students wanting feedback is supported by the literature on feedback and the need for the feedback to be prompt so that the student can use the feedback to help them achieve their goals for the course (Vrasidas & McIsaac, 1999; Chickering & Gamson, 1987; Webster & Hackley, 1997).

Feedback is also a part of thematic category 2, intrinsic motivation of students' engagement in virtual classroom, with 83% of the students studied claiming that regular feedback on submitted requirements and the online postings facilitated their interest to interact and assert their ideas further.

Element 7

Use of discussion forum for students to discuss learning content

The use of discussion boards in online courses to have students post threads to on a particular class topic keeps students engaged in the course because they have to log into the class, read other students posts, and start a thread in the discussion themselves. One hundred percent of the participants shared that the discussion board becomes an avenue where everyone in the class has the opportunity to share their thoughts with the class and this assisted in creating a community, which is thematic category 4 in this study. Students in this study mentioned that

some of the discussion boards they have been a part of have been graded while other discussion boards were not graded. Some of the participants in this study mentioned discussion forums where they were required to discuss the current topic of the class, but it was not graded for items such as content, grammar, or length. These forums were developed to have the students engage with each other and generate a discussion on a topic without the pressure of what grade a student would receive. The use of discussion boards in an online class as a means to have students engaged in the course is supported in the literature (Lipponen, et al, 2003; Dixon, 2010). The data from the Lipponen et al. (2003) study showed that online participants posted an average of 16 times to the discussion forum that was used in the online course studied. What needs to be remembered is that this is an average, so some students posted more than the 16 times and other students will have posted less, some students had a very low number of posts in this study. Some students will be very active in a discussion board while other students will be less engaged. Faculty should use other forms of engagement to keep students engaged in conjunction with the discussion boards.

Elements 8 & 9

Use of email forum

Instructors initiated private emails to follow-up with students

Using email as a means of communication with students is used in face-to-face courses in addition to online courses. Email allows the instructor to communicate with the student on the students' progress in the course, the students' level of achievement in the course, the due date of an assignment, and various other items that the instructor wants to communicate to the student. Fifty-eight percent of the students in this study mentioned instructor initiated emails to follow-up with the students as a strategy to keep students engaged. Students in this study appreciated the

use of email and the frequency of the emails they received from the instructor. Fifty-eight percent of the students mentioned email use as a strategy for keeping them engaged in the course under thematic category 1 of this study. The students stated the email communication kept them engaged in the course because they knew what was expected of them from the instructor and where they might need to improve in order to achieve a higher grade. One hundred percent of the students mentioned that they strived for the appreciation email from their instructor under thematic category 2 of this study. The literature did not directly state using emails in the online experience would increase engagement by the students, but much of the literature did support feedback, communication, and being interactive with the students (Vrasidas & McIsaac, 1999; Chickering & Gamson, 1987; Hrastinski, 2008; Webster & Hackley, 1997; Heiman, 2008). Much of the time this communication occurs through emails in an online course because both faculty and students use email as a quick and easy way to correspond with each other.

The students all had a personal commitment to finish the coursework so some of their engagement, as it is defined in this study, was due to the need to complete the course in order to continue their studies. The students all stated that the instructor for the course being used for this research appreciated their work and constantly commented to them individually through email. The students wanted to engage in the class more because they felt a connection to the instructor because of the words of encouragement they would receive from the instructor after each assignment was completed. Students mentioned they had not had this type of feedback from an instructor in previous online classes and it made them strive for the personal note on each assignment. While the theories of students' engagement failed to present the personal or intrinsic motivation of students in finishing the online education (Bento & Schuster, 2003; Bloom, 1984; Chickering & Gamson, 1987; Davies & Graff, 2005; Fleming, 1987; Hrastinski, 2008; Jiang &

Ting, 1999; Leidner & Jarvenpaa, 1995; Lipponen et al., 2003; Mason, 1994; Saljo, 1999; Vonderwell & Zachariah, 2005; Vrasidas & McIsaac, 1999; Webster & Hackley, 1997; Wenger, 1998), this study articulated the participants' factors influencing their desire to complete the course.

Another factor that kept the students on task was that the course was divided into modules and each module had a start and end date for completion. Students stated that some of the classes they had completed were posted online and they worked through the class without a schedule of when items were due and they did not have a connection with the class because they were not required to complete assessments by a set date. An email reminder to the students stating the due date for assignments also kept students engaged because they knew the instructor was cognizant of who had submitted the assignment and who had not yet submitted.

Students had a sense of community through the discussion boards and the feedback that was received from other students and the instructor. The sense of community started with the first few days of class and the introductory discussion board that the instructor had set up for the students to allow them to introduce themselves and talk with fellow classmates. Emailing students individually about their engagement in the course also assisted in developing a sense of community, in addition students mentioned having the private phone number of the instructor so they could call when needing assistance. Being able to have this sense of community made the students comfortable with their classmates and instructor so they engaged in the course more than if this had not been present. The ability to create a sense of community was consistent with studies that suggested that to emulate the online learning experience with the traditional classroom experience, emotions of instructors and students must be visible in the discussion forum (Angeli et al., 1998; Jiang & Ting, 1999; Vrasidas & McIsaac, 1999).

Recommendations

In determining a positive virtual learning environment, this study suggests three domains: (a) engaging learning environment, (b) positive values and intrinsic motivation of students, and (c) active participation of instructor and students in online learning activities. Recommendations to achieve these three goals are:

- Engaging learning environment – In a face-to-face classroom, the faculty attempt to engage the students in the discussion and classroom through various activities in order to enhance the learning experience. Students that participated in this study are looking for the same engagement experiences in their online courses. While faculty are developing their online course, it would be beneficial to the engagement of online students, for distance education faculty to consider some of the engagement methods mentioned by participants in this study. Inserting a short, 10 minutes or less, YouTube video that discusses the current course topic could assist the student to better comprehend the material and was mentioned by students in this study as a means to better engage them. Additionally, faculty could videotape their face-to-face lectures and then edit these videos so that important topics that are covered could be viewed by the online students at any time during the course. Lastly, faculty could build a “chat-room or coffee-house” into the course as a place where students could discuss any topic they wanted to discuss either with the faculty or with other students who are enrolled in the course in a relaxing non-graded environment.
- Positive values and intrinsic motivation of students – Students have paid their money to enroll in a course, whether the course is face-to-face or online the costs are relatively equal. Students in this study stated they paid for the course and they wanted

to complete the course and earn their grade. Students appreciated the positive reinforcement from their instructor telling them that they could be successful in the course and this motivated the students to stay engaged and complete the course.

Distance education faculty could constantly, throughout the course, motivate all students through positive encouragement to assist in the students' engagement and completion of the course. This encouragement could be in the form of an email directly to the student or a post to a discussion board letting the student know they did an excellent job and covered all of the required points for that particular discussion.

- Active participation of instructor and students in online learning activities – Imagine walking into a face-to-face classroom and there is no instructor or the instructor sits at their desk for the duration of the class time and does not talk. Students may stop attending the class or just begin sitting there themselves and become disengaged in the course due to the lack of participation by the instructor and other students. This could also be true in the online environment if the instructor is not an active participant in the course. To eliminate the lack of participation, distance education faculty could be required to be active in their courses daily so that students see the participation of their instructor. Students in this study stated that their instructor was an active participant in the class through discussion boards, the chat-room, and emails. Having constant participation by the instructor assists in keeping the students engaged because they may need to respond to the instructor post or email. Students in this study appreciated that the instructor would email them and was very visible in all aspects of the class and that kept them engaged.

The primary use of these findings should be to provide a reference for distance education instructors and administrators of distance education programs as they strive to determine how to best keep students engaged in online courses. This study is limited to the experience of students enrolled in one class at one institution, but to further engage these students this study suggests strategies that can be employed to reach a higher level of engagement, as it is defined in this study. The tables listed in Chapter 4 show what strategies the students at a small southern community college have listed as being effective in keeping them engaged in an online course. These strategies will enable distance education faculty members and administrators to develop online courses with the students' engagement in mind by implementing the strategies that students requested be present in an online course.

Suggestions for Future Research

Two areas that were continually mentioned during the interviews with the students was the use of Skype and being able have the class available to them on their smartphone. Future research could examine an online course where Skype is part of the course and the same online course where Skype is not part of the course to determine if the students are more engaged. For example, does the use of Skype in an online course create increased engagement by the students? The course that was used in this study employed the Moodle platform to deliver the course, neither the students nor the researcher could determine if there is an application available for Moodle for smartphones to allow for course access. However, the researcher does know that BlackBoard does have such an application that allows for course access through a smartphone. Future research could be conducted to determine if having an application on the students' smartphone to allow for quick and easy access creates more student engagement in the course.

Does having a mobile application on the students' phone create more engagement than a course where no application is available?

As students outside commitments become increasingly greater it is important for educators to develop ways to engage the students and keep their interest in online courses. The use of Skype or mobile applications for smartphones would enable researchers to determine if those technologies would not only enhance engagement but also retention in online courses.

The findings in this study were congruent with previous research, but additional research could be conducted to increase the size and scope of the study. This study was conducted with students at a small southern community college enrolled in the same online course which limited the size and scope of the study. Future research might compare online students' engagement at a medium size community college, a large size community college, and students at a 4-year institution. Additional research could be conducted to determine the experiences of students enrolled in different courses at the same institution or students enrolled in different courses at different institutions. These institutions may have greater funding to enhance online courses and allow for greater student engagement.

Concluding Thoughts

Distance education continues to grow in enrollment as evidenced by the table on page 1 of this study. Distance Education is a method of delivery that students are looking for as an avenue to complete their degrees and earn credentials. Enrollment of the students is important, but keeping the students engaged in the online course is critical to their success and likelihood of completing the course.

Engagement in the online course environment can be in many forms such as an email from the instructor, instructor responses to a student's post in the class, or the use of technology

such as Skype or Elluminate Live. Students want the same experience in the online environment that they would have if they were sitting in the classroom in front of the instructor. It is important that instructors and administrators continue to employ any means available to keep the students engaged in the course to connect with their classmates as would happen in a traditional classroom.

Instructors need to embrace the opportunity to teach online courses and want to interact with the students as much as they would in a traditional classroom. A “classroom” that is organized, current, accurate and inviting to the students will assist in making the learning environment enjoyable for the students and also keep them engaged in the course. Technology is important to this “classroom” to keeping students engaged in the course through videos, interactive websites, or other interactive technologies such as Skype or Elluminate Live. In addition, a software application (app) that would allow the students access to the course from their smartphones should be available for all courses to keep the students engaged. These types of connections are what keeps the students engaged and what students are looking for from their instructors and their courses.

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APPENDIX A***INTERVIEW PROTOCOL***

Interview Protocol Project: In distance education courses what strategies are effective, from a students perspective, in keeping the students engaged in the course?

Time of Interview:

Date/Place:

Interviewer:

Interviewee:

Position of Interviewee:

Purpose of Project: To determine in distance education courses what strategies are effective, from a student's perspective, in keeping the students engaged in the course?

Central Question: In distance education courses what strategies are effective, from a student's perspective, in keeping the students engaged in the course?

Q1. What does your instructor do to help you connect with your instructor and your classmates in the virtual classroom?

Clarifying Questions for Q1:

1. How does this make you engage in the class?
2. What techniques from other classes could this instructor have used to engage you?

Q2. What did the instructor do to engage you in the content of the class?

Clarifying Questions for Q2:

1. What did the instructor do to engage you in learning the material?
2. What kept you engaged in learning the material?

Q3. Describe how the course was facilitated to keep you on task?**Q4. How did the instructor create a sense of community (a feeling that you matter to class and each other) in the online course?****Clarifying Questions for Q4:**

1. If none was present, what could the instructor have done to accomplish this feeling of community?

Q5. Did you have a high (or low) level of engagement in the online course environment?**Clarifying Questions for Q5:**

1. Why did you have that level of engagement?
2. How was engagement achieved?
3. Describe how you were engaged through assignments, discussion boards, required login times, etc?

Q6. What could your instructor do to enhance your engagement in an online course?

Q7. What barriers have you encountered to being engaged in the course? For example was your microphone working, were you able to download all of the materials, did your internet connection work properly, were you able to access everything used in the course?

Q8. What technologies do students perceive to be cutting edge that could assist in keeping you engaged and participating in the course?

ADDITIONAL NOTES

APPENDIX B

CONSENT TO PARTICIPATE IN A QUALITATIVE RESEARCH STUDY **UNIVERSITY OF NEBRASKA-LINCOLN**

TITLE OF PROJECT: In distance education courses what strategies are effective, from a student's perspective, in keeping the students engaged in the course?"

RESEARCHERS' NAME AND CONTACT INFORMATION:

Michael Miller	millermb@surry.edu	336-386-3235
Dr. Brent Cejda	bcejda2@unl.edu	402-472-0989

INTRODUCTION:

Below are a description of the research procedures and an explanation of the participants' rights as a research participant. In accordance with the policies of The University of Nebraska-Lincoln, participants have been asked to read this information carefully. If participants agree to participate, they will sign in the space provided to indicate that they have read and understand the information furnished on this consent form. Participants are entitled to and will receive a signed copy of the form.

PURPOSE:

The purpose of this research study is to understand in distance education courses what strategies are effective, from a student's perspective, in keeping the students engaged in the course?" Each year, enrollments in DE programs in all sectors of higher education are growing at dramatic rates, yet DE is a relatively new phenomenon.

SELECTION OF PARTICIPANTS

Participants were selected from the same online class at a community college to ensure the same lived experience. The class selected was selected from a division not associated with the researcher, and the faculty member of the class selected is not a direct report to the researcher to ensure that there is not a conflict of interest. Participants' decision on whether to participate or not participate will not affect their grades.

DURATION AND LOCATION OF STUDY:

Participation in this study will last for approximately ninety (90) minutes and will take place at an agreed-upon time via either telephone or online capabilities between the researcher and the participant.

PROCEDURES:

During this study, the following will happen. The researcher will ask a series of questions pertaining to the participants' perceptions of engagement in DE courses that the participant has been enrolled in at the participants' current post-secondary institution. The researcher will use a digital voice recorder to capture the entire discussion within the interview. The data contained in the digital voice recorder will be transcribed and become a permanent part of the study. The data will then be erased from the digital voice recorder.

POTENTIAL RISKS AND DISCOMFORTS:

Participants understand there are no known or anticipated risks associated with participation in this study.

BENEFITS:

Participants will receive no direct benefit from participation in this study; however, the possible benefits to others include the possibility of a better understanding of how students and faculty will keep students engaged in future distance education courses. It is possible that this knowledge can lead to course enhancements related to quality in distance programs.

CONFIDENTIALITY/ANONYMITY:

Confidentiality means that the researcher will have a record of who participated, but the data will be kept private.

The researcher will not include any names in the final project and only the researcher listed above will have knowledge of the participants. The consent forms will be retained on file for three (3) years as required by the IRB, after which they will be destroyed.

COMPENSATION FOR PARTICIPATION:

Participants will not receive any compensation for participation in this study.

RIGHT TO REFUSE OR WITHDRAW:

You are free to decide not to participate in this study. You can also withdraw at any time without harming your relationship with the researchers, The University of Nebraska-Lincoln, or your institution.

OFFER TO ANSWER QUESTIONS:

If participants' have any questions about this study or their rights as a participant, they may email the researcher listed above.

Sometimes study participants have questions or concerns about their rights. In that case, you should call the University of Nebraska-Lincoln Institutional Review Board at 402-472-6965 or irb@unl.edu.

**PARTICIPANT AGREES TO PARTICIPATE IN THIS RESEARCH PROJECT AND
WILL RECEIVE A COPY OF THIS CONSENT FORM.**

PARTICIPANT'S SIGNATURE

DATE

☐ Participant agrees to be audio taped as part of this study

APPENDIX C

EMAIL SCRIPT FOR GATHERING SUBJECTS

Hello, my name is Michael Miller. I am a graduate student at The University of Nebraska-Lincoln in the Educational Administration department, and I am undertaking research that will be used in my dissertation.

I am studying distance education courses and what strategies are effective, from a student's perspective, in keeping the students engaged in the course.

The information you share with me will be of great value in helping me to complete this research project, the results of which could significantly enhance our understanding of engagement in distance education courses.

The interview will take about 90 minutes of your time.

There is no risk of a breach of confidentiality. I will not link your name to anything you say, either in the transcript of the interview or in the text of my dissertation or any other publications.

There are no other expected risks of participation.

Participation is voluntary. If you decide not to participate, there will be no penalty or loss of benefits to which you are otherwise entitled. You can, of course, decline to answer any question, as well as to stop participating at any time, without any penalty or loss of benefits to which you are otherwise entitled.

If you have any additional questions concerning this research or your participation in it, please feel free to contact me, my dissertation supervisor or our university research office at any time. I can be reached at 336-386-3235 or millermb@surry.edu. My dissertation supervisor can be reached at 402-472-0989 or bcejda2@unl.edu. The university research office can be reached at 402-472-6965 or irb@unl.edu.

I would like to make a tape recording of our discussion, so that I can have an accurate record of the information that you provide to me. I will transcribe that recording by hand, and will keep the transcripts confidential and securely in my possession.

If you have any questions about this research please contact me. If you are willing to be a part of my research study please contact me at 336-386-3235 so we can set up a time to conduct the interview.

Thank you for your assistance.

APPENDIX D

IRB CONSENT FROM THE UNIVERSITY OF NEBRASKA



March 6, 2013

Michael Miller
Department of Educational Administration
1538 Finwick Dr Pfafftown, NC 27040

Brent Cejda
Department of Educational Administration
129 TEAC, UNL, 68588-0360

IRB Number: 20130313338 EX
Project ID: 13338
Project Title: Engagement in Distance Education Courses: The Students' Viewpoint

Dear Michael:

This letter is to officially notify you of the certification of exemption of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as Exempt Category 2.

You are authorized to implement this study as of the Date of Exemption Determination:
03/06/2013.

1. The stamped and approved informed consent form has been uploaded to NUgrant (file with - Approved.pdf in the file name). Please use this form to distribute to participants. If you need to make changes to the form, please submit the revised form to the IRB for review and approval prior to using it.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- * Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- * Any serious accidental or unintentional change to the IRB-approved protocol that involves risk

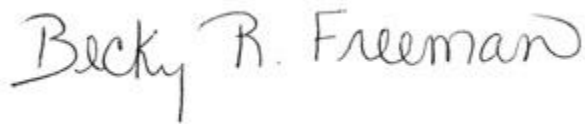
or has the potential to recur;

- * Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- * Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- * Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,



Becky R. Freeman, CIP
for the IRB

