A DESCRIPTION OF STUDENTS' SENSE OF COMMUNITY AND INSTRUCTORS' PHILOSOPHY OF EDUCATION IN A DISTANCE-DELIVERED DEGREE PROGRAM

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CHAPTER 1

INTRODUCTION

Universities Respond to Changing Dynamics

Information technology is bringing about rapid changes in higher education institutions. Horgan (1998) recognized the changing dynamics of higher education:

> Universities are feeling the pressure to control costs, improve quality, focus directly on customer needs, and respond to competitive pressures. Information technology has the potential to solve many of these problems. It can change the roles of students and faculty, facilitate more learner-centered, personalized education, save money through improved business processes and distance education, and expand the scope and content of the curriculum. (para. 2)

Universities are responding to economic pressures, the changing demographics of those who seek higher education, and demands from employers for graduates who can function effectively in a knowledge-driven society by exploring alternative ways to deliver educational programs. Many universities are addressing these challenges through use of technology and the Internet to deliver courses to students at a distance and to enhance campus-based educational

programs (Moore, 2003; Palloff & Pratt, 1999; Tschang, 2001). Derrick (2003) postulated that "distance learning represents the most dynamic sector of adult education, particularly in the United States where World Wide Web-based electronic delivery is fast becoming the dominant mode of instruction" (p. 7). While distance learning may not have become dominant yet, is an important mode of instruction.

Distance Education and Online Learning

Despite early efforts in the 19th and 20th centuries to deliver education at a distance through the postal system, correspondence studies, radio, television, and teleconferencing, access to higher education often was constrained to the traditional classroom, which restricted participation to those who could attend classes at a specific time and place. Educational opportunities for individuals unable to access the traditional classroom were limited (Moore, 2003).

The growth in distance education courses offered at higher education institutions has increased dramatically (Allen & Seaman, 2006; NCES, 2003), and the emergence of computer-based communication technologies is linked to the growth in distance education (Moore, 2003, p. ix). Computer-based technologies (e.g., Internet; course

management systems such as BlackBoard, Desire2Learn, and WebCT; electronic mail; and video conferencing via the World Wide Web) provided the means to expand greatly the availability and use of distance education in higher education. With this growth, distance education research has shifted from focusing primarily on geographic constraints and organizational strategies to focusing on educational issues related to the teaching-learning transaction and to the technologies that support these communications (Derrick, 2003; Garrison, 2000, p. 2).

Moore (2003) noted that educational institutions, administrators, and policymakers are acknowledging the benefits of distance education and the value to learners when teaching is taken beyond the confines of a university campus. Further, he contended that

> Few commentators or policymakers have yet come to recognize the implications of the shift of focus from where the teacher is to where the learner is—implications for how education is conceptualized, how it is organized, what roles teachers would assume, and how financial and other resources are to be distributed. (p. ix)

Garrison, Anderson, and Archer (2003) supported Moore's view and stated that the challenge facing distance education researchers and educators is to identify and develop a clearer understanding of new and emerging

technology, its characteristics, and how it can be used to enhance learning.

The increase in distance education in higher education affects how institutions view teaching and learning (Derrick, 2003), and online learning, in turn, is changing the dynamics of the academic learning environment (Palloff & Pratt, 2003; Tapscott, 1998). For example, Massy and Zemsky (1995) asserted that higher education could become more productive and reduce costs if colleges and universities embraced technological tools for teaching and learning. In addition, they proposed that information technology offers higher education the opportunity for mass customization, which allows instructors "to accommodate individual differences in student goals, learning styles, and abilities, while providing improved convenience for both students and faculty on an 'any time, any place' basis" (p. 2). The movement over the past decade toward increased offerings of online learning to targeted audiences supports these concepts.

Adult Learning

Andragogy and self-directed learning are two foundational theories of adult learning (Merriam, 2001). Each theory has a rich history of development and

contributes to an understanding of adult learning and how it differs from learning in children.

Central tenets of andragogy include learners' choice and participation in decisions about their learning, and there is a strong focus on the individual learner. The andragogical model stresses the importance and need to involve learners in setting both the direction and the goals for their personal learning. With andragogy, learners' experiences are valuable resources and learners' needs and experiences are not subsumed by the instructor's expertise. Knowles (1984) emphasized the importance of the relationship between the learner and the instructor and stressed the importance of creating a psychological climate that facilitated learning (pp. 14-18). Knowles (1980) and Houle (1996) described andragogy as learner-centered and viewed the instructor as a facilitator of the learning process.

Self-directed learning focuses on individual learners and their self-development (Knowles, 1975). The learner takes responsibility for the learning effort, and the learning is focused on the learner's goals and needs. Educators who assist learners with self-directed learning activities serve in the role as subject-matter expert, guide, and mentor (Caffarella, 1993). The philosophy

underlying self-directed learning is humanistic in nature (p. 26).

Sense of Community Among Distance Education Learners

As the distance-delivered education format has become more common in higher education (Allen & Seaman, 2006; NCES, 2003), distance education research has broadened to include the teaching-learning transaction. As a result, interest in the distance education learner and instructor has increased (Anderson, 2003; Palloff & Pratt, 2003; Rovai & Baker, 2004; Sammons, 2003). Distance education once was viewed as a minor discipline area of higher education. However, that perspective changed over the past decade, and online learning has become a major focus in the field of education due, in part, to its flexibility and ability to create "communities of inquiry" (Garrison et al., 2003, p. 113). It follows that research related to the teaching-learning transaction can lead to development of effective distance learning practices.

As online learning evolved, it facilitated a shift to a learner-centered approach that builds on prior student knowledge, focuses on learning that is relevant and meaningful to the learner, provides choice and independence, and facilitates and encourages student

ownership for the learning experience (Derrick, 2003; Moore & Kearsley, 1996; Rovai, 2004; Sammons, 2003). The instructor assumes the role of a guide and facilitator in the learning process. These practices support a constructivist approach to learning (Bonk & Wisher, 2000; Rovai, 2004) and are congruent with most adult learning theories (Merriam & Caffarella, 2001b, p. 84). Constructivism is a philosophy of learning based on the view that individuals construct knowledge through interactions with their environment (Crotty, 1998). Understanding and knowledge are gained through experience and interaction with others and the environment. The constructivist approach recognizes that individuals are active participants in the learning process (Rovai, 2003).

The development of a sense of community among student learners is an important component of distance and online learning and is essential to the learning process (Fisher & Baird, 2005; Palloff & Pratt, 2003; Rovai, 2001a; Thompson & MacDonald, 2005). Research investigating the ways that adult learners best acquire desired knowledge online has shown that the development of a sense of community in the online learning environment contributes to learner success (Garrison & Kanuka, 2004; Haythornthwaite, Kramer, & Robins, 2000; Lave & Wenger, 1991; Palloff & Pratt, 1999,

2003; Rovai, 2002b; Rovai & Baker, 2004; Thompson & MacDonald, 2005).

Adult learners who experience a sense of community in online learning environments are more likely to have a quality online learning experience than those learners who do not build this sense of community (Garrison & Kanuka, 2004; Rovai, 2002b; Song, Singleton, & Hill, 2004). Thompson and MacDonald (2005) found in their study that the "spirit of community is an essential component of the eLearning experience and [it] can be fostered" (p. 244). They stated that this spirit of community is what prevents isolation of the learner and "enables learners to build relationships that humanize the eLearning experience" (p. 244). Furthermore, Rovai (2002b) asserted, "Students with a stronger sense of community tend to possess greater perceived levels of cognitive learning" (p. 330).

Research also has shown that a constructivist, learner-centered instructional style can contribute to an increased sense of community in online learning (Rovai, 2003). Thus, learner-centered approaches to online learning may contribute to the development of a sense of community in the online learning environment that, in turn, may increase cognitive learning (Rovai 2002b, 2003).

Rovai (2002a) developed the Classroom Community Scale (CCS) to measure the sense of classroom community in online, distance education environments. This tool can help researchers identify and develop methods and strategies to foster development of community in the virtual classroom (p. 199). In addition to overall classroom community, the CCS instrument measures two subscales: Connectedness and Learning. Rovai stated that

> Connectedness represents the feelings of the community of students regarding their connectedness, cohesion, spirit, trust, and interdependence. Learning represents the feelings of community members regarding interaction with each other as they pursue the construction of understanding and the degree to which members share values and beliefs concerning the extent to which their educational goals and expectations are being satisfied. (pp. 206-207)

Using the Classroom Community Scale, Rovai (2002a) identified significant differences among 28 online classes that were sampled (p. 208). Rovai suggested that the variability in sense of community might be due to uncontrolled variables including instructional design, learning styles, and teaching strategy. Additional research addressing the variables, such as course design and instructor-related variables, which influence development of a sense of community in the online learning environment

in specific higher education disciplines, can provide an understanding of distance-learning practices.

Philosophy of Adult Education

Zinn (2004) stated that teaching style, or "operational behaviors," may be defined as an individual's educational philosophy (p. 55), and this philosophy is grounded in the individual's beliefs and values (Zinn, 1983, 2004). Heimlich and Norland's (2002) views are consistent with Zinn's claim, and they asserted that the "study of [teaching] style starts with what each educator holds: beliefs, values, attitudes, working philosophy, skills, and personality" (p. 19). They also asserted that identification of an individual's teaching style would involve "matching" (p. 20) behaviors with the individual's educational philosophy. Furthermore, Conti (2004) stated that "because teaching style is comprehensive and is the overt implementation of the teacher's beliefs about teaching, it is directly linked to the teacher's educational philosophy" (p. 77). Thus, an individual educator's philosophy influences teaching style, and that teaching style is a significant component of the teaching-learning transaction (Heimlich & Norland, 2002). Given the relationship between an educator's teaching style and philosophy of education, it follows that research aimed

at improving the learning process examines instructors' underlying philosophy of adult education.

Elias and Merriam (1980/1995) provided a comprehensive overview of the historical origins, principles, functions, and major contributors of six philosophical schools or approaches in their seminal book, Philosophical Foundations of Adult Education. They stated that "the point of philosophical inquiry is to clarify issues so that decisions can be made on proper grounds" (p. 5). Further, they asserted that educators, by exploring and analyzing their personal philosophy of adult education, can "become more consciously purposeful in their educational efforts" (p. 2).

An exploration of instructors' philosophies of adult education provides a framework from which to explore the various elements of the educational process (Elias & Merriam, 1995). While there has been some debate regarding the relationship between philosophy and action, it is generally accepted that both are needed to lead an informed and mindful life (Elias & Merriam, 1995; White & Brockett, 1987; Zinn, 2004).

Individuals have belief systems that guide actions and influence behaviors. These beliefs form an individual's philosophy of life (Zinn, 1983), and there is general

agreement from across disciplines that decisions individuals make are reflective of their beliefs, values, and attitudes (p. 2). For those engaged in education, these beliefs form their philosophy of education, which affects decisions about how the instructor will design and deliver course materials, interact with students, and assess learning (Zinn, 1983, p. 135). Elias and Merriam (1995) stated that "it is clear that philosophy inspires one's activities, and gives direction to practice" (p. 5). It follows, as asserted by Zinn (1983, 2004), that instructional styles are the "operational behavior" (2004, p. 55) of an individual's educational philosophy.

In response to the need for a practical and effective instrument to identify an individual's philosophy of education, Zinn (1983) developed the Philosophy of Adult Education Inventory (PAEI). The PAEI is based on five of the philosophical tenets identified by Elias and Merriam (1995): Liberal, Behaviorist, Progressive, Humanistic, and Radical. This self-assessment tool allows individuals to identify their philosophy of education and then to compare it with the prevailing philosophies identified by Elias and Merriam. The PAEI provides adult educators who are interested in personal and professional growth a means to

clarify and reflect on their philosophical beliefs about adult education (Zinn, 2004, p. 52).

Distance-Delivered Master of Science Degree Program

Increased growth in distance education offerings at higher education institutions, coupled with changing demographics, technological innovations, and needs of the knowledge-driven society (Derrick, 2003; Horgan, 1998; Moore, 2003; Palloff & Pratt, 1999; Saba, 2003; Tschang, 2001), led universities to explore ways to offer entire degree programs using distance education technologies. An example of a program developed in response to these trends is the Agricultural Education and Communication Distance-Delivered Master of Science Degree Program in the Department of Agricultural Education and Communication at the University of Florida.

In 2004, the Department of Agricultural Education and Communication established this distance education degree program to meet the career, educational, and professional development needs of two specific professional groups of adult students. The degree program is limited to individuals employed currently as middle or high school agriscience instructors or as County Cooperative Extension Service faculty. The program was designed to meet the time constraints of students in these professions. In addition,

Florida County Cooperative Extension Service faculty also are employees of the University of Florida and are eligible for fee waivers and paid leave for approved professional development activities. Further, completion of a career-related Master of Science degree is required for continued employment, promotion, and permanent status (analogous to tenure) within the Florida Cooperative Extension Service.

Students enrolled in this degree program are members of a cohort group and progress through courses together with the exception of a few courses specific to either the County Cooperative Extension Service faculty or the agriscience teachers (see Appendix 1 for Schedule of Courses). The first cohort group, comprised of 18 students, began the degree program in January 2005, and the second cohort group, comprised of 15 students, began the program in January 2006. The degree program is designed to be completed in 2½ years. Faculty who teach in this program are departmental faculty.

Problem Statement

The growth in distance education opportunities in higher education over the last decade has increased interest in the factors affecting both the instructors and learners who are engaged in distance-delivered education programs. It has been shown that the instructors'

philosophy of adult education is reflected in their teaching style and interactions with students (Zinn, 2004). Rovai and Lucking (2003) identified the importance of additional research regarding the instructors' role in the distance learning environment and stated that "distance educators have not yet come to understand the dynamics of their teaching environments and their own personal projections and the instructional decisions they make; therefore, reengineering efforts can amount to tinkering with the wrong variables" (p. 14).

Research investigating student learners in the distance-learning environment also is receiving greater attention, and further investigation is needed to identify critical issues that affect student learning in this evolving environment (Derrick, 2003; Song et al., 2004). One aspect of student learning that has been explored is sense of classroom community in the distance education environment. Research has shown that students' sense of community in the online learning environment has a positive relationship to students' persistence and learning outcomes (Rovai, 2002b; Rovai & Baker, 2004). Additional research is needed to describe specific components that can affect the teaching-learning transaction in specific higher education discipline areas.

Distance education instructors can play a role in the development of a sense of community among students (Rovai, 2001a). Rovai (2001a) recognized this relationship and asserted that "educators who perceive the value of social bonds in the learning process must reconceptualize how sense of community can be stimulated in virtual classrooms, particularly in Internet-based asynchronous learning network (ALN) courses" (p. 33).

The University of Florida Department of Agricultural Education and Communication established a distance-delivered Master of Science degree program to meet the needs of adult students who are either County Cooperative Extension Service Agents or middle or high school agriscience teachers. Significant time and resources were devoted to the program and its development. This new degree program has not been studied, and students' sense of community and instructors' philosophy of adult education are not known.

Research has indicated that development of communities of learning is central to successful collaborative learning environments, and the development of learner-centered approaches to online learning may contribute to the development of successful communities of learning. With the importance of students' sense of community identified,

additional research was needed that identified instructor characteristics that may contribute to the development of a sense of community. One important characteristic that instructors bring to the distance education environment is their educational philosophy. By studying this aspect of the students' distance learning environment and the instructors' philosophy of adult education, a better understanding of their possible relationship can be gained. This information can provide the foundation for future research.

This study can contribute to research and scholarship through identification and clarification of students' sense of community and instructors' philosophy of adult education that may assist both practitioners and scholars on how to influence online learning positively. This understanding could be used by higher education institutions to enhance distance-learning activities and could lead to the development of effective models for training instructors who engage in distance-delivered teaching.

Purpose of the Study

The purpose of this research study was to describe the students' sense of community and the instructors' philosophy of adult education in an agricultural education and communication distance-delivered Master of Science

degree program at the University of Florida. To accomplish this, data were gathered from students using the Classroom Community Scale (Rovai, 2001a) and a demographic questionnaire that gathered information on gender, age, race, highest degree earned, years since receiving last degree, years of experience in current profession, and number of courses taken via distance education. Data were gathered from the instructors using the Philosophy of Adult Education Inventory (Zinn, 1983) and a demographic questionnaire which gathered information on gender, age, highest degree earned, years since receipt of last degree, years of experience teaching graduate students, number of courses taught using distance education, and training received related to teaching in the distance education format. Descriptive statistical analyses were used to provide summary information about study participants. Additionally, course syllabi for this program were gathered from instructors and reviewed for content.

Research Questions

1. What is the profile of the students enrolled in the agricultural education and communication distance-delivered Master of Science degree program at the University of Florida based on the demographic variables of gender, age, race, highest degree earned, years since receiving last degree, years of experience in current profession, and number of courses taken via distance education?

2. What is the Classroom Community Survey (CCS) profile of the students?

3. How are the students distributed on the CCS based on the demographic variables of gender, age, race, highest degree earned, years since receipt of last degree, years of experience in current profession, and number of courses taken via distance education?

4. What is the Philosophy of Adult Education Inventory profile of the instructors who taught in the agricultural education and communication distance-delivered Master of Science degree program at the University of Florida?

5. What is the profile of the instructors based on the demographic variables of highest degree earned, years since receipt of last degree, years of experience teaching graduate students, number of courses taught using distance education, whether training was received related to teaching in the distance education format, gender, and age?

6. What is provided in the course syllabi for this program that addresses students' sense of community?

7. What is provided in the course syllabi for this program that addresses the teachers' philosophy of education?

Definition of Terms

The following definitions were used for concepts in this study:

Classroom Community: Rovai and Lucking (2003) defined classroom community as a feeling that members have of "belonging and trust," a belief that "they matter to one another and to the group," that they have "duties and obligations to each other and to the school," and

that they have shared expectations that "members' educational needs will be met through their commitment to shared goals" (p. 6). Classroom community can be experienced in both the traditional and distance education learning environments.

Distance Education: "All forms of education in which all or most of the teaching is conducted in a different space than the learning, with the effect that all or most of the communication between teachers and learners is through a communications technology" (Moore, 2003, p. xiv). Distance education requires special course design techniques, instructional techniques, methods of communication, and organizational and administrative arrangements (Moore & Kearsley, 1996).

E-Learning: See online learning.

Learner-Centered: An educational practice where the focus is on the learner (Conti, 2004) and the learner takes a greater lead in determining the sequence and flow of the educational process. The instructor serves as a facilitator guiding the process, uses collaborative activities, and actively promotes critical thinking and research skills (Bonk & Wisher, 2000).

Online Learning: This is an overarching term used to describe any education or training that occurs using

the Internet or World Wide Web and may occur synchronously or asynchronously. Online learning may include a wide variety of materials, such as use of text material, performance objectives, discussion questions, video, audio, compact disk (CD), and/or digital videodisk (DVD). Online learning is synonymous to e-learning.

Philosophy of Education: An individual's set or system of beliefs regarding adult education (Zinn, 1977, cited by Zinn, 1983).

Sense of Community: "A feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, cited by Rovai, Wighting, & Lucking, 2004, p. 266).

Teacher-Centered: A dominant educational practice in North America (Conti, 2004, p. 77) where the instructor is highly autonomous and the course content is formalized, determined, and detailed by the instructor with little opportunity for the student/learner to demonstrate creativity and independent action (Derrick, 2003; Sammons, 2004).

Teaching Style: The methods, techniques, and personal attributes an individual utilizes when facilitating the learning process. These qualities are "persistent from situation to situation regardless of the content" (Conti, 2004, pp. 76-77). Teaching style is reflective of an individual's philosophy of adult education (Zinn, 2004).

The following operational definitions were used in this study:

Philosophy of Adult Education: An individual's philosophical preference is determined by the highest scored philosophical orientation on the Philosophy of Adult Education Inventory (PAEI) (Zinn, 1983).

Sense of Community: An individual's sense of community is determined by the score obtained on the Classroom Community Survey (CCS) (Rovai, 2002a).

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Distance-delivered education at universities has increased greatly over the past decade, and it is an important resource that has allowed for greater access to educational programming. The emergence of technology as a way for universities to deliver educational programs has lead to a focus on the dynamics of teaching and learning in this new educational environment. As interest in the teaching-learning transaction increased, researchers explored components of this interaction that may facilitate the success of teachers and learners. Important components of the distance learning environment include students' sense of community and teachers' philosophy of education.

Distance Education

Growth in Distance Education

Since the early 1990s, distance education has grown at a brisk rate and corresponds to the increasing utilization of the Internet. A National Center for Education Statistics (NCES) study examined distance education in higher

education institutions and found that between 1995 and 1997, the percentage of higher education institutions offering distance education courses rose from 33% to 44%, and the number of distance courses nearly doubled (NCES, 1999).

A NCES study conducted in 2002 found that during the 2000-2001 academic year, 56% of all two- and four-year Title IV-eligible, degree-granting institutions offered distance education courses with 90% of public two-year and 89% of public four-year institutions offering distance education courses (NCES, 2003). Course offerings rose from 25,730 in 1995 to 127,400 in 2000-2001 (NCES, 2003). Enrollment in all distance education courses rose dramatically from 753,640 in 1994-1995 to over 1.34 million in 1997-1998 (NCES, 1999) and exceeded 3.07 million in 2000-2001 (NCES, 2003).

It is significant to note that of the 3.07 million enrollments over 78% (2.42 million) were at two- and four-year public institutions (NCES, 2003). This trend has continued, and a 2006 study conducted by The Sloan Consortium found that "nearly 3.2 million students were taking at least one online course during the fall 2005 term, a substantial increase over the 2.3 million reported the previous year" (Allen & Seaman, 2006, p. 1).

Further, the number of enrollments and the availability of distance education courses are expected to increase as use of the Internet expands and information technology tools become more commonplace in society. The advances in technologies and growth of the Internet have brought challenges and opportunities for how and where individuals are educated and trained. As the data show, in the span of a decade, distance learning has grown considerably and is changing the landscape of higher education.

Terms Related to Distance Education

The terms "distance education" and "distance learning" have been used interchangeably and applied by many different researchers to a wide variety of programs, audiences, and media. The emergence of technology for the purpose of education has created new definitions of distance education and distance learning. The American Association of University Professors Subcommittee on Distance Education (1997) described distance education as

> The process whereby the education of a student occurs in circumstances where the educator and student are geographically separated, and the communication across the distance is accomplished by one or more forms of technology, typically electronic, such as television and computers, though, strictly speaking, not limited to these media. (Section III, para. 1)

The United States Distance Learning Association (USDLA) (2004), a major U.S. distance learning association, defined distance education as an

> Education program whereby students may complete all or part of an educational program in a geographical location apart from the institution hosting the program; the final award given is equivalent in standard and content to an award program completed on campus. (Definition, para. 1).

USDLA further delineates distance learning as "the acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance" (Glossary, para. 4).

Derrick (2003) stated that distance education can be "any form of instructional delivery in which the student and teacher are not physically in the same location" (p. 8). The American Society for Training and Development (2001) defined e-learning as "instructional content or learning experiences delivered or enabled by electronic technology. . .[and] can include a wide variety of learning strategies and technologies" (p. 7). The California Distance Learning Project (2004) proposed the following as key elements in distance learning:

> (a) the separation of teacher and learner during at least a major portion of each educational process; (b) separation of teacher and learning

> in space and/or time; (c) the use of educational media to unite teacher and learner and carry course content; (d) the provision of two-way communication between teacher, tutor, or educational agency and learner; and (e) volitional control of learning by students rather than by the distance instructor. (Definitions, para. 3)

Drawing on these definitions, online learning can be defined as a form of distributed learning enabled by the Internet that goes beyond traditional computer-based learning by making full use of the Internet and other technologies (Volery & Lord, 2000). In summary, distance education, distance learning, and online learning are generally characterized by separation of teacher and learner, by greater control of the learning by the student rather than the instructor, and by occurring via synchronous or asynchronous communication between student and instructor (Jonassen, Davidson, Collins, Campbell, & Haag, 1995; Sherry, 1996).

Asynchronous and Synchronous Delivery Modes

In the distance education and online learning arenas, teaching and learning at a distance are accomplished via either asynchronous or synchronous delivery modes. These modes differ greatly.

Asynchronous modes do not require simultaneous participation of all students and instructors and are not

limited by time and place. This mode provides a self-paced format and is more flexible than synchronous instruction. Students may choose their own instructional timeframe and location. Examples include using the postal system, videocassettes, compact disks, e-mail, computer-based conferencing, web-based learning, or web-based bulletin boards (California Distance Learning Project [CDLP], 2004; Derrick, 2003).

Synchronous teaching and learning require simultaneous participation of all students and the instructor. An element of the synchronous delivery mode is that the interaction occurs in real time and at a definitive time and location. Examples include web-based chats, interactive television, satellite broadcasts, radio broadcasts, and two-way conferencing (CDLP, 2004; Derrick, 2003).

Historical Perspective

Distance education is not a new phenomenon although the methods used to deliver educational material have changed considerably over the past 100 years. Bell and Tight (1995, cited by Bastiaens & Martens, 2000) assert that

> These [distance education] trends—along with the associated jargon of assessment of prior knowledge, distance education, modularization, student-centered learning, and so on—while in many ways welcome, should not be seen as modern

> or radical innovations. What they really represent is a reversion to earlier and more open patterns of higher education. (p. 3)

Distance education has a rich history. The earliest forms of distance learning took place in Europe through the use of correspondence courses. In Europe, Isaac Pittman launched his correspondence courses in stenography as early as 1840 (Bastiaens & Martens, 2000; CDLP, 2004), and this open learning/distance education was described as "one of the most interesting developments in recent years in the educational world" in a 1924 issue of ***Pittman's Journal*** (cited in Bastiaens & Martens, 2000, p. 3). In the United States, the development of the postal service in the 19th century provided a means for commercial correspondence colleges to deliver educational programs at a distance to individuals across the county (CDLP, 2004; Phipps & Merisotis, 1999; Pittman, 2003). In 1874, Illinois Wesleyan University began university-level distance education by offering undergraduate and graduate degrees in absentia.

As technology evolved, so did the methods used for extending learning opportunities to those located at a distance from traditional educational settings. In the 20th century, radio and television moved to the forefront of distance education delivery methods and created new forms of communication for distance learning. In the 1980s and

1990s, teleconferencing technologies made it possible for teachers to interact with students without delays in transmission. In the late 1990s and early 2000s, computer-network communication spread rapidly and allowed students and teachers to communicate via the computer. Since the early 1990s, distance education has changed through rapid advancements in computer-mediated learning, online learning, two-way interactive video, and other technologies (Phipps & Merisotis, 1999). As history shows, distance education is not a new concept, but new technologies have changed and expanded its availability and use.

Adult Learning

The literature on adult learning emphasizes the complexity of the teaching and learning dynamic that is not captured easily in one all-encompassing learning theory or perspective. Many perspectives of adult learning are presented and each provides a framework from which to explore the phenomenon. While there has been a significant knowledge base developed about adult learning, there is still much to be learned (Merriam & Caffarella, 1999).

Systematic study on how adults learn has interested educators and scholars since the early 20th century. Early research in adult learning centered on Behaviorist psychology and educational psychology (Merriam, 2001,

p. 4), and an understanding of adult learning oftentimes was gleaned from research focused on children (p. 4).

In the early 1970s, research and theory building in adult learning gained greater attention, and an understanding of what distinguished adult learning from childhood learning became a focus of adult educators (Merriam & Caffarella, 1999). Currently, there is "no single answer, no one theory or model of adult learning that explains all we know about adult learners, the various contexts where learning takes place, and the process of learning itself" (Merriam, 2001, p. 3).

Malcolm Knowles and Sharan B. Merriam are two scholars who contributed significantly to the field of adult learning. Knowles, Holton, and Swanson (1998) described adult learning as "the process of adults gaining knowledge and expertise" (p. 124). Merriam (2001) viewed adult learning more broadly and stated that learning is more than a process to acquire and store information, it "also makes sense of our lives, transforming not just what we learn but the way we learn it" (p. 96).

Adult learning theory is complex and is a composite of models, theories, and sets of principles that, taken together, compose the frame of knowledge for adult learning. Merriam (2001) identified two key, foundational

theories of adult learning: andragogy and self-directed learning (p. 3). These theories have stood the test of time and continue to be important contributions to the study of adult learning.

Andragogy

Lindeman (1926/1961), an early leader in the adult education field, laid the foundation for a theory of adult learning, and Houle (1961) fueled the movement with a research study concerning continuing learners. The movement continued, and between the 1960s and 1980s, a rich period of research, writing, and theorizing occurred in the field of adult learning (Knowles & Associates, 1984; Merriam & Caffarella, 1999).

A focus of this research was identifying what distinguished learning in adults from learning in children. This period of research and theory building came at a time when proponents of adult education were moving to distinguish the field of adult education from other educational fields (Knowles, 1980; Merriam, 2001, p. 4).

During this period, Knowles (1990) sought to organize the body of knowledge about adult learners into "a systematic framework of assumptions, principles, and strategies. This is what andragogy sets out to do" (Knowles, 1984, p. 7). Andragogy provided a conceptual

framework of adult learning (Knowles et al., 1998, p. 71) that helped differentiate learning in adults from learning in children (Merriam, 2001, pp. 4-5). As research and literature in adult learning emerged and the field of adult education gained greater attention, adult educators used andragogy as a way to distinguish their field from other fields in education (Merriam, 2001).

Knowles contrasted the andragogical model with the pedagogical model, or what was known as traditional learning (Knowles & Associates, 1984). Pedagogy, the art and science of teaching children, is an ideology based on assumptions about teaching and learning that evolved in Europe at the early religious schools. The pedagogical model assumes that the learner is submissive and follows the teacher's direction. In this teacher-directed model, the teacher is responsible for determining what will be learned, how it will be learned, when it will be learned, and whether it has been learned. When public schools in the United States, elementary through higher education, were organized in the early 19th century, they adopted the pedagogical model. Consequently, when adult education was being organized, it, too, was based on the pedagogical model. As a result, adults were being taught based on the model of education developed for children (Knowles, 1990).

By contrast to pedagogy, andragogy was described initially as the art and science of helping adults learn (Knowles & Associates, 1984). Knowles et al. (1998) later modified this definition and referred to andragogy as "a set of core adult learning principles that apply to all adult learning situations" (p. 2). Knowles (1980) initially proposed a set of four assumptions about adult learners, and later he identified two additional assumptions (Knowles et al., 1998):

1. The learners' self-concept. Adults have a self-concept of being responsible for their own decisions, for their own lives.

2. The role of the learners' experience. Adults come into an educational activity with both a greater volume and a different quality of experience from youths.

3. Readiness to learn. Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations.

4. Orientation to learning. In contrast to children's and youth's subject-centered orientation to learning (at least in school), adults are life-centered (or task-centered or problem-centered) in their orientation to learning.

5. Motivation. While adults are responsive to some external motivators (better jobs, promotions, higher salaries, and the like), the most potent motivators are internal pressures (the desire for increased job satisfaction, self-esteem, quality of life, and the like).

6. The need to know. Adults need to know why they need to learn something before undertaking to learn it. (Knowles, 1990, pp. 57-63)

From these assumptions, Knowles (1980) identified an andragogical process for program development that applies to comprehensive adult educational programs and individual learning activities:

> (1) the establishment of a climate conducive to adult learning; (2) the creation of an organizational structure for participative planning; (3) the diagnosis of needs for learning; (4) the formulation of directions of learning (objectives); (5) the development of a design of activities; (6) the operation of the activities; and (7) the rediagnosis of needs for learning (evaluation). (p. 59)

In Knowles's earlier writings, he saw pedagogy and andragogy as dichotomous models of learning. Knowles's view was criticized, and based on this criticism and emerging research regarding learning in children, he modified his views (Knowles, 1989; Knowles & Associates, 1984; Merriam & Caffarella, 1999, 2001a). In the revised edition of The Modern Practice of Adult Education, and in later writings, Knowles (1980; 1989) acknowledged that both the andragogical and pedagogical models were useful to test which set of assumptions fit best in a particular situation and that the models represented "two ends of a spectrum" (1980, p. 43). Merriam and Caffarella (1999) suggested that

Knowles's view of pedagogy and andragogy "represents a continuum ranging from teacher-directed to student-directed learning and that both approaches are appropriate with children and adults, depending on the situation" (p. 275).

Merriam and Caffarella (1999) cited several theorists who disagreed with Knowles's perspective of the pedagogy-andragogy continuum (pp. 273-278). Critics asserted that the pedagogy-andragogy relationship was more complicated than the linear continuum model and that some andragogical assumptions did not lie on a continuum and instead were dichotomous (Merriam & Caffarella, 1999).

Davenport and Davenport (1985) debated whether andragogy was a theory, a learning theory, or a teaching theory. Another issue raised was whether principles of practice could be grounded in andragogy if it was not a theory and if andragogy focused too strongly on the learner and learner freedom and did not take into account the sociohistorical context of the learner (Merriam, 2001). Pratt (1993) suggested that andragogy was more of a philosophical stance regarding adult education and was a statement about the relationship an individual has with the larger society rather than a theory of adult learning (p. 22).

As the body of knowledge about andragogy increased, Knowles (Knowles and Associates, 1984) stated that the andragogical model "is a system of elements that can be adopted or adapted in whole or in part. It is not an ideology that must be applied totally and without modification. . . . an essential feature of andragogy is flexibility" (p. 418). Knowles (1989) stated in his autobiographical book, The Making of an Adult Educator, that although andragogy qualified as a theory according to common definitions, he saw the andragogical model as more of a "model of assumptions about learning or as a basis for an emergent theory" (p. 112). In later writings, Knowles (1990) allowed that he viewed the andragogical model "not as an ideology; it is a system of alternative sets of assumptions" (p. 64).

Knowles (1990) stated that neither andragogy nor pedagogy ought to be viewed as good or bad. He also disavowed the idea that andragogy is for adults only and pedagogy is for children only. To put the concepts into perspective, Knowles (1990) stated that he saw a critical difference between the two models: the pedagogical model was an ideology that excluded andragogical assumptions, and the andragogical model was a set of assumptions that included pedagogical assumptions (p. 64). For

practitioners, this meant they needed to determine which model or set of assumptions was appropriate for a particular learner, learner goal, and situation and use the appropriate model as a starting point (Knowles, 1990, p. 64).

Merriam and Caffarella (1999) indicated that current thought was that andragogy was not a unique function of adults but rather was situation-specific (p. 275). Both approaches (andragogy and pedagogy) are appropriate for adults and children depending on the situation and the learner. Knowles et al. (1998) acknowledged that:

> Andragogy works best in practice when it is adapted to fit the uniqueness of the learners and the learning situation. We see this not as a weakness of the principles, but as a strength. That is, their strength is that these core principles apply to all adult learning situations, provided they are considered in concert with other factors that are present in that situation. (p. 3)

Further, because of the wealth of experiences and knowledge adults bring to their learning situations, andragogy may be particularly successful with adults (Knowles, 1980).

The pedagogical model assumes that the teacher takes responsibility for deciding "what will be learned, how it will be learned, when it will be learned, and if it has been learned. It is teacher-directed education" (Knowles, 1990, p. 54). In this model, students are viewed as

passive, and they play a submissive role in the learning process.

The andragogical model assumes that learners direct their learning. The teacher serves in the role of facilitator or helper in the learning process and "create[s] the conditions within which learning can take place" (Darkenwald & Merriam, 1982, p. 49). Further, an assumption of andragogy is that a teacher cannot make a person learn, rather "one person can only help another person learn" (Knowles, 1980, p. 48). In addition, Knowles (1980) saw the teacher/facilitator as aiding adults to become self-directed learners and that andragogy, in practice, "treats the learning-teaching transaction as the mutual responsibility of learners and teacher" (p. 48).

Andragogy exemplifies the learner-centered concept (Knowles, 1980), and it encourages learners to become active participants in the learning process. Houle (1996) claimed, "Andragogy remains the most learner-centered of all patterns of adult educational programming" (p. 30). Darkenwald and Merriam (1982) stated that teachers who value individual growth and development can guide their practice by "emphasizing process over content, the adult as the center of the experience, teacher as facilitator, and

group interaction as the primary vehicle for learning" (p. 49).

Knowles (1980) viewed organizations as social systems and suggested that they served not only to further organizational goals but also to help people meet their human needs and goals (p. 66). He viewed building an educative environment as an important consideration for organizations that commit to help people learn (p. 67).

Knowles supported the view that the goal of adult education was to help adults realize their full potential (Darkenwald & Merriam, 1982, pp. 46-47). Knowles (1980) stated that "an educative environment—at least in a democratic culture—is one that exemplifies democratic values, that practices a democratic philosophy" (p. 67). His philosophy of education is characterized:

> By a concern for the development of persons, a deep conviction as to the worth of every individual, and faith that people will make the right decisions for themselves if given the necessary information and support. It gives precedence to the growth of people over the accomplishment of things when these two values are in conflict. It emphasizes the release of human potential over the control of human behavior. (p. 67)

Merriam and Caffarella (2001a) noted that andragogy has been criticized in the literature (p. 88). They stated that there has been minimal empirical work undertaken to

test the validity of the andragogical model's sets of assumptions or whether the model has use in predicting adults' learning behaviors (p. 89). Knowles (1989), in his autobiography, reacted to earlier criticisms and contended that most critiques were helpful and stimulated additional thinking and refinement of andragogical theory. Despite the criticisms, andragogy remains as the best-known model of adult learning (Merriam & Caffarella, 2001a). Those who work with adult learners continue to find the andragogical model and its practical application useful in understanding adult learners (p. 89).

Self-Directed Learning

The second foundational theory of adult learning identified by Merriam (2001) was self-directed learning. The self-directed learning model evolved during the same period of rich research and writing as the andragogical model of adult learning. The self-directed learning model offered additional information regarding how learning in adults and children differ (p. 8).

Tough (1979) conducted extensive research on adult learning in the 1970s. He found that a universal activity among adults is self-directed learning. In his studies, he determined that approximately 90% of adults engaged in at least one learning effort annually. Of these adults,

approximately 70% engaged in self-directed learning. Tough's identification and description of these widespread adult learning behaviors, which did not rely on instructors or formal education settings, led to the emergence of self-directed learning as a foundational model of adult learning (Merriam, 2001).

Knowles contributed to the self-directed learning knowledge base, and one of his six assumptions of andragogy focused on the self-directed nature of adult learners (Knowles, 1975; Knowles & Associates, 1984). Knowles (1990) speculated, based on a growing body of research, that as humans mature "their need and capacity to be self-directing, to utilize their experience in learning, to identify their own readiness to learn, and to organize their learning around life problems, increases steadily from infancy to pre-adolescence, and then increases rapidly during adolescence" (p. 55). Mezirow (1985) reinforced this idea and stated, "No concept is more central to what adult education is all about than self-directed learning. . . . Self-directed learning is the goal of andragogy" (p. 17).

With Knowles's (1975) assertion that adults become increasing self-directed as they mature, he defined self-directed learning as:

> A process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 18)

While Knowles suggested there were learning situations in which learners would depend on others to direct their learning, he stressed that every act of teaching should encourage and help the learner move closer to self-directed learning (p. 11).

Knowles (1975) also encouraged the use of learning contracts as effective devices for learners to organize their self-directed learning (pp. 25-28). Learning contracts allow individuals to identify what they want to learn, how they want to structure their learning, what learning resources they will use, and how they will validate their learning. Use of a learning contract can help self-directed learners be more efficient in the organization of their learning activity and exercise greater creativity in identification of learning strategies and resources (p. 25).

Merriam (2001) summarized three independent, yet sometimes overlapping, goals of self-directed learning. The goals vary depending on the philosophical perspective of the researcher or theorist: (a) develop the learners'

capacity to be self-directed, (b) foster transformational learning though critical reflection and self-knowledge, and (c) promote emancipatory learning and social action (p. 9).

Knowles et al. (1998) provided two conceptions of self-directed learning. The first conception was that self-directed learning allowed learners to control the particulars of teaching themselves and to engage in self-teaching (p. 135). The second conception focused on self-directed learners taking ownership of the learning and assuming control of the development of goals, which lead to the learners achieving personal autonomy (p. 135).

The term self-directed learning is not intended to imply that learning takes place in isolation (Knowles, 1975). Oftentimes, this type of learning occurs in association with what Knowles called “helpers” (p. 18): teachers, mentors, peers, and other resource people.

Due to the complexity of adult learning and its many facets, it is unlikely that a single overarching theory of adult learning will be developed. With a learner-centered focus, both andragogy and self-directed learning continue to serve as two important foundations of adult learning, each providing a different perspective of the adult learning phenomenon. As other theories and frameworks are

developed, they will add additional perspectives to this rich field of knowledge.

Learning and Distance Education

With the rapid growth in distance education and online delivery of courses, educational research in the social or educational aspect of online teaching methods has not been studied sufficiently (Dede, 1996; Palloff & Pratt, 1999; Rovai & Lucking, 2003). Oftentimes, the initial response to this brisk growth was the application of traditional teaching methods to the online learning environment rather than development and application of new models specifically for online learning. The shift to computer-mediated distance learning can be a challenge for instructors who believe that the approach to online learning is the same as traditional classroom-based learning (Sammons, 2003).

There has been a transition in how teaching and learning are viewed, and the focus is shifting from a teacher-centered to learner-centered perspective (Berge & Collins, 1995; Derrick, 2003; Sammons, 2003; Schuyler, 1997). Bastiaens & Martens (2000) asserted that this shift coincided with a move in the field of psychology to a cognitive approach that accentuates mental processes and the importance of the learner's role in the learning process.

The learner-centered approach places greater emphasis on the structures and mechanisms that enhance and develop the skills and attitudes needed for students' future learning to be sustained (Derrick, 2003). In addition, the learner-centered approach moves the learner to the center of the learning process. This perspective is characterized by the constructivist learning theory (Rovai, 2004; Sammons, 2003) and principles inherent in the andragogical model. Moore and Kearsley (1996) supported the application of adult learning theories, especially andragogy, to adult distant learners (p. 153). Indeed, they suggested that an understanding of adult learning theories would prove useful in understanding the nature of distance learning (p. 153).

Teacher-Centered Approach to Learning

Traditional, or pedagogy-based, learning environments in the United States typically are teacher-centered, have a well-defined course structure, and interactions between instructor and students are face-to-face. The teacher-centered approach reinforces the view that knowledge is gained by information transfer from the instructor to the learner, and knowledge is seen as being external to the learner.

The emphasis of the learning is placed on the students' ability to answer what the teacher prescribed as

important. In the teacher-centered setting, the instructor is highly autonomous, and the course content is determined and detailed by the instructor with limited opportunity for the student/learner to demonstrate creativity and independent action (Derrick, 2003).

An emphasis of the teacher-centered approach is on the method of information distribution rather than facilitating students' learning and their accomplishments by tailoring activities to account for individual learning preferences or the students' knowledge base. The lecture format is common in this setting with the instructor controlling the learning process through the careful and measured distribution of knowledge. The students typically are passive (Gardiner, 1998). Twigg (1994) contended that the traditional lecture method hinders student involvement and active learning and that learning is diminished in this environment.

Learner-Centered Approach to Learning

In a learner-centered environment, learning becomes an active process in which the learner and the instructor must contribute to be successful, and it is through this active participation that a "web of learning is created" (Palloff & Pratt, 1999, p. 6). These interactions form a network through which "knowledge acquisition is collaboratively

created" (p. 6) between the instructor and learner. In this environment, the learner takes a greater lead in determining the sequence and flow of the educational process. Indeed, Huba and Freed (2000) stated that teachers "coach and guide" (p. 51) students in the learner-centered environment to help construct their knowledge.

A learner-centered approach asks students what needs to be learned, what are their learning preferences, and what is meaningful to them (Bonk & Wisher, 2000). The instructor serves as a facilitator by guiding the process, supporting active discussion, using collaborative activities, and promoting critical thinking and research skills (p. 17). Huba and Freed (2000) maintained that in a learner-centered environment, the focus is on the needs of the learners rather than on the needs of the teacher (p. xvi-xviii).

Palloff and Pratt (1999) further postulated that the desired outcome of this process is the depth of knowledge acquired, skills developed, and evidence of critical thinking rather than "the number of facts memorized and the amount of subject matter regurgitated" (p. 6). This more active learning model supports self-directed learning and allows the learner to "interact with the learning

environment, the knowledge, and with other learners" (p. 16).

Student-centered teaching reflects students' learning preferences and what is meaningful to them in the learning environment. Jonassen et al. (1995) concluded that teaching and learning environments that foster a learner's social construction of knowledge through interactions with communities of learners and personal understanding are preferred to teacher-centered environments that control and sequence instruction.

The Online Learning Environment

The online learning environment can be structured to support the learner-centered approach to teaching (Fisher & Baird, 2005; Rovai, 2004; Sammons, 2003). In this setting, the instructor may continue to define the course content and structure, but the student has greater opportunity to work collaboratively with other students and to explore related areas of interest (Palloff & Pratt, 1999). The instructor would not be the only expert, and classes are not place or time bound. Knowledge about learning consists of "use of such techniques as mastery learning, cooperative [collaborative] learning, and discovery learning, [and] implies a learning-by-doing model rather than the passive, classroom-based model that typifies a teaching structure"

(Twigg, 1994, p. 3). Dede (1996) contended that these actions would allow instructors, if they choose, to move beyond teaching-by-telling pedagogical approaches and to focus on learner-centered activities.

Shifting the teaching-learning transaction to a learner-centered perspective does not diminish the importance of the instructor (Duffy & Cunningham, 1996). Collis (1996) stated that the instructor plays a central role in the effectiveness of online delivery and contended, "it is not the technology but the instructional implementation of the technology that determines the effects on learning" (as cited by Volery and Lord, 2000, Instructor Characteristics, para. 1).

The developing role for the teacher in the online learning environment can focus on application of constructivist learning theory and adult learning principles to create structures and models that support the learner-centered perspective (Rovai, 2004; Sammons, 2003). The instructor's role can become that of a guide with the focus to aid or provide the scaffolding that is needed by the learner. In the online environment, the instructor/ student relationship can become bidirectional, and "the skills and knowledge of both coach [guide] and learner are

attended to and honored" (Duffy & Cunningham, 1996, p. 184).

Constructivism

Constructivism and active learning theories hypothesize that learners are active in creating knowledge through experimentation, exploration, and manipulation and testing of ideas in reality (Palloff & Pratt, 1999). Bonk and Wisher (2000) asserted that "instead of viewing knowledge as an arbitrary set of facts, knowledge needs to be constructed by the learner so that it can be used as a tool for future learning activities" (p. 6).

Constructivism emphasizes the importance of the knowledge, beliefs, and skills that an individual brings to the learning experience. Prior learning, new information, and a readiness to learn combine to construct a new understanding. The learner makes choices as to what new ideas to accept and how to fit them into established worldviews. The "constructivist perspective is congruent with much of adult learning theory" (Merriam & Caffarella, 2001b, p. 84) and provides a foundation on which to examine the online learning environment.

The constructivist perspective acknowledges that students come to a learning situation with a rich array of backgrounds, experiences, and ways of thinking. This

learner-centered view approaches the learning experience from the perspective of what the students' learning preferences might be and what they find meaningful (Bonk & Wisher, 2000, p. 8). Derrick (2003) maintained that it is through online learning opportunities that the advancement of learner control and autonomy is reinforced.

The online environment allows for tailoring instructional materials to learners' styles and preferences. This can be accomplished by incorporating a variety of instructional methods and collaborative activities, such as case study work, group projects, and simulations, in an online class. The online environment can provide a place where students exchange and test their views against those of others, further building their understanding. Palloff and Pratt (1999) posit that it is through interaction and feedback with others that the learners' determine the accuracy and application of their learning (p. 16). The challenge then is for the instructor to foster students' abilities to learn and to build their own understandings (Sammons, 2003).

An example of constructivism in the online learning environment is computer-supported collaborative learning (CSCL). CSCL typically is defined as electronically mediated group program work and requires the active

participation of individuals working together to construct knowledge. This construction of knowledge occurs through the social and intellectual interactions with peers and experts (Wang, Hinn, & Kanfer, 2001). CSCL has shown the potential to support diverse learning styles (p. 82) and is supportive of the learner-centered approach.

Learner-Centered Psychological Principles

The American Psychological Association (APA) (1997) identified 14 learner-centered psychological principles that highlighted the importance of helping learners construct knowledge in meaningful ways, link new information to what is already known, develop thinking and reasoning strategies, and monitor their own critical and creative thoughts. The principles emphasized nurturing social interactions and interpersonal relationships. They also included student-centered activities and may further inform distance education practices (Bonk & Cummings, 1998).

The 14 APA learner-centered psychological principles are divided into four factor groups that influence learners and learning:

1. Cognitive and metacognitive:
    a) nature of the learning process
    b) goals of the learning process
    c) construction of knowledge
    d) strategic thinking

e) thinking about thinking
f) context of learning

2. Motivational and affective:
   a) motivational and emotional influences on learning
   b) intrinsic motivation to learn
   c) effects of motivation on effort

3. Developmental and social:
   a) developmental influences on learning
   b) social influences on learning

4. Individual differences:
   a) individual differences in learning
   b) learning and diversity
   c) standards and assessment.
   (APA, 1997, Principles section)

Bonk and Cummings (1998) used the APA learner-centered principles to design, implement, and refine web-based courses at a four-year public institution. Their study led to the development of 12 learner-centered recommendations for web-based instruction. The recommendations place the student at the center of web-based learning and builds upon a constructivist, student-centered learning environment. Some activities included in the recommendations also are common in other learning formats. The recommendations for instructor action include:

1. Establish a safe environment and a sense of community

2. Exploit the potential of the medium for deeper student engagement

3. Allow choice in the learning experiences and capitalize on learners' interests and strengths,

and encourage students to make decisions and be self-directed learners

4. Facilitate, rather than dictate, and assume a collegial instructional format

5. Use public and private forms of feedback

6. Vary the forms of electronic mentoring and apprenticeship

7. Employ recursive assignments that build from personal knowledge

8. Vary the forms of electronic writing, reflection, and other pedagogical activities

9. Use student web explorations to enhance course content

10. Provide clear expectations and prompt task structuring

11. Embed thinking skill and portfolio assessment as an integral part of web assignments

12. Allow ways to personalize the web experience. (pp. 83-87)

Sense of Community in the Online Learning Environment

With the rise in distance learning offerings, there has been an increased interest and research on instructional methods, student outcomes, technologies, and attitudes and satisfaction of students and instructors (Derrick, 2003; Garrison, 2000; Perez-Prad & Thirunarayanan, 2002; Phipps & Merisotis, 1999). The human element of online learning is now receiving greater attention. The shift from a perspective of instruction to

one of learning has resulted in a sharper focus on the student and a greater emphasis on the building of community in the learning environment (Palloff & Pratt, 1999; Rovai, 2002a, 2002b; Sammons, 2003).

Rovai and Lucking (2003) asserted that to reach optimal success in distance education, a sense of community among learners must be developed and sustained. Communities are built and sustained through interactions. Indeed, Palloff and Pratt (1999) posit that development of online communities parallels development of small groups or communities.

The contention that learners and their interactions are significant elements in a distance learning environment have led to emerging areas of distance education research on the characteristics of the learner, the development of communities of learning, and the development of collaborative learning in the online learning environment (Derrick, 2003; Palloff & Pratt 1999, 2003, Rovai, 2001a). Instructors and learners must understand the concept of sense of community in the online learning environment before they can foster it (Rovai, 2001a). Based on their research on community in the virtual learning environments, Rovai and Lucking (2003) defined classroom community as a feeling that members have of "belonging and trust," a

belief that "they matter to one another and to the group," that they have "duties and obligations to each other and to the school," and that they have shared expectations that "members' educational needs will be met through their commitment to shared goals" (p. 6).

An important element of online learning that can differ from the traditional classroom centers on the interactions among the students and the instructors. If knowledge is co-constructed rather than something transmitted to the learner by the instructor, then it follows that creating greater interactivity among learners and creating a sense of community would lead to greater success in achieving learning objectives (Palloff & Pratt, 2003).

Palloff and Pratt (1999) stated:

> Key to the learning process is the interactions among students themselves, the interactions between faculty and students, and the collaboration in learning that results from these interactions. In other words, the forming of a learning community through which knowledge is imparted and meaning is co-created sets the stage for successful learning outcomes. (p. 5)

They also emphasized that the development of community among a group of participants helps the learning process be successful and that this learning community is the vehicle that facilitates learning online. The development of a

learning community online is what distinguishes online learning from correspondence courses delivered electronically (Goetz, 2004; Palloff & Pratt, 2003). Rovai et al. (2004) contended

> In order for online students to develop a strong sense of community, it is crucial that the learner feels part of a learning community where his or her contributions add to a common knowledge pool and where a community spirit is fostered through social interactions. (p. 267)

These interactions and the social context of online learning continue to evolve as important research areas (Moore & Anderson, 2003; Rovai et al., 2004).

Learner-Centered Approach

Developing learner-centered approaches to online learning may contribute to the development of successful communities of learning. Contemporary thoughts regarding learning and teaching have placed greater emphasis on the learner and the internal conditions that are necessary for successful learning and a reduced emphasis on external conditions (Derrick, 2003; Goetz, 2004; Palloff & Pratt, 1999, 2003).

Palloff and Pratt (1999) asserted that central to building an online learning community and its facilitation are honesty, responsiveness, relevance, respect, openness, and empowerment. They believe that to develop learning

communities, instructors and learners need to become partners as "it is the participants who are the experts when it comes to their own learning" (p. 20).

These views were more recently expressed by Derrick (2003) who stated that the skills and behaviors needed to succeed in an online learning environment "require competence in areas that reside in the psychological dimensions of the learner" (p. 16). She further contended that the movement toward computer-mediated distance education in higher education has served to reinforce the focus on cognitive and psychological conditions that support learning.

Communities of Learning

Research indicates that development of communities of learning is central to successful collaborative learning environments. Lave and Wenger (1991) in their seminal work on communities of practice described learning as the formation of group identity and meaning among communities of practice. They described factors that were essential in a community in order for real work to be completed, particularly when time and place challenged the efforts. These factors include mutual engagement, joint enterprise, and shared repertoire.

While Lave and Wenger's (1991) work did not address online learning communities specifically, others have extended their work to the virtual environment (Schrum & Benson, 2002). One study that extended Lave and Wenger's work found that in an international environment proximity was not necessary for the development of community (Hildreth, Kimble, & Wright, 2000). The study identified the following attributes that support the development of a community of practice: shared common purpose, feeling of identity with the community, use of terminology unique to the community, individuals driving the development, and use of shared documents and artifacts (Hildreth et al., 2000).

This study has application throughout the distributed learning environment (Schrum & Benson, 2002) and can be related to online learning. Sloman and Reynolds (2003) reviewed the theory and practice of electronic learning communities and postulated that "active participation in real situations is . . . the substance of learning" (p. 259), which further supported the need to foster development of communities in the online learning environment.

Bonk and Wisher (2000) created the Social Constructivism and Learning Communities Online (SCLCO) scale for measuring student online learning. The scale

addresses students' and instructor perceptions of the construction of knowledge and the creation of online learning communities, and their perceptions of and preferences for social constructivism. The scale is used to determine, from both the students' and instructor perspectives, critical aspects of web-based courses that are needed for creating a learner-centered environment and the gaps between the students' and instructor perceptions of the learning environment (p. 34).

The importance of the instructor role in nurturing the sense of community in an online environment was highlighted by Wisenberg and Hutton (cited by Rovai & Lucking, 2003) who concluded,

> Building a learning community is of critical importance to the creation of a successful distance education experience. Educators who recognize the value of community must conceptualize how sense of community can be nurtured in such distance learning environments. (p. 6)

Sense of community may be nurtured in the online learning environment when attention is given to its development (Palloff & Pratt, 1999; Rovai, 2002b, 2003). Research has identified key elements in the online learning environment that support the development of communities of learning. These attributes included a shared common purpose, feelings of identity within the community, shared

terminology, and use of shared documents and artifacts (Palloff & Pratt, 1999, 2003). Palloff and Pratt (2003) contended that "the greater the interactivity in an online course and the more attention paid to a sense of community, the more likely students will stick with the course until its completion" (p. 117).

Development of an Online Learning Community

Development of community in an online learning environment in which the above key attributes occur can be facilitated by the instructor and the participants. Hildreth et al. (2000) stated, "One of the most difficult parts of operating in a distributed environment may well be the facilitating of the evolution of the community and the development of the relationships" (p. 35).

Hildreth et al. (2000) studied knowledge management and the functioning of communities of practice across international boundaries through exploration of Lave and Wenger's (1991) theory of communities of practice. They found that in a formal group, such as a team, the "legitimization of the members comes from the formal structures of the group" (p. 35) and that in a community of practice, legitimization comes from the social relationships that develop in the group. The study concluded that the human aspect of a community of practice

is of major importance and that the "essential factor that distinguishes a community of practice from a team is the human aspect, that is, the social relationships that are formed in a community of practice" (p. 35). Therefore, it follows that in online learning environments both the instructor and the students need to consider and foster development of the human element. Research that investigates and identifies methods and learning theories that can guide instructor and learner actions must continue to be conducted to help instructors be successful in creating an online learning environment that encourages the development of a community of learners (Sammons, 2003).

Philosophy of Education

Philosophy of education is "the application of the fundamental principles of philosophy to the theory and practice of education, and the problems and issues of education in turn help inform philosophical thought" (Ozmon & Craver, 2003, p. 2). Exploration of the philosophical foundations of education can help guide educators through critical and reflective thought and gain insight to understand educational problems better. Further, a philosophical perspective can assist an individual to become a more effective educator (p. 12). While there are numerous philosophical perspectives (Crotty, 1998; Ellias &

Merriam, 1995; Ozmon & Craver, 2003) an educator can investigate, this study focused on philosophies central to the adult education field.

Beliefs, Values, and Philosophy

An important step in preparation for the role of educator is the development of a philosophy of education (Spurgeon & Moore, 1997). Through engagement in the practice of education, Zinn (2004) contended, "certain beliefs about life in general are applied to the practice. These beliefs constitute the basis for a philosophy of education" (p. 41). Zinn (1983) maintained that an individual's beliefs guided actions and influenced behaviors and that these beliefs form a belief system, which is that person's philosophy of life (p. 3). Furthermore, she noted that there "is evidence from a number of disciplines to suggest that there is a positive relationship between an individual's beliefs, values, or attitudes and the decisions and actions that make up one's daily life" (p. 2).

These beliefs and general philosophy are expressed in all facets of an individual's life, and for those engaged in teaching, these beliefs form a philosophy of education. Zinn (1983) found that "there is potential value in

examining one's beliefs relevant to the teaching of adults" (Zinn, 1983, p. 4).

Apps (1973) also recognized the influence of beliefs when he defined an educator's working philosophy as "an individual adult educator's system of beliefs" (p. 7). Apps (1989) affirmed that educators benefited in many ways when they identified and examined their philosophy of adult education. He offered four reasons to develop a philosophy of adult education: (a) it helps the educator become aware of what they are doing; (b) it allows the educator to view things from a different perspective and to consider new alternatives; (c) an analysis of one's teaching foundations can lead to an analysis of more fundamental values and beliefs; and (d) it can empower the educator and lead to an understanding that "we are in control of ourselves as teachers and are not dependent on someone to tell us what to do and how to do it" (p. 18).

Elias and Merriam (1995) recognized the connection between philosophy and practice and noted:

> When considering the interrelationship of philosophy and activity, it is clear that philosophy inspires one's activities, and gives direction to practice. The power of philosophy lies in its ability to enable individuals to better understand and appreciate the activities of everyday life. (p. 5)

Tisdell and Taylor (1999) mirrored Elias and Merriam's view and asserted, "one's educational philosophy is imbedded both in what one believes about teaching and learning, and what one actually does in their practice" (p. 6). The educational process, from selection of course materials, course content, learning objectives, teaching methods, and teaching style, is influenced by an educator's beliefs. Recognizing and identifying their philosophical perspective to education can provide educators the opportunity to compare their beliefs with their practices and provide a foundation for action and change.

Apps (1973) believed that adult educators face three kinds of questions in their work: "What is" questions assess current programs; "Why is it" questions foster an analysis of why certain programs are being offered; and "What should be" address future programs. He asserted that educators would find the first two questions less difficult to address than the "What should be" question, which is philosophical in nature (p. 3). If educators know their working philosophy, it could help them analyze situations and problems and serve as a foundation for becoming more effective adult educators (p. 5).

Philosophical Foundations of Adult Education

Elias and Merriam's seminal work (1995/1980), Philosophical Foundations of Adult Education, identified the philosophical foundations of adult education. They posited that six philosophical schools are reflected the field of adult education: Liberal Adult Education; Progressive Adult Education; Behaviorist Adult Education; Humanistic Adult Education; Radical Adult Education; and Analytical Adult Education (pp. 9-11).

Liberal Adult Education

The Liberal adult education philosophy stresses intellectual development of the individual and promotes theoretical thinking that "emphasize[s] liberal learning, organized knowledge, and the development of the intellectual powers of the mind" (Elias & Merriam, 1995, pp. 13, 23). This philosophical school asserts that to be truly educated, individuals must possess fundamental information and knowledge to understand fully, analyze, and synthesize a situation or issue, and they also must have the wisdom to contemplate and search for truth and "apply information and knowledge to the activities of daily life" (p. 23).

The purpose of Liberal education is to develop an individual who is "intellectually, morally, spiritually,

and aesthetically" (p. 26) literate. Based in the writings of Plato, Socrates, and Aristotle, Liberal adult education is the oldest educational philosophy in the Western world (p. 13).

Examples of Liberal adult education include Lyceums, Chautauqua, and the Great Books program. In liberal education, teachers direct the learning, often assume the role of an expert, and "derive their authority from their wisdom and their command over their subject matter" (Elias & Merriam, 1995, p. 31).

Progressive Adult Education

Progressive adult education is grounded in the philosophical foundations of rationalism and pragmatism (Elias & Merriam, 1995, pp. 47, 236). American philosopher John Dewey's (1859-1952) writings are central to progressive adult education, and he was instrumental in the development of this philosophical school (Darkenwald & Merriam, 1982; Elias & Merriam, 1995). Progressive adult education philosophy emphasizes the relationship between social change and adult education, and the purpose of education is "to foster creativity and stability as well as individuality and social consciousness" (Elias & Merriam, 1995, p. 66).

The Progressive philosophy broadened the meaning of education to include both liberal and practical education and, further, it recognized the "centrality" (Elias & Merriam, 1995, p. 56) and significance of learners' experiences in the educational process (p. 56). Dewey recognized the importance of learners' experiences and believed that curriculum needed to draw on these experiences (p. 64). The strong focus on the learner and the student-centered approach to education led to a change in the role of the teacher. In Progressive adult education, teachers are responsible to "organize, stimulate, instigate, and evaluate the higher complex process of education" (p. 62).

Key contributors to the ideals of Progressive adult education included Dewey, Lindeman, and Bergevin. Adult education programs rooted in progressive philosophy include cooperative extension education, community schools, adult basic education programs, English as a second language programs, and citizenship education (Elias & Merriam, 1995; Zinn, 2004).

Behaviorist Adult Education

Behaviorists focus on the external environment and its affect on learning and behavior (Swanson & Holton, 2001). Behaviorist theory was first propounded by American

psychologist John B. Watson (1878-1958) (Audi, 1999; Elias & Merriam, 1995, p. 82). Watson believed that observation of human behaviors was the way to understand humans. Human behaviors were studied using scientific methods, and Watson claimed that intellect and feelings were not measurable and, therefore, could not be investigated directly (Elias & Merriam, 1995, p. 79).

Behaviorists view human behavior as a response to environmental factors. From this perspective, learning is determined by the environment and not by the individuals (Merriam & Caffarella, 1999). Individuals are seen as having little or no control over the environmental influences that affect their behaviors (Audi, 1999; Elias & Merriam, 1995).

Darkenwald and Merriam (1982) stated, "Behaviorists . . . would define adult education in terms of changes in behavior brought about by the educational process" (p. 39). Elias and Merriam (1995) supported this view and explained that from the Behaviorist adult education perspective, education's goal "is to bring about behavior that will ensure survival of the human species, societies and individuals" (Elias & Merriam, 1995, p 87).

Although Watson founded Behaviorism, this theory is most often associated with American psychologist B. F.

Skinner (1904-1990). Skinner succeeded Watson and made major theoretical contributions to Behaviorist theories. To Skinner, the goal of education was to cause behaviors that help make human survival certain (Merriam & Caffarella, 1999, 2001b). It is the teacher's or learning facilitator's role to design the learning environment to achieve or elicit the desired behaviors while eliminating those behaviors that are unacceptable (Swanson & Holton, 2001).

Humanistic Adult Education

The primary focus of Humanistic adult education is on the development and growth of the whole individual (Darkenwald & Merriam, 1982, p. 39; Elias & Merriam, 1995). Elias and Merriam (1995) posited that the:

> Goal of humanistic education is the development of persons—persons who are open to change and continued learning, persons who strive for self-actualization, and persons who can live together as fully-functioning individuals . . . the whole focus of humanistic education is upon the individual learner rather than a body of information. (p. 122)

Early Humanism thought is reflected in the writings of Confucius, Aristotle, and Rousseau, and the philosophy developed further during the Italian Renaissance (p. 110).

Two early Humanistic principles guide the philosophy today: the belief that education is to develop the whole person, and the relationship between the student and

teacher is central to education's success (p. 113). Humanism's later developments occurred mainly as protests against perceived threats to humanity with the latest being a protest against the Behaviorist psychology and nuclear power (p. 111).

The Humanistic philosophy stresses that learning is learner-centered, and the primary responsibility for learning rests with the student. Students identify their own learning needs and interests, and learning is focused on the students and their self-development. Motivation for learning is intrinsic for the adult learner (Elias & Merriam, 1995). Humanistic educators view learning as a "highly personal endeavor" (p. 126) and believe "learning through experimentation and discovery is that learning which will become a part of the person" (p. 127).

With the focus on learner needs, the learning process is viewed as more important than actual content (Merriam & Caffarella, 1999, p. 258). As a result, teachers assume the role of guide or facilitator and help create the environment in which learning can take place. From the Humanistic education perspective, the teacher must trust that the students can and will take responsibility for their learning. Elias and Merriam (1995) contended that teachers accustomed to traditional teaching roles would

find the shift in power from the teacher to the student difficult (p. 125).

American psychologists Abraham Maslow (1908-1970) and Carl Rogers (1902-1987) contributed greatly to the field of Humanistic psychology. Maslow's hierarchy of needs helped explain human motivation, and he believed that self-actualization was the goal of learning (Merriam & Caffarella, 1999, p. 257). Rogers's theory of learning applies to both clinical therapy and educational settings and stresses student- or learner-centered learning (Merriam & Caffarella, 1999, p. 258; Knowles et al., 1998). Andragogy, a framework for the application of Humanistic principles to adult education, was identified by American adult education professor and theorist Malcolm Knowles (1913-1997). His methodology is based in Humanistic principles and provides educators and learners with an understanding of adult learners and their characteristics (Elias & Merriam, 1995; Merriam & Caffarella, 2001b, pp. 87, 94).

Radical Adult Education

The Radical adult education philosophy seeks to raise people's consciousness about social and political issues propagated by their culture (Darkenwald & Merriam, 1982, p. 39). Proponents of this philosophical belief challenge

the status quo to liberate those oppressed by society, to transform power dynamics in society, and to implement social change. An alternative term for the Radical perspective is "Reconstructionist" (Zinn, 2004, p. 53).

Advocates of Radical adult education promote using education to cause "social, political, and economic changes in society" (Elias & Merriam, 1995, p. 139) that will cause a "new social order" (Darkenwald & Merriam, 1982, p. 58). Social change through education involves "both criticizing existing practices and advancing visions of a better society" (p. 58). Radical theorists examine social life and question society's values and structures. Through this critical review, radical theorists propose a vision of a new social order brought about through education (Darkenwald & Merriam, 1982, p. 58).

Myles Horton, (1905-1990), Ivan Illich (1926-2002), and Paulo Freire (1921-1997) were prominent Radical philosophers. Horton co-founded the Highlander Folk School in New Market, Tennessee (now known as the Highlander Research and Education Center). The Highlander School was a unique and controversial institution committed to adult education for social action (Darkenwald & Merriam, 1982). Horton was committed to education as way to drive and implement social change, and he brought people together to

solve problems and provide solutions to address injustices (Darkenwald & Merriam, 1982; Horton, 1998). Horton was active in issues of race, civil rights, social injustices, and labor movements (Horton, 1998; Jacobs, 2003).

Both Illich and Freire were critical of the educational system and viewed it as "perpetuating the evils of oppressive society, as dehumanizing, and as stifling individual freedom" (Darkenwald & Merriam, 1982, p. 62). Illich embraced an anarchist tradition and thought that schools should be eliminated as a means "for freeing people from their addiction to manipulative and oppressive institutions" (Darkenwald & Merriam, 1982, p. 59). Illich proposed alternatives to schools in the form of learning networks. Freire believed that education was value-laden and perpetuated cultural ideologies (Darkenwald & Merriam, 1982, pp. 63-64). He saw education as "either for domestication or for liberation" (p. 63). Freire proposed education be based on dialogue and problem posing with the learning content coming from the learners.

The teacher, in Freire's view, must come to understand the learner's "state of oppression" (Darkenwald & Merriam, 1982, p. 63) through dialogue. Through this dialogue, "authentic action and reflection are indissolubly united" (Crotty, 2002, p. 151) and form what Freire (1972) refers

to as praxis. Freire saw teachers and learners as equals, and he believed teachers "must also be students and that students can also be teachers" (Elias & Merriam, 1995, p. 156).

Analytic Philosophy of Adult Education

Elias and Merriam (1995) described the Analytic philosophy of adult education as "an attempt to establish a sound philosophic basis for the field of adult education" (p. 11), and it is not manifested in any "particular educational practice or program" (p. 11). This philosophy stresses the need to clarify educational concepts, arguments, and policy statements in the adult education field. Analytical philosophy has its historical grounding in Positivism and British Analytic psychology (Elias & Merriam, 1995, p. 11). However, this philosophy is not widely reflected in adult education practice (1983, p. 23).

Summary

Advances in technology have fostered the development of educational methods that extend learning opportunities beyond the traditional classroom. The growth in distance education over the past 10 years signaled the need for development of special course and instructional design techniques that facilitate teaching and learning in this new environment.

Within higher education, the distance education process involves adult learners. A characteristic of distance learning is that students take greater responsibility for their learning, and the focus of teaching and learning in the distance education environment has shifted from a teacher-centered perspective to a learner-centered perspective (Berge & Collins, 1995; Derrick, 2003, Sammons, 2003). Adult learning is learner-centered, and learners are self-directed and active participants in the learning process (Knowles, 1980).

Instructors play an important role in the distance learning environment, and application of adult learning principles can create structures to foster learning and the development of a learner-centered environment. The interaction of the instructor and the students is an important component in the social transaction in the distance learning environment. Successful learning occurs when a sense of community among students and between the students and the instructor is developed (Hildreth et al., 2000; Palloff & Pratt, 1999, 2003; Rovai, 2002a; Rovai & Lucking, 2003).

The instructors' philosophy of education influences their activities and teaching style (Elias & Merriam, 1995; Zinn, 1983; 2004; Tisdell & Taylor, 1999). Different

teaching philosophies can affect how the social interactions occur in the distance education learning environment. These social interactions form the basis for development of a sense of community, which can affect students' learning outcomes.

Research addressing the students' sense of community and instructors' philosophy of education provides insights into the dynamics of the teaching-leaning transaction. An understanding of the components affecting student learning in the distance learning environment can assist both practitioners and scholars to influence the learning process positively.

CHAPTER 3

METHODOLOGY

Design

This study relies on a descriptive research design (Gay, Mills, & Airasian, 2006) to examine the sense of community held by agricultural education and communication graduate students in a master of science distance-delivered degree program and the philosophy of adult education that is held by their instructors. Descriptive research determines and describes existing conditions (Best & Kahn, 1989, p. 76; Charles, 1988, p. 8; Gay et al., 2006, pp. 159, 217) and "involves making careful descriptions of educational phenomena" (Gall, Borg, & Gall, 1996, p. 374). Assessing the "preferences, attitudes, practices, concerns, or interests of some group of people" (Gay et al., 2006, p. 11) is a common form of descriptive research.

Surveys (questionnaires or interviews) and observation are typical data collection methods used in descriptive research (Gall et al., 1996; Gay et al., 2006). Surveys are used to collect information from participants about their

characteristics, experiences, and opinions (Gall et al., 1996; Holton & Burnett, 2005). Surveys typically rely on self-reported data and collecting "standardized, quantifiable information from all members of a population or sample" (Gay et al., 2006, p. 163). A written collection of self-report questions is referred to as a questionnaire, and an oral, in-person question-and-answer discussion between an individual and the researcher is referred to as an interview (Gay et al., 2006, p. 163).

Survey research typically is either longitudinal or cross-sectional (Gay et al., 2006). A longitudinal survey involves collecting data two or more times to determine change over time, and a cross-sectional survey collects data in a single time period (Gay et al., 2006).

This descriptive study used cross-sectional survey methodology to collect self-reported data from participants. One survey instrument, the Classroom Community Scale, was used to collect information about the students' sense of community, and one survey instrument, the Philosophy of Adult Education Inventory, was used to obtain information about the instructors' philosophy of education. To triangulate, another methodology, archival data collection, was also used. Archival data consisting of

syllabi of program courses which were solicited from instructors.

Population

A population is characterized as "all members of any well-defined class of people, events, or objects" (Ary, Jacobs, & Razavieh, 2002, p. 163) and is "any group of individuals that have one or more characteristics in common that are of interest to the researcher" (Best & Kahn, 1989, p. 11). The population for this study was agricultural education and communication graduate students and instructors who were engaged in the University of Florida master of science distance-delivered degree program between January 2005 and November 2006. The program was offered by the Department of Agricultural Education and Communication within the College of Agricultural and Life Sciences at the University of Florida. The University of Florida is a large land-grant university in the southeastern United States.

In November 2006, 33 students, which included 24 females and 9 males, were enrolled in the degree program. Eighteen of these students were agriscience teachers, and 15 were County Cooperative Extension Service faculty (county agents). Nine faculty instructors had taught at least one course in the program.

When a study involves a population of 100 or fewer, Gay et al. (2006, p. 110) recommended that the entire population be surveyed. The population for this study included the entire population of 33 students and 9 instructors engaged in the program. Therefore, this was a population study.

Distance-Delivered Master of Science Degree Program

The Department of Agricultural Education and Communication in the College of Agricultural and Life Sciences at the University of Florida offers Bachelor of Science, Master of Science, and Doctor of Philosophy degrees. Three specializations are offered for the Bachelor of Science degree: (a) agricultural education, (b) communication and leadership development, and (c) extension education. The Master of Science and Doctor of Philosophy degree programs offer specializations in four areas: (a) agricultural communication, (b) agricultural education, (c) extension education, and (d) leadership development.

The master's degree is offered in a traditional face-to-face format for on-campus students and a web-based format for off-campus professionals. The web-based format was established in 2004 after approximately two years of planning. The department established the Agricultural Education and Communication Distance-Delivered Master of

Science Degree Program that was "designed to meet the needs of practicing County Cooperative Extension Service faculty members and middle/high school agriscience teachers" (Department of Agricultural Education and Communication, 2006a, p. 1).

Enrollment in the distance-delivered degree program is restricted to individuals employed currently either as a County Cooperative Extension agent or as an agriscience teacher (p. 1). Admission requirements for the distance-delivered degree program are identical to the admission requirements for the traditional, campus-based Agricultural Education and Communication Master of Science degree program.

The degree program was designed specifically to meet the time demands of individuals in these two professions while allowing for completion of the Master of Science degree in approximately 2½ years. A new cohort group begins each spring semester that enables the entire cohort group of students to progress through the program and coursework together. The cohort group approach was implemented to allow students to "build a strong network of support . . . [to] help not only in . . . coursework, but in your professional career" (p. 1).

Students admitted to the distance degree program are required to attend two meetings on the University of Florida campus. One meeting is at the beginning of the program for orientation, and the other is at the program's conclusion to present final projects and participate in a program completion activity (Department of Agricultural Education and Communication, 2006a, p. 2).

The County Cooperative Extension Service agents and agriscience teachers have separate schedules of courses, but the agents and the teachers are enrolled in the majority of the courses at the same time. In addition, there are instances when the course schedule for the first cohort group overlaps with the course schedule for the second cohort group. This overlapping was designed to provide the students in each cohort group an opportunity to network with students from their fellow cohort group and allow instructors to teach a specific course in the program in alternating years.

Courses specific to the students' employment are targeted to either the County Cooperative Extension Service agents or the agriscience teachers. For example, County Extension agents are enrolled during the first summer semester in an adult education course while the agriscience

teachers are enrolled in an agriscience lab instruction course (See Appendix 1 for Schedule of Courses).

Courses in the degree program are taught utilizing WebCT Vista, a web-based course management system. Courses are taught asynchronously in eight-week blocks. Instructors and course developers design each course in modules or lessons. Students typically are allowed one week to complete each module's readings and assignments, and each module is structured to take between five and ten hours to complete (Department of Agricultural Education and Communication, 2006a, p. 3).

The first cohort group began the degree program in January 2005 and will graduate in May 2007. This group has 18 students and includes 12 females and 6 males. Four students are County Cooperative Extension Service agents, and 14 students are agriscience teachers. The second cohort group began their degree program in January 2006 and will graduate in May 2008. Of the 15 students in this cohort group, 12 are female and 3 are male. Four are employed as agriscience teachers, and 11 are employed as County Cooperative Extension Service agents. Between the 2 cohort groups, there are 33 students, which include 24 females and 9 males. Eighteen students are agriscience teachers, and 15 are County Cooperative Extension Service agents. A third

cohort group began the degree program in January 2007. At the time of this study, students in the first cohort group were in their sixth semester of the program, and students in the second cohort group were in their third semester of the program.

All the County Cooperative Extension Service agents (15) in the distance degree program are employees of the University of Florida (UF). UF employees may apply for a UF employee fee waiver. UF fee waivers cover 100 percent of the cost for tuition and fees up to six credit hours per semester. In addition, County Cooperative Extension Service agents can apply for professional development leave, which provides paid time off to pursue an approved activity, such as university coursework.

Instructors for the distance-delivered degree program are regular, full-time faculty members in the Department of Agricultural Education and Communication. As of August 2006, nine faculty members have taught one or more of the courses in this program.

Philosophy of Adult Education Inventory

Information about the instructors' educational philosophy was gathered using the Philosophy of Adult Education Inventory (PAEI) created by Zinn (1983) (see Appendix 2). The PAEI was developed to help adult educators

identify their philosophy of adult education and then compare it with prevailing adult education philosophies (p. 57).

The PAEI categorizes an individual's responses into five philosophical perspectives based on Elias and Merriam's (1980/1995) descriptions: Liberal (stresses development of intellectual powers), Behaviorist (emphasizes the importance of shaping change), Progressive (stresses experiential, problem-solving approach to learning), Humanistic (seeks to facilitate personal growth and development of the learner), and Radical (promotes social, political, and economic change through education). Zinn (1983) did not include the Analytic philosophical perspective since it was not commonly reflected in adult education practice (p. 23).

The PAEI consists of 15 items with a stem and a response for each of the five philosophical perspectives. Thus, 75 (15 x 5 = 75) statements are rated on a 7-point Likert-like scale with 1 corresponding with strongly disagree, 4 corresponding with neutral, and 7 corresponding with strongly agree (Zinn, 2004). Scores for each of the five philosophical orientations range from 15 to 105. A score between 15 and 25 represents a strong disagreement with a philosophy, and a score of 95 to 105 represents a

strong agreement with a philosophy. The highest scored philosophical orientation is considered to describe the individual's philosophy most closely, and the lowest scored orientation is considered least like the individual's philosophy (Zinn, 1983, 2004).

Zinn (2004) stated that most educators have a primary orientation or have two orientations that show stronger scores than the others (p. 74). Further, Zinn suggested that if educators' scores are distributed similarly across all of the orientations or if the scores are spread among three or four orientations, then the educators may want to examine and clarify their educational beliefs and values (p. 74).

Validity

Quality measurements are essential to quantitative research (Ary et al., 2002). Validity and reliability are two criteria used in assessing measurement quality.

Validity is "the most important characteristic a test or measuring instrument can possess" (Gay et al., 2006) p. 134). Validity is the extent to which an instrument measures what it is intended to measure (Ary et al., 2002, p. 242; Gay et al., 2006, p. 134) and, therefore, allows the researcher to make appropriate interpretations of the measurement results (Gay et al, 2006). There are three

common kinds of validity: construct validity, content validity, and criterion-related validity.

Whether a test or instrument measures the intended, hypothetical construct is called construct validity (Gall et al., 1996). Constructs are the non-observable traits (e.g., intelligence, attitude, or dominance) that are being measured. Construct validity is "the most important form of validity because it asks the fundamental validity question: What is this test really measuring?" (Gall et al., 2006. p. 137).

Construct validity of the PAEI was tested using a factor analysis procedure (Zinn, 1983, p. 148). A majority of the individual response items were found to have a "moderate to high common factor variance" (p. 150), which lead Zinn (1983) to conclude that "they were both valid and reliable measures for the inventory" (p. 150). Further, these data support an expert jury's assessment that the PAEI was a valid tool to identify the intended philosophical orientations (p. 150). The expert jury included 86 adult educators.

Content validity is "the degree to which a test [or instrument] measures an intended content area" (Gay et al., 2006, p. 134). There are no statistical measures for content validity, and it cannot be stated quantitatively

(Best & Kahn, 1989; Gay et al., 2006). Instead, content validity is determined by examination of textbooks or syllabi or by the judgment of subject-matter or content experts who assess whether the items in the instrument represent the intended content area (Best & Kahn, 1989; Gall et al., 1996; p. 250; Gay et al., 2006, p. 134).

Content validity of the PAEI was determined by a jury of six individuals viewed as knowledgeable in adult education philosophies (Zinn, 1983, p. 145). The jury included adult education philosophy scholars, Sharan Merriam and Jerold Apps. Zinn's item-by-item analysis of the responses indicated a high content validity (p. 146), and jurors "generally agreed" (p. 147) that the items used in the PAEI scales were valid indicators of the intended philosophies (p. 147).

Criterion-related validity is "determined by relating performance on a test to performance on a second test or other measure" (Gay et al., 2006, p. 135). There are two types of criterion-related validity: concurrent validity (the instruments or measurements are administered at the same time) and predictive validity (the second measurement is administered in the future) (Gay et al., 2006). Criterion validity of the PAEI was not tested (Zinn, 1983).

Reliability

Reliability is "the degree to which a test consistently measures whatever it is measuring (Gay et al., 2006, p. 139). Reliability is expressed as a numerical value and provides information regarding how much error is present in the scores of a specific test (Gall et al., 1996). A reliable test is stable and repeated administration will yield test scores with comparable results (Best & Kahn, 1989).

Internal consistency reliability and test-retest reliability are two common forms of reliability. Internal consistency reliability is the "extent to which items in a single test are consistent among themselves and with the test as a whole" (Gay et al., 2006, p. 141). Test-retest reliability is the "degree to which scores on the same test are consistent over time (p. 140).

Reliability of the PAEI was determined for both internal consistency and test-retest stability (Zinn, 1983, p. 151). Zinn (1983) reported that the PAEI has a "moderately high reliability level for internal consistency" (p. 154). Zinn (1983) determined that "over 90% of the individual response options proved to be valid and reliable" (p. 154). A retest of the population was not planned, and data were difficult to secure. Reliability

measured through the test-retest method showed "a tendency toward moderately high stability" (p. 154) although a small sample of respondents (11) were involved in the test-retest process.

Classroom Community Scale

The Classroom Community Scale (CCS) instrument developed by Rovai (2002a) was used to collect information about the students (see Appendix 3). The instrument was developed to measure students' sense of community in online learning environments. Rovai (2002a) developed the CCS to reflect foundational works in refereed literature that addressed the concept of community.

The CCS is a 20-question instrument. The CCS is scored on a 5-point Likert-like scale with 0 corresponding with strongly disagree, 1 corresponding with disagree, 2 corresponding with neutral, 3 corresponding with agree, and 4 corresponding with strongly agree. The CCS has two subscales: learning community (Learning) and social community (Connectedness). Half of the items in the CCS are worded negatively. These items are reverse scored, and the most favorable choice is scored with a four and the least favorable is scored as a zero. Total possible scores range from 0 to 80. High scores reflect a strong sense of community while low scores reflect a weak sense of

community. To calculate the learning community (Learning) subscale score, the even numbered CCS items are added together, and to calculate the social community (Connectedness) subscale score, the odd numbered items are added together (Rovai, 2002a).

Validity

Rovai (2002b) used professional literature to derive the concept of community for the CCS (p. 325). Classroom community was viewed as a type of community in an educational setting (Rovai & Baker, 2004, p. 479).

Content validity of the CCS was evaluated by a panel of experts comprised of three university professors who taught courses in educational psychology. Each professor rated the CCS independently to determine the relevance of each item in the CCS to sense of community in the classroom environment (Rovai, 2002b). All items in the CCS were rated by the experts as "totally relevant" (Rovai, 2002b, p. 325).

Rovai (2002b) found evidence through factor analysis to support construct validity (p. 325). The two subscales of Connectedness and Learning were confirmed as latent dimensions of the classroom community construct (Rovai, 2003, p. 354). Criterion-related validity was not tested for the CCS.

Reliability

The CCS was field-tested and determined to show excellent reliability with the Cronbach's coefficient alpha for the full CCS at .93, and the equal-length split-half coefficient alpha was .91 (Rovai, 2002a, p. 206). The Cronbach's coefficient alphas for the subscales were 0.92 for social community (Connectedness) and 0.87 for learning community (Learning) (Rovai, 2002b, p. 206).

Procedures

Data collection began in October 2006, when the graduate student participants in this study were contacted by the researcher via an electronic mail message. The message described the research project, provided informed consent information, and invited the students to participate in the study. The electronic mail message contained a hyperlink to a website located on a secure web server. Students voluntarily decided to participate in the study by selecting the hyperlink to the website where the study information was located.

The website included an online version of the Classroom Community Scale (CCS), the CCS instructions developed by Rovai (2002a), and a request for demographic information. The demographic information included: (a) highest degree earned, (b) years since receipt of last

degree, (c) years of experience in current profession either as a County Cooperative Extension Service faculty member or as an agriscience teacher, (d) number of courses taken previously via distance education, (e) gender, and (f) age. Student responses were anonymous, and once they accessed the survey website, there was no link between the students and their responses and no record of who responded.

In addition to the communication from the researcher, an introductory electronic mail message encouraging the students to participate in the study was sent to the students by the faculty member directing the distance-delivered degree program. The researcher sent a follow-up electronic mail message to all student participants 2½ weeks after the initial request. The researcher thanked those who had responded to the survey and asked those who had not responded to consider participating in the study. One participant responded to the program director and indicated difficulty accessing the survey website due to web filters on the participant's worksite computer. To address the issue, the survey document was formatted as a Microsoft® Word document and forwarded to all participants as an electronic mail attachment.

Participants completing the Word document could return the completed survey either via electronic mail or postal service. A final request encouraging the students to participate in the survey was sent by the department chair four weeks after the initial request was distributed.

In October 2006, the instructors were contacted personally by the researcher and invited to participate in the study. A standardized request was read to each faculty participant. The Philosophy of Adult Education Inventory (PAEI) (see Appendix 2), the PAEI instructions developed by Zinn (2004), a demographic information sheet, and the consent form were provided to the faculty participants. The demographic information sheet included: (a) highest degree earned, (b) years since receipt of last degree, (c) years of experience teaching graduate students, (d) age, (e) gender, (f) number of courses taught previously via distance education, and (g) whether formal training has been received for teaching in the distance education format (see Appendix 2).

A copy of the syllabus used for each course the instructor had taught in the distance-delivered program was requested. Instructors were asked to return the completed PAEI, demographic information sheet, consent form, and syllabi directly to the researcher. Follow-up contact was

made with those faculty who had not responded within two weeks of initial contact.

Data analysis involved the data collected through each survey and also the archival data. The researcher scored the PAEI using the instructions and guidelines provided by Zinn (2004, pp. 69-74). Demographic data provided by the faculty respondents were aggregated and recorded. The researcher scored the CCS using the instructions and guidelines provided by Rovai (2002a) (see Appendix 3). Demographic data for the students were aggregated and recorded. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) based on the commonly held assumption that Likert-like scales are interval data (Gay et al., 2006, p. 124).

Syllabi were reviewed and instances of community and teaching philosophy were described. The descriptions were analyzed using the inductive analysis model as described by Hatch (2002), and data were sorted by theme.

In summary, data from the syllabi were sorted by theme while data from the Philosophy of Adult Education Inventory, the Classroom Community Survey, and demographic information for students and instructors were described and analyzed using descriptive statistics such as frequencies, means, standard deviations, and cross-tabulations.

Descriptive statistical analysis "limits generalizations to the particular group of individuals observed" (Best & Kahn, 1989, p. 222).

CHAPTER 4

FINDINGS

Introduction

Graduate students and faculty engaged in the agricultural education and communication distance-delivered Master of Science degree program at the University of Florida served as participants in the study. Data were collected from students using the Classroom Community Survey (CCS) and collected from instructors using the Philosophy of Adult Education Inventory (PAEI). The CCS has a scoring range of 0 to 80, and the PAEI has a scoring range of 15 to 105. Both groups completed demographic information sheets. These data provided profiles of students and faculty in the program, and quantifiable data were analyzed using descriptive statistical analyses. Archival data consisting of course syllabi also were reviewed.

Student Profile

Demographic data were collected from 23 of the 33 students (70%) enrolled in the distance-delivered degree

program. Some of the students who responded did not complete all of the demographic information. Two-thirds of the participants were females and one-third were males (see Table 1). All who indicated their race were White. Student participants ranged in age from 25 to 57 years. The mean age was 43 years with a standard deviation of 10.27

Table 1. Frequency of Student Demographic Variables

Variable	Frequency	Percentage
Gender		
Male	7	33.3
Female	14	66.7
Age		
Under 40	7	31.8
40-49	8	36.4
50 and Over	7	31.8
Race		
White	22	95.7
Declined to State	1	4.3
Highest Degree		
Bachelor's	23	100.0
All Other Degrees	0	0.0
Years Since Degree Received		
1-5 Years Ago	7	30.4
6-15 Years Ago	6	26.1
Over 15 Years Ago	10	43.5
Years of Experience in Current Profession		
1-5 Years	11	47.8
Over 5 Years	12	52.2
Courses Taken Via Distance Education		
1-5 Courses	10	43.5
Over 5 Courses	13	56.5

These gender and race data are reflective of American students enrolled in the traditional, campus-based agricultural education and communication Master of Science graduate program at the University of Florida. As of Fall 2006, there were 19 U.S. students enrolled in the campus-based program. Nearly two-thirds were White females (12) and one-third (7) were White males. The ages of the campus-based students ranged from 22 to 42 years with a mean of 25 years, which is much lower than the mean age of the students in the distance-delivered program.

All study participants had a bachelor's degree (see Table 1), which is reflective of the minimum requirement for admission to the distance-delivered degree program. Nearly half (43.5%) of the participants had received their degree over 15 years ago. The mean time since receipt of the degree was 14.48 years with a standard deviation of 9.56.

The distance-delivered program was designed for working adults engaged in either the County Cooperative Extension Service or middle and high school agriscience teaching. Study participants were almost evenly divided in relation to years of experience in their current position as County Extension Service faculty or agriscience teachers. Eleven participants were new to their positions

and had one to five years of experience. Twelve participants had over five years of experience in their current profession (see Table 1). The mean number of years of experience was 8.91 years with a standard deviation of 7.04.

The participants were divided with regard to the number of courses taken via distance education. Ten individuals had taken 1 to 5 courses in this format, and 13 had taken over 5 courses using distance education (see Table 1). The mean number of courses taken was 7.04 with a standard deviation of 2.70. Program participants are comprised of two cohort groups. The first group began the degree program in January 2005, and the second group began in January 2006. The number of courses taken, as reported by the study participants, may reflect the different length of time each cohort group had been in the program.

In summary, the student characteristics are as follows:

1. Study participants in the distance-delivered degree program were two-thirds female and one-third male, which is reflective of the American student population enrolled in the campus-based program.
2. All participants who indicated their race were White.
3. Participant ages ranged from 25 to 57 years with a mean of 43 years. This is similar to the ages of

students in the campus-based program that ranged from 22 to 42 years, but the mean of 25 years is much lower than that of the study participants.

4. Approximately one-third of the participants were under 40 years old, just over one-third were between 40 and 49 years old, and approximately one-third were over 50 years old.

5. All participants had a bachelor's degree.

6. Over 40% of the participants received their bachelor's degree more than 15 years ago, over 25% received their degree between 6 and 15 years ago, and 30% received their degree 5 or fewer years ago.

7. Nearly 50% of the participants had 1-5 years of experience in their current profession, and just over 50% had over 5 years experience in their current profession.

8. Over 40% of the students had taken 5 or fewer courses via distance education and over 55% had taken 6 or more courses via distance education.

Instructor Profile

Data were collected from eight of nine instructors who had taught one or more courses in the distance-delivered degree program. All of the instructors were regular, full-time faculty members in the Department of Agricultural Education and Communication at the University of Florida.

Faculty participants were male, and their ages ranged from 32 to 64 years (see Table 2). The mean age was 45.75 years with a standard deviation of 10.53.

Table 2. Frequency of Instructor Demographic Variables

Variable	Frequency	Percentage
Gender		
Male	8	100.0
Female	0	0.0
Age		
Under 40	2	25.0
40-49	4	50.0
50 and Over	2	25.0
Highest Degree		
Doctorate	8	100.0
Years Since Degree Received		
1-5 Years Ago	3	37.5
6-15 Years Ago	3	37.5
Over 15 Years Ago	2	25.0
Years Experience Teaching Graduate Students		
1-5 Years	3	37.5
6-10 years	1	12.5
Over 10 Years	4	50.0
Training In Distance Education		
Yes	5	62.5
No	3	37.5
Courses Taught Via Distance Education		
1-5 Courses	7	87.5
Over 5 Courses	1	12.5

All instructors had received a doctorate (see Table 2), which is a requirement for tenure-track and tenured faculty in the Department of Agricultural Education

and Communication. The number of years since receipt of the doctorate ranged from 2 to 30. The mean was 11.38 with a standard deviation of 9.49.

The instructors' years of experience teaching graduate students covered a wide range and there was good distribution across all age groupings. Instructors' years of experience ranged from 4 to 20 (see Table 2). The mean was 10 years with a standard deviation of 6.12.

Training in distance education teaching was varied among the faculty. Five faculty received training in distance education teaching, and three indicated that no training had been received (see Table 2). Seven faculty had taught between one and five courses using the distance education format, and one faculty member had taught six or more courses. Specifically, this faculty member taught 25 courses via distance education. The mean number of courses taught by the faculty using distance education was 5.50 with a standard deviation of 7.98.

In summary, the instructor characteristics are as follows:

1. All participants were regular, full-time faculty members.
2. All participants were male.
3. All participants were White.

4. Participant ages ranged from 32 to 64 years.
5. All participants had an earned doctorate.
6. Years since receipt of the doctorate ranged from 2 to 30 years.
7. Years experience teaching graduate students ranged from 4 to 20 years.
8. Nearly two-thirds of the participants had received training in distance education teaching.
9. All but 1 participant had taught between 1 and 5 courses in the distance education format.

Classroom Community Profile

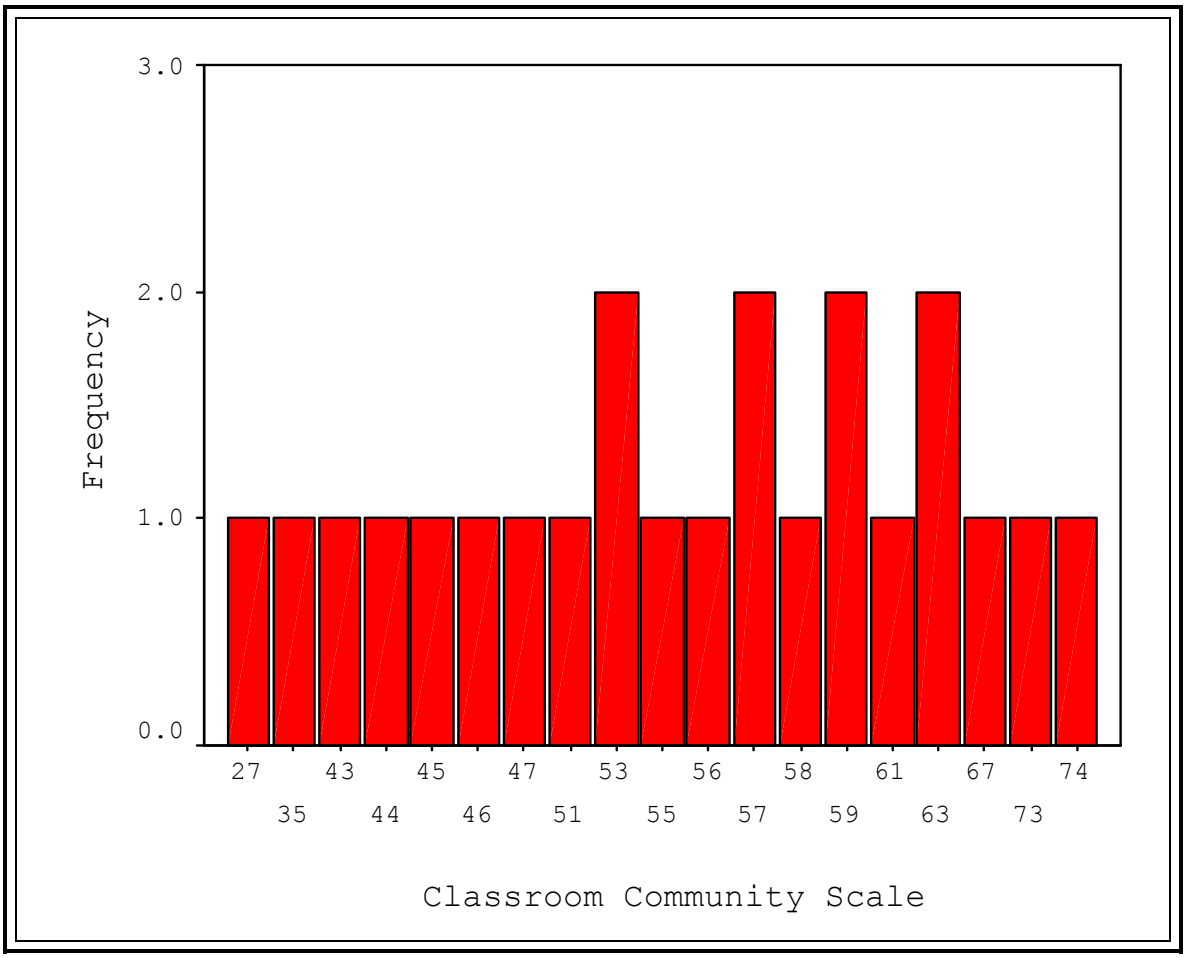
One research question addressed how the participants felt about the sense of community in the distance-delivered program. Sense of community was determined by participant scores on the Classroom Community Survey (CCS). The CCS is divided into two subscales: Connectedness and Learning. The Connectedness subscale represents recognition of membership in a community and the "feelings of friendship, cohesion, and satisfaction that develop among learners" (Rovai, 2002b, p. 322). The second subscale, Learning, is the feeling learners have that knowledge and meaning are "actively constructed within the community" (p. 322), that

the community enhances learning, and that the learning needs of its members are being satisfied (p. 322).

The CCS is a 20-question instrument. Each of the 20 questions is scored with a Likert-like scale: 0 corresponds with Strongly Disagree, 1 corresponds with Disagree, 2 corresponds with Neutral, 3 corresponds with Agree, and 4 corresponds with Strongly Agree. Half of the CCS questions are worded negatively, and these items are reverse scored. After recoding, the scores for the 20 items are summed. Scores for the total CCS can range from 0 to 80.

Rovai does not report norms for the CCS and indicated that a higher score reflects a stronger sense of classroom community (2002a; 2002b; 2004). With a scoring range of 0 to 80, the mid-point score for the total CCS is 40. Study participant scores on the CCS ranged from 27 to 74 (see Figure 1). The mean score was 54.17 with a standard deviation of 11.17, and the median was 56. Over 91% of the participants scored above the mid-point of the range for the CCS. In addition, the mean score, 54.17, equated to an average score of 2.7 per item (54.17/20 items = 2.71). On the CCS Likert-like scoring scale, 2 equals Neutral, and 3 equals Agree. Therefore, the average per item score of 2.71 indicated that participants somewhat agreed that a sense of community existed in the program.

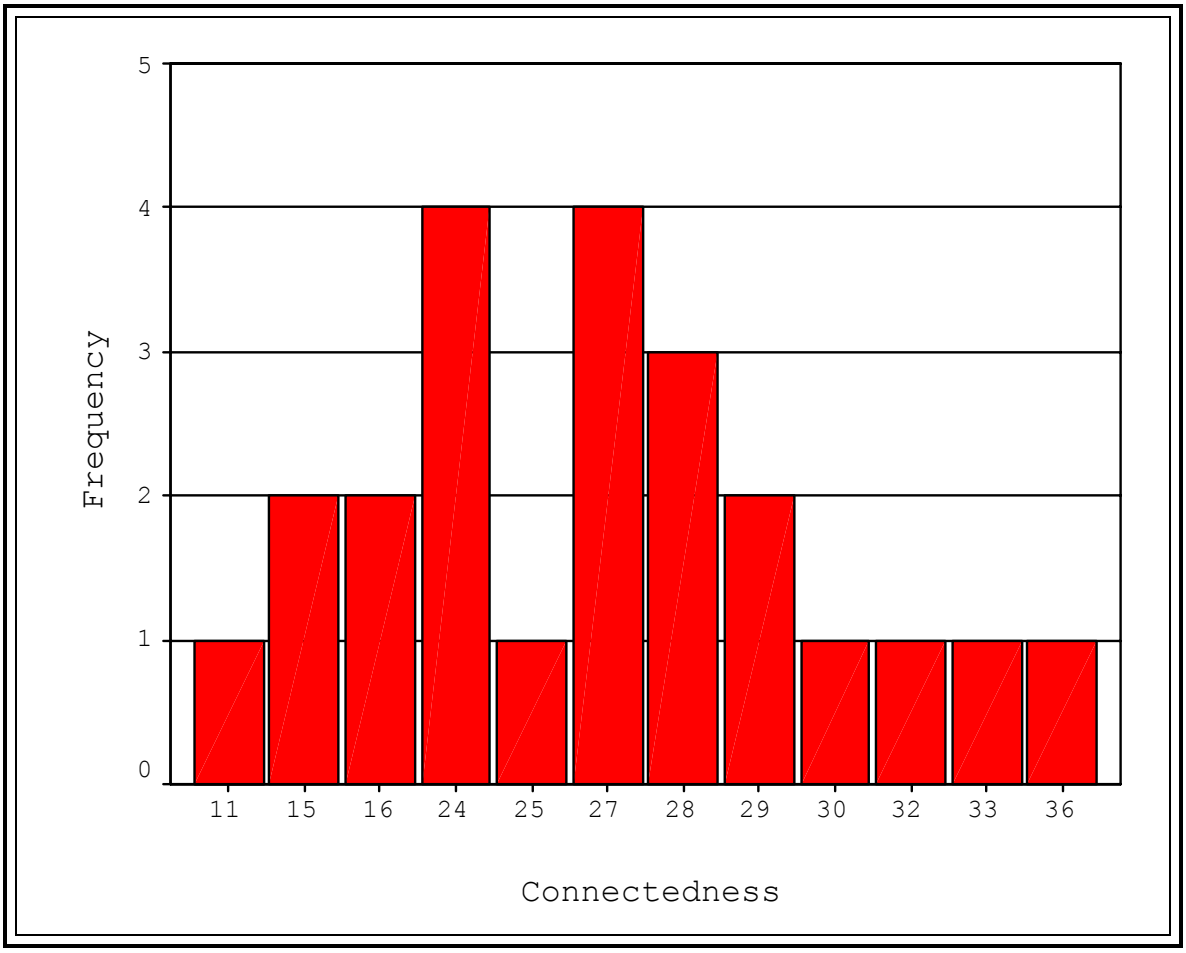
Figure 1. Frequency of Classroom Community Survey Scores



One subscale of the CCS measured Connectedness, which represented an individual's sense of membership in the learning community and feelings of friendship, cohesion, and satisfaction among members. The 10 odd-numbered items on the CCS comprised the Connectedness subscale. The subscale scores can range from 0 to 40 with 20 as the mid-point. Scores on the Connectedness subscale ranged from 11 to 36 (see Figure 2). The mean score was 25 with a standard deviation of 6.38, and the median was 27. Over 78% of the

participants scored above 20, the mid-point. In addition, the mean score, 25, equated to an average score of 2.5 per item (25/10 items = 2.5). On the CCS scoring scale, 2 corresponds with Neutral, and 3 corresponds with Agree. Therefore, the average per item score of 2.5 indicated that participants somewhat agreed that a sense of connectedness existed.

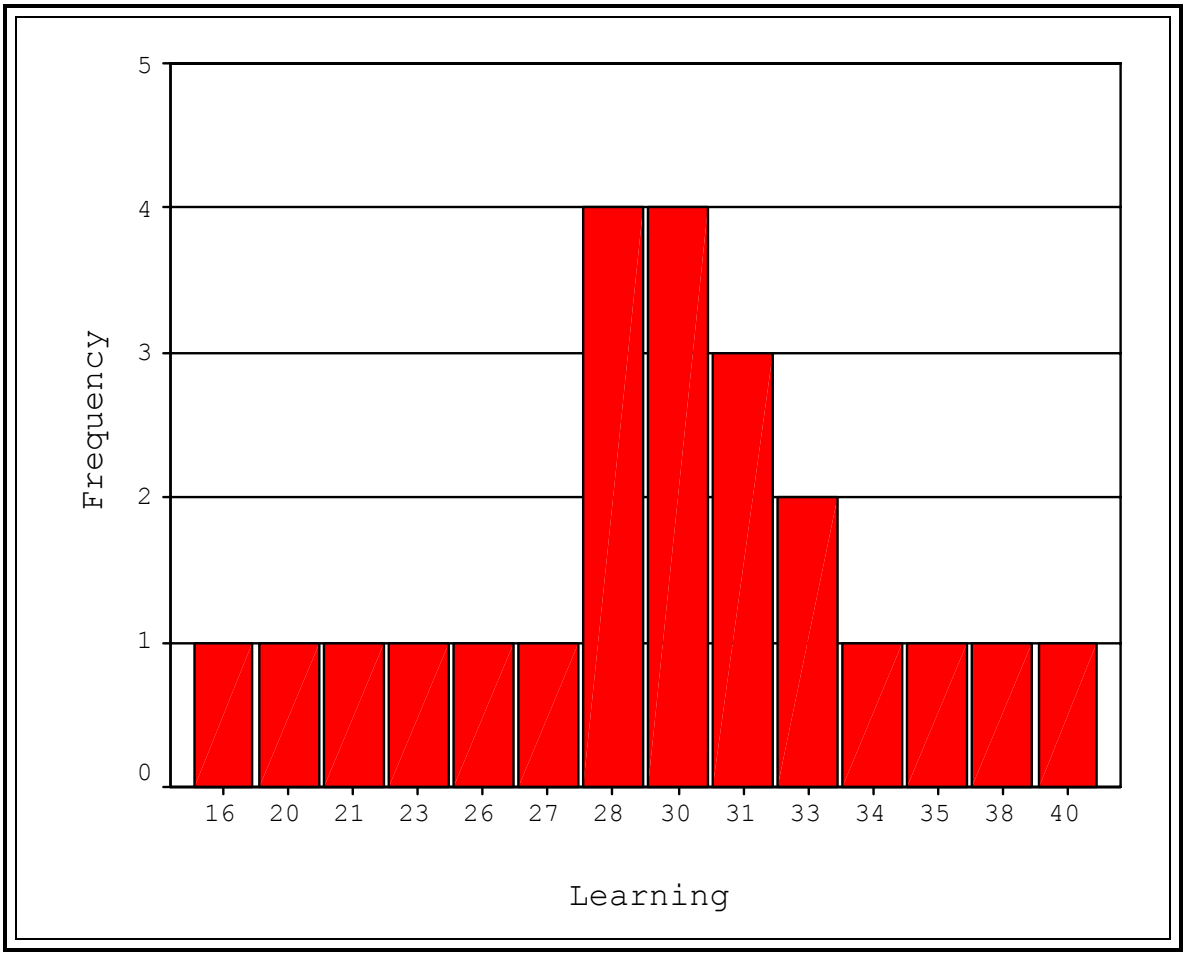
Figure 2. Frequency of Classroom Community Connectedness Subscale Scores



The other subscale of the CCS measured Learning, which represented an individual's feeling that knowledge is

constructed within the community, that belonging to the community enhances learning, and that learning needs are being met. The ten even-numbered items on the CCS comprised the Learning subscale. Scores of the subscale can range from 0 to 40 with 20 as the mid-point. Scores on the Learning subscale were higher than scores on the Connectedness subscale. Participant scores on the Learning subscale ranged from 16 to 40 (see Figure 3). The mean score was 29.17 with a standard deviation of 5.55, and the median was 30. Over 95% of the participants scored above the mid-point of 20. In addition, the mean score, 29.17, equated to an average score of 2.92 per item (29.17/10 items = 2.92). On the CCS scoring scale, 2 corresponds with Neutral, and 3 corresponds with Agree. Therefore, the average per-item score of 2.92 indicated that participants agreed that a sense of learning in the community existed.

Figure 3. Frequency of Classroom Community Learning Subscale Scores



Classroom Community and Demographic Variables

The second research question addressed the relationship between sense of community and demographic variables: gender, age, race, highest degree earned, years since receiving last degree, years of experience in current profession, and number of courses taken via distance education. Due to the small population, the participants were grouped into categories for analysis. Chi-square analysis was used to identify the relationship between the

categorical groups. The chi-square test of independence compares categorically coded data that was observed in a population with the frequencies expected by chance alone (Huck, Cormier, & Bounds, 1974; Urdan, 2005). Using chi-square analysis, "the researcher rejects the null hypothesis if the calculated value exceeds the critical value" (Huck et al., 1974, p. 219). A criterion level of .05 was used for analysis.

Participants were grouped by demographic variables. For analysis, each variable was divided based on its frequency distribution to attain fairly equal groups that fell into logical categories.

The Classroom Community Survey (see Appendix 3) scores were grouped according to where they would fall on the CCS 5-point Likert-like scale. For example, the CCS mid-point score of 40 corresponded to 2, the mid-point of the Likert-like scale. Accordingly, the minimum possible CCS score, 0, corresponded to 0, Strongly Disagree, on the Likert-like scale; a CCS score of 20 corresponded to 1, Disagree, on the Likert-like scale; a CCS score of 40 corresponded to 2, Neutral, on the Likert-like scale; a CCS score of 60 corresponded to 3, Agree, on the Likert-like scale; and 80, the maximum CCS score corresponded to 4, Strongly Agree, on the Likert-like scale. Furthermore, the range for each

score is half of the increment between scores. For example, on the Likert-like scale, the range for Neutral (score of 2) would fall halfway between 1 and 2 and 2 and 3. Therefore, the range for Neutral on the Likert-like scale was 1.5 to 2.4. Accordingly, ranges for the Likert-like scale and the CCS scores are shown in Table 3.

Table 3: Range of Scores for Likert-Like Scale, Classroom Community Survey Score, and Subscale Scores

	LIKERT-LIKE SCALE	CCS SCORE	SUBSCALE SCORES
Strongly Disagree	0.0 to 0.4	0 to 9	0 to 4
Disagree	0.5 to 1.4	10 to 29	5 to 14
Neutral	1.5 to 2.4	30 to 49	15 to 24
Agree	2.5 to 3.4	50 to 69	25 to 34
Strongly Agree	3.5 to 4.0	70 to 80	35 to 40

The observed frequencies for the CCS scores in this study were not significantly different from the expected frequencies for gender (χ^2 =3.14, $\underline{df}$ = 3, $\underline{p}$ = .371), age (χ^2 = 6.98, $\underline{df}$ = 6, $\underline{p}$ = .323), years since receiving last degree (χ^2 = 4.07, $\underline{df}$ = 6, $\underline{p}$ = .668), years of experience in current profession (χ^2 =3.63, $\underline{df}$ = 3, $\underline{p}$ = .304), and number of courses taken via distance education (χ^2 =3.62, $\underline{df}$ = 3, $\underline{p}$ = .305) (see Table 4).

Table 4: Distribution of Classroom Community Scale Scores by Demographic Groups

Groups	Score				Total
	10-29	30-49	50-69	70-80	
Gender					
Female	1	2	9	2	14
Male	0	3	4	0	7
Age					
Under 40	0	1	6	0	7
40-49	0	1	6	1	8
50 and Over	1	3	2	1	7
Years Since Degree Received					
1-5 years	0	3	3	1	7
6-15 years	0	1	5	0	6
Over 15	1	2	6	1	10
Years Experience In Current Profession					
1-5 years	0	4	7	0	11
Over 5 years	1	2	7	2	12
Courses Taken Via Distance Education					
1-5	0	2	6	2	10
Over 5	1	4	8	0	13

Since half of the questions on the CCS instrument related to the Connectedness subscale, the subscale score and ranges are one-half of the total CCS score and ranges. The observed frequencies for the Connectedness subscale scores in this study were not significantly different from the expected frequencies for gender (χ^2 = 3.16, $\underline{df}$ = 3, $\underline{p}$ = .368), age (χ^2 = 6.03, $\underline{df}$ = 6, $\underline{p}$ = .420), years since receiving last degree (χ^2 = 4.60, $\underline{df}$ = 6, $\underline{p}$ = .596), years of experience in current profession (χ^2 = 2.54, $\underline{df}$ = 3,

p = .468), and number of courses taken via distance education (χ^2 = 2.22, df = 3, p = .527) (see Table 5).

Table 5: Distribution of Connectedness Subscale Scores by Demographic Groups

Groups	Score				Total
	5-14	15-24	25-34	35-40	
Gender					
Female	1	3	9	1	14
Male	0	4	3	0	7
Age					
Under 40	0	3	4	0	7
40-49	0	1	6	1	8
50 and Over	1	3	3	0	7
Years Since Degree Received					
1-5 years	0	4	3	0	7
6-15 years	0	2	4	0	6
Over 15	1	2	6	1	**10**
Years Experience In Current Profession					
1-5 years	0	5	6	0	11
Over 5 years	1	3	7	1	12
Courses Taken Via Distance Education					
1-5	0	3	6	1	10
Over 5	1	5	7	0	13
Years Experience In Current Profession					
1-5 years	0	5	6	0	11
Over 5 years	1	3	7	1	12

Since half of the questions on the CCS instrument related to the Learning subscale, the subscale score and ranges are one-half of the total CCS score and ranges. The observed frequencies for the Learning subscale scores in this study were not significantly different from the expected frequencies for gender (χ^2 = 2.04, df = 2,

p = .361), age (χ^2 = 4.35, df = 4, p = .360), years since receiving last degree (χ^2 = 2.04, df = 4, p = .728), years of experience in current profession (χ^2 = 1.54, df = 2, p = .462), and number of courses taken via distance education (χ^2 = 4.69, df = 2, p = .096) (see Table 6).

Table 6: Distribution of Learning Subscale Scores by Demographic Groups

Groups	**Score**			**Total**
	15-24	24-34	35-40	
Gender				
Female	2	9	3	14
Male	2	5	0	7
Age				
Under 40	1	6	0	7
40-49	0	6	2	8
50 and Over	2	4	1	7
Years Since Degree Received				
1-5 years	2	4	1	7
6-15 years	0	5	1	6
Over 15	2	7	1	10
Years Experience In Current Profession				
1-5 years	3	7	1	11
Over 5 years	1	9	2	12
Courses Taken Via Distance Education				
1-5	1	6	3	10
Over 5	3	10	0	13

These analyses show that there were no significant differences in the distribution of the Classroom Community Survey, Connectedness subscale, or Learning subscale and the students' demographic characteristics of gender, age, years since receiving last degree, years of experience in

current profession, and number of courses taken via distance education. Thus, the Sense of Community scores can be interpreted independently of the demographic characteristics.

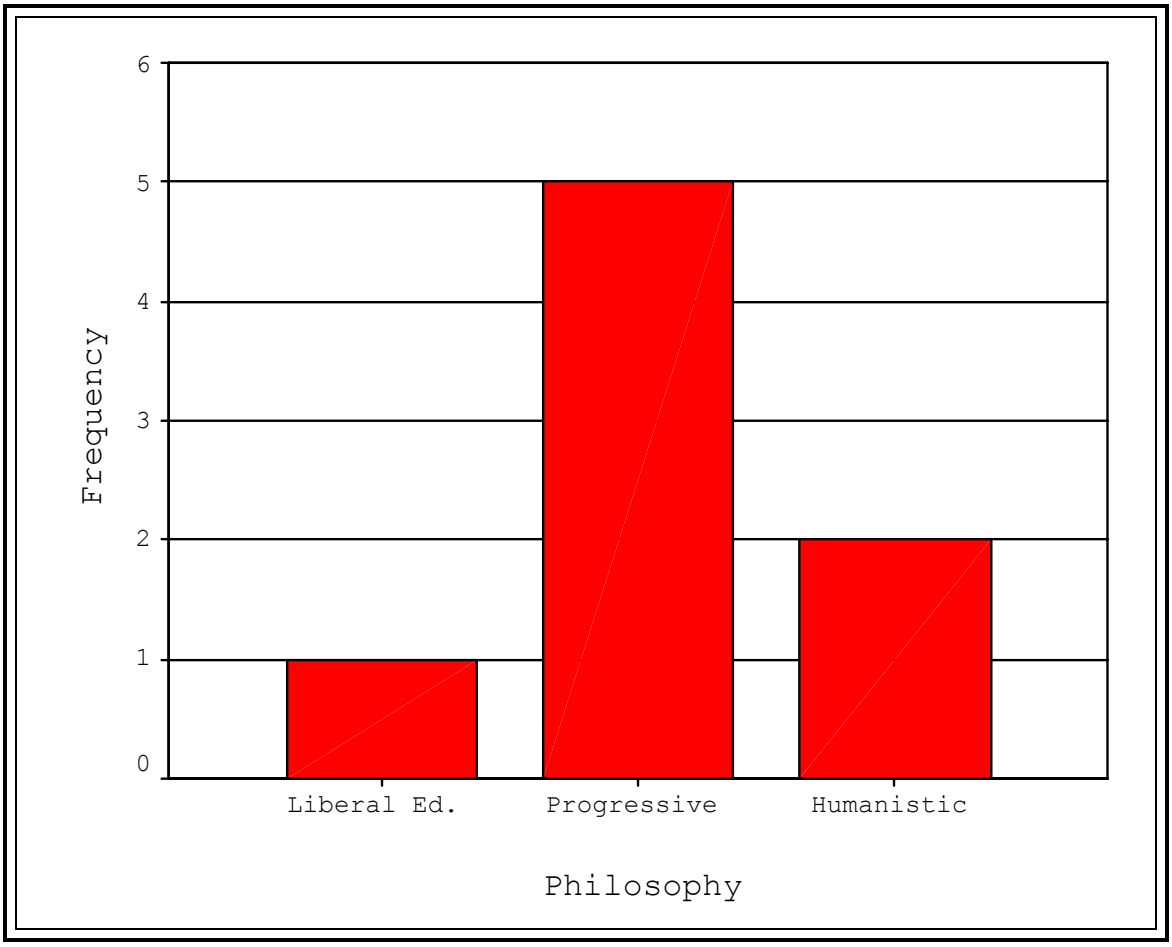
Philosophy of Adult Education Profile

The fourth research question addressed the philosophy of adult education profile held by instructors who have taught in the distance-delivered degree program. The Philosophy of Adult Education Inventory (PAEI) was used to determine each instructor's philosophy based on five philosophical perspectives identified by Elias and Merriam (1995): Liberal, Behaviorist, Progressive, Humanistic, and Radical. The PAEI has 15 items with a stem and a response for each of the 5 philosophical perspectives. Thus, 75 (15 x 5 = 75) statements are rated on a 7-point Likert-like scale with 1 corresponding with Strongly Disagree, 4 corresponding with Neutral, and 7 corresponding with Strongly Agree. The 15 ratings for each philosophical perspective are added together to create a score for each perspective. PAEI scores for each philosophical orientation range from 15 to 105. A score of 95 to 105 corresponds to a strong agreement with the philosophical orientation, and a score between 15 and 25 indicates a strong disagreement with the philosophy (Zinn, 1983, 2004). Further, the

highest-scored philosophical orientation is considered to describe the individual's orientation most closely while the lowest scored orientation would least closely describe the individual's philosophical orientation.

Although the group was small, they represented three of the five philosophical schools. The highest scored philosophical orientation was the Progressive orientation for five teachers (62.5%), the Humanistic philosophical orientation for two teachers (25%), and the Liberal orientation for one teacher (12.5%) (see Figure 4).

Figure 4. Frequency of Philosophy of Adult Education Orientations



Course Syllabi

Two research questions addressed course syllabi. Syllabi for 13 courses in the distance-delivered program were reviewed and analyzed for content that would encourage or discourage sense of community among the students and whether structures were identified to foster interaction and connectedness among the students. Syllabi were also reviewed for indications of the instructors' philosophy of education.

There were no apparent patterns across the course syllabi related to development of a sense of community among students. However, one instructor stated specifically that discussion among peers was important and that critical reflection was vital for the learning environment and community to function properly. Another instructor stated that the course would help new agriscience teachers through networking, sharing, and developing group strategies to solve common problems. Course syllabi, in general, included an expectation that students would post questions, comment on questions and discussions, and actively participate in online communications. Further, their participation in these activities would be graded on both quantity and quality.

Peer review of completed materials was an expectation stated in four syllabi. Students either self-selected another student in the course to serve as the reviewer or, in one course, the instructor selected the peer reviewer. One course referred to the peer as an "accountability partner."

Identification and development of a teaching philosophy were included as objectives in two courses. Students were expected to develop their teaching and program philosophy statements. None of the syllabi included

a statement from the instructor addressing his teaching philosophy.

The syllabi for 13 courses were searched for indicators of a sense of community and indicators of the instructor's philosophy. In qualitative research, it is customary to have a peer review of data analysis (Gay et al., 2006). However, since these syllabi only made minimal and brief references to elements of sense of community and had no indicators of the instructor's educational philosophy, the researcher was the only one to review the data.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

Demographic and economic changes as well as consumer demands have fostered a growth in the distance education opportunities offered by universities. The development of computer-based technologies fueled this growth and provided universities with tools to expand the online delivery of educational courses and to enhance campus-based programs. As the use of technology evolved, educational researchers have sought a better understanding of the dynamics of the emerging technologies in the educational environment.

In 2004, the University of Florida established a new distance-delivered master of science degree program in the Department of Agricultural Education and Communication. This program was developed in response to the educational needs of working adults in the agriscience teaching and County Cooperative Extension Service faculty professions. Students progress through the program with a cohort group, and the degree is completed in 2½ years.

The teaching-learning transaction is an important element in the distance-learning environment. Teaching style is a component of this transaction and is reflective of the instructor's values, beliefs, and philosophy of education. An element of adult learners' success in the distance and online environment is related to the development of a sense of community among learners. Descriptions of these components of the teaching-learning transaction and the demographic characteristics of students and instructors in the new distance-delivered degree program provides a foundation for further studies. In addition, this information provides opportunities to identify strategies that can enhance the instructor's role in the distance learning environment and sense of community in the classroom, both of which can affect student learning.

The purpose of this study was to describe the students' sense of community and the instructors' philosophy of adult education in the University of Florida agricultural education and communication master of science distance-delivered degree program. Study participants included 23 students and 8 faculty instructors engaged in the program. The study used a descriptive research design.

Two survey instruments were used to collect data from students and instructors. The Classroom Community Survey (CCS) was used to determine students' sense of community in the online learning environment. The Philosophy of Adult Education Inventory (PAEI) was used to determine the instructors' educational philosophy. Additionally, participants were asked to provide demographic information, which was used to create profiles of the students and instructors. Descriptive statistics were used to analyze quantifiable data. To triangulate, archival data consisting of course syllabi were reviewed and themes identified.

Summary of the Findings

Students' Demographic Profile

Descriptive statistics were used to describe the demographic variables of the students. The students were two-thirds White female and one-third White male with a mean age of 43 years. Over one-half of the participants had received their bachelor's degree within the past 15 years. Nearly 50% of the students had 1 to 5 years of experience in their current profession. Over 40% of the students had taken 5 or fewer courses using the distance education format.

Instructors' Demographic Profile

Descriptive statistics were used to describe the demographic variables of the instructors. Information was collected from eight instructors. All of the instructors were White males and each had a doctorate. The mean age was 45.75 years. There was a wide range of years of experience among the participants for both the number of years of experience teaching graduate students and number of years since receipt of the doctorate. Most of the instructors had received some training in distance education teaching. As a group, the instructors had limited experience teaching in the distance education format.

Students' Sense of Community Profile

Descriptive statistics were used to analyze the students' sense of community using data collected from the Classroom Community Survey (CCS). Over 91% of the students scored above the mid-point of the range on the CCS, which indicated that students somewhat agreed that a sense of community existed in the program. Over 78% of the scores on the Connectedness subscale were above the mid-point, which indicated that students somewhat agreed that a sense of connectedness existed. Scores on the second subscale, Learning, were higher than those on the Connectedness subscale. Over 95% of the participants scored above the

mid-point on the Learning subscale, which indicated agreement among the students that a sense of learning in the classroom community existed.

A chi-square analysis was performed to identify the relationship between sense of community and demographic variables. No significant relationships were found between CCS scores and any of the demographic variables of gender, age, years since receipt of last degree, years of experience in current profession, and number of courses taken via distance education.

A chi-square analysis was performed to identify the relationship between the Connectedness subscale and the demographic variables. No significant relationships were found.

A chi-square analysis was performed to identify the relationship between the Learning subscale and the demographic variables. No significant relationships were found.

These findings were made with the caveat that sense of community is a dynamic process and that sense of community may change over time. Sense of community was defined by the specific instrument used in this study, but sense of community may be a broader concept than what was reflected in the Classroom Community Survey scores.

Instructors' Philosophy of Adult Education Profile

Descriptive statistics were used to analyze the instructors' philosophy of adult education using data collected from the Philosophy of Adult Education Inventory. Scores were calculated, and a profile of the instructors was developed. The highest scored philosophical orientation for a majority (63%) of the instructors was the Progressive orientation. The highest scored philosophical orientation for two instructors (25%) was the Humanistic orientation, and one instructor (12.5%) scored highest in the Liberal orientation. It is important to note that the two instructors identified as having the Humanist orientation also had identified the Progressive orientation as their second highest score; their scores were 1 and 2 points less than their Humanist orientation score. When these two were included, 88% of the instructors were identified as having the Progressive orientation as a leading philosophical orientation.

Syllabi for Distance-Delivered Program

Archival data consisting of syllabi for 13 courses in the distance-delivered program were reviewed and analyzed for content that would encourage or foster a sense of community among students. Additionally, the syllabi were reviewed for narrative related to the instructors'

philosophy of adult education. There were no discernable patterns among the syllabi concerning sense of community or connectedness among students.

Only one instructor addressed elements important to developing a learning community. Less than 30% of the syllabi reviewed stated that peer review of classmates' materials was expected. None of the syllabi included a statement of the instructor's philosophy although two syllabi stated that identification of the student's philosophy of education was a course objective.

Conclusions

The findings led to the following conclusions:

1. Older, non-traditional adults with professional experience were attracted to the program.
2. The program lacked racial diversity, and student and instructor demographics were not reflective of the state population.
3. Experienced instructors implemented the program with limited distance education training.
4. Students developed a sense of community without a focus on its development and independent of their demographic characteristics.
5. The predominant learner-centered focus of the instructors was consistent with the agricultural education field.

6. Course syllabi provided little support to foster the development of a sense of community among students.

Older Adults Attracted to the Program

The Florida Cooperative Extension Service criteria for attaining permanent status and promotion to the rank of Agent II require a county faculty member to have a master's degree. Permanent status is analogous to tenure for academic faculty, and there are salary considerations associated with promotion and permanent status. Providing a means for these county faculty members to attain a master of science degree while continuing full-time employment was an important consideration in the development of the distance-delivered degree program.

County faculty are located in each of Florida's 67 counties, and attending classroom-based courses was difficult, if not impossible, for many of the county faculty members. Thus, this degree program was designed to allow both county faculty and agriscience teachers who had prior work experience and a break in their academic education to complete a graduate degree program directly related to their profession without the need to travel. Further, the structure of the program allowed these older students the flexibility to meet professional and personal time restrictions.

The distance-delivered degree program attracted students who were older than their campus-based cohorts. Two-thirds of the study participants were over 40 years of age. The mean age (43 years) was 18 years higher than the mean age (25 years) of their campus-based cohorts.

In addition to being older, the students had an extended break in their education and had been away from formal education for an average of nearly 15 years. The students had limited experience in distance education courses prior to enrollment in the distance-delivered degree program, and it was unlikely that they engaged in formal online learning in their prior academic experiences.

Those students enrolled in the program and who are returning students were older than the traditional campus-based students. Consequently, these students may have different learning needs that ought to be considered in the development and structure of this program. Understanding their demographic allows instructors to better address students' unique needs as adult learners returning to formal academic education. Incorporation of adult learning principles in the program that "fit the uniqueness of the

learners and learning situation" (Knowles et al., 1998, p. 3) could help address the needs of these older adult students.

Program Lacked Racial Diversity

The instructor and student profiles showed a lack of racial diversity: all who indicated a race were White. All of these individuals work in the agriculture profession. As middle and high school agriscience teachers, county Extension professionals, and university faculty, these educators are representatives of Florida agriculture. Further, since receipt of a master's degree is one of the criteria for Florida County Cooperative Extension Service faculty to attain permanent status and it is predominantly White students who are earning this degree, the racial diversity of the long-term County Cooperative Extension Service workforce could be hindered.

According to U.S. Government data (2007), over 15% of the Florida population self-identified as Black, and 80% self-identified as White in 2005. Less than 3% of the population self-identified as Asian, American Indian and Alaska Native, or Native Hawaiian or other Pacific Islander. Hispanics may be of any race, and 19.5% of the Florida population classified themselves as Hispanic or Latino. The demographics of the state and the people served

by the programs delivered by these professionals are more diverse than the agricultural educators and instructors who participated in this study.

Experienced Instructors Implemented Program

Instructors had a wide range of years of experience teaching and length of time since receipt of the doctorate. Most had significant experience teaching graduate students but had limited experience teaching in the distance education environment. With the implementation of the distance-delivered program, instructors had to become "students" of distance education as they learned to transform traditional courses into an online learning format.

Nearly two-thirds of the instructors earned their doctorate more than six years ago and may not have had formal training in distance education or teaching in the online environment. Further, it is not known whether the instructors had taken a course for credit via distance education in their doctoral program. Experience as a distance education teacher and student may affect instructors' decisions regarding course structure, content, and process in the distance-delivered program.

The instructors had limited experience teaching distance education. However, as a group, the instructors

had considerable teaching experience. Some of the instructors had received training in distance education, but data concerning the type of training received were not collected. It is unknown whether the training addressed the mechanics of the course management software (i.e., WebCT), focused on teaching methodologies for the online environment, facilitated an understanding of the virtual student, reviewed adult learning principles, or was some combination of these topics. Technology-related training may not have taken into account the central role of faculty and students in creating an online learning environment conducive to adult learning.

Students' Sense of Community Independent of Demographics

Over 91% of the participants scored above the midpoint on the Classroom Community Scale (CCS), which indicated that the participants somewhat agreed that a sense of community existed in the distance-delivered program. Research has shown that development of a sense of community contributes to learner success (Garrison & Kanuka, 2004; Rovai & Baker, 2004; Thompson & MacDonald, 2005) and provides for a quality online learning experience (Garrison & Kanuka, 2004; Rovai, 2002b; Song et al., 2004).

The Connectedness subscale of the CCS relates to the feeling of belonging and acceptance (Rovai, 2002b).

Connectedness recognizes feelings of friendship, collegiality, and satisfaction among learners. With feelings of acceptance in the community, individuals gain feelings of safety and trust. This allows members of the community to speak openly with other members.

An important aspect in the development of classroom community is that individuals in the community need to be able to acknowledge gaps in their learning and feel their colleagues will respond in a supportive way (Rovai, 2002b). This sense of trust, collegiality, and satisfaction are reflected in the scores of the participants with 78% scoring above the midpoint on the Connectedness subscale.

The Learning subscale of the CCS relates to the feeling that within the community, knowledge and meaning are actively constructed. The community is viewed as facilitating and enhancing knowledge and understanding and as a place that the learning needs of community members are being satisfied (Rovai, 2002b). Over 95% of the students scored above the midpoint of the Learning subscale. For this to occur, students would need to identify with their group and feel some acceptance of the community's values and goals (Rovai, 2002b). Since learning is the intended outcome of the distance-delivered degree program, the

Learning subscale is a significant component of the overall sense of classroom community.

The CCS overall score and subscale scores indicated that the students feel a sense of community even though there was not much focus on its development in the distance-delivered program design or course syllabi. Likewise, the sense of community was not related to demographic variables. The sense of community scores may be reflective of the two professions represented in this study. The distance-delivered program was developed for professionals in similar fields who entered the program for similar reasons—career development and advancement.

Both the County Cooperative Extension Service faculty and agriscience teachers had the opportunity to develop relationships, collegiality, and a sense of trust and acceptance prior to enrollment in the degree program through their professions. Statewide meetings and professional associations provided numerous opportunities for participants to interact and become acquainted. In their role as employees, each group would be familiar with the values, goals, and mission of their employer. It is possible that these experiences gave participants a "jump start" on the development of a sense of community. Without

these prior experiences, it is possible that the sense of community scores shown by the participants would be lower.

Further, the agriscience teachers and the County Cooperative Extension Service faculty teach in either formal or non-formal settings, and both develop and implement educational programs. The nature of their work aligns with the description of self-directed learners. As self-directed learners, they would take responsibility for learning efforts and focus on their goals and needs. Additionally, self-directed learning is a goal of andragogy (Mezirow, 1985). Self-directed learners who enter into a new learning medium (i.e., online, distance learning) may utilize these skills to help their learning process, regardless of the course structure or instructor style.

Learner-Centered Focus of the Instructors

The Progressive orientation supports a learner-centered approach to adult learning and was highly scored among 88% of the instructors. Agricultural education academic programs are designed to prepare students for careers in educational professions and to design, implement, and evaluate educational programs. American philosopher John Dewey was influential in the Progressive movement (Elias & Merriam, 1995). In the agricultural education field, instructors historically have advocated a

problem-solving approach to teaching (Boone et al., 2002). The problem-solving approach is reflective of Dewey's writings on reasoning, the scientific method, and reflective thinking (Boone et al., 2002; Elias & Merriam, 1985).

The high percentage of instructors with the Progressive orientation is consistent with a study by Boone et al. (2002). Their research found that in three northeast U.S. states, 67.8% of adult agricultural education educators identified with the Progressive orientation. An additional 21% identified with the Behaviorist orientation, and 8% identified the Humanistic orientation (p. 44).

Teaching style is "directly linked to the teacher's educational philosophy" (Conti, 2004, p. 77). Consistency between instructors' teaching style and their philosophy of adult education is important (Heimlich & Norland, 1994). Following Tisdell and Taylor's (1999) view that an individual's educational philosophy is a function of what one believes and what one does in practice, the instructors in this program would align their course design and teaching strategies with the Progressive orientation and reflect a learner-centered approach to adult education.

Two instructors were identified as having the Humanistic orientation. Their scores were only 1 and 2

points above their second highest orientation, which was the Progressive orientation. As described by Elias and Merriam (1995), the Humanistic orientation, like the Progressive orientation, emphasizes that learning is learner-centered.

Students in this distance-delivered master of science degree program, by virtue of their previous work experience, bring with them a wealth of experience and knowledge and can use this knowledge to help construct meaning in the learning process. Using a learner-centered approach, the instructors serve as a facilitator and guide to help the learners build and develop the structures and mechanisms needed for future learning. As such, it may prove useful to incorporate additional teaching strategies into the program design that are reflective of a learner-centered approach to adult learning.

Syllabi Provided Little Support for Sense of Community

Syllabi provided students with an outline for their courses and identified the main points of course curriculum. Also included in the syllabi were instructor expectations and learning outcomes that were to be met for success in the course. Typically, instructors have discretion in the process that will be used to facilitate

the students' learning, and they can incorporate a variety of learning and teaching methodologies into the course.

There were minimal indications in the syllabi regarding development of a learning community or connectedness among the students. Assignments were typical of campus-based courses with the exception of coursework submission via the course management software system. Students were expected to participate in online chats or discussion boards, much as they would be expected to participate in class discussions. Only one syllabus addressed the need to develop community among the learners.

Rather than learning in isolation as was the case with some earlier distance education practices (e.g., correspondence study), a positive benefit of today's distance-delivered education programs is that students can learn in an academic community, albeit a virtual academic community. In the distance-learning environment, there are greater opportunities for interacting with the instructor and other students. The instructor no longer has the constraints of set class periods to deliver information to the students. Instead, the instructor can shift away from lecturing to more dialogue with students via electronic mail, through asynchronous discussions, and through class chat rooms.

Recommendations

In consideration of the study's findings and conclusions, the following recommendations are offered:

1. Implement an ongoing evaluation program.
2. Focus program design on adult learning principles and learner-centered activities.
3. Incorporate development of sense of community and connectedness in program design and courses.
4. Enhance professional development opportunities for instructors in distance education and learner-centered activities.
5. Expand future research to include student learning styles and instructor teaching styles.

Ongoing Program Evaluation

The distance-delivered master of science degree program structure and course sequencing were identified and developed through an intensive planning process. This was a new program, and considerable time and resources were invested in its development. The efforts of many faculty and staff contributed to the development and implementation of this innovative program. Developing and targeting a degree program to address the educational needs of agricultural professionals, many of whom are employees of the University, was a significant accomplishment and

reflective of the importance the department and college placed on professional development.

The third student cohort group began its coursework in January 2007, and the first cohort group graduates in May 2007. With the initial group completing their program and with the second and third group engaged in coursework, it would be beneficial to implement a regularized evaluation and assessment process to assess the program formally. Information gained through the evaluation process can be used to modify and improve the program, as appropriate.

In consideration of the lack of diversity among students and instructors, the program evaluation could include an assessment of why the program is not attracting a greater diversity of students. The population of Florida has increased 11.3% between April 2000 and July 2005 (U.S. Government, 2007) and has become more diverse. This program does not represent the state's changing demographics. There is an opportunity to review how individuals are recruited for employment in two professions served by this degree program and to recommend modifications that may lead to a greater diversity of individuals entering the profession.

Palloff and Pratt (1999) asserted that educational programs "should be responsive to the demands of students and the world in which they live and work" (p. 166). It

naturally follows that the assessment process would be strengthened by including interviews with students who have completed the degree program, students currently engaged in coursework, and students just entering the program. Feedback from the students could provide program developers and instructors with another perspective on such issues as course structure, teaching strategies, coursework assignments, peer interactions, time management, and applicability of coursework to current profession.

Formal course evaluations by students were not available for the courses offered in this degree program. The evaluation process for distance-delivered courses was handled differently than campus-based courses. To help assure the timely completion and review of student evaluations, a formal course evaluation process should be implemented and monitored. Student feedback can be utilized in program assessment and for modification of course design and delivery (Palloff & Pratt, 2003).

Since the degree program was developed and targeted specifically for two professions, the assessment process could include discussions with a sample group of the students' employers. Interviewing employers of current and potential students in the program would help determine whether course objectives and the overall degree program

connect with students' functional work responsibilities and current organizational needs. Gaining an understanding of how well the degree program aligns with organizational needs would help program developers tailor the courses and actual course assignments to fit student and employer needs.

Focus on Adult Learning

The students in the distance-delivered agricultural education and communication master of science degree program are significantly older than their campus-based counterparts, and students in the distance-delivered program have significant work experience and knowledge on which they can rely in their learning activities. Refocusing the courses and incorporating additional elements of adult learning theory, including self-directed learning, would help address the needs of older adults returning to formal education (Knowles, 1980; Merriam, 2001). Further, the andragogical model affirms the importance of including the learners in identifying and setting the goals for their learning (Brookfield, 1985; Knowles, 1980, 1998). Including the students in program or course design or allowing for individual learning projects or learning contracts would be additional meaningful ways

to address the needs of the adult learner (Knowles, 1980; Knowles et al., 1998).

Adult students returning to the academic learning environment may have had previous educational experiences (Heimlich & Norland, 1994) that cause them to be uncertain about their abilities to be successful in an academic setting. It would be important in the sequence of courses and within each course to allow for early student success, for awareness of ways to apply their learning strategies, and for development of community among students (Palloff & Pratt, 1999).

Another element to consider is that professional working adult students have numerous external factors that limit their time or need for traditional campus-bound types of involvement (e.g., student clubs, sports, or socializing). Future research would benefit from considering the dynamics of the multiple communities of which the learner is a member. Such communities could include familial, social, academic, and vocational communities.

This program could be improved by reviewing course syllabi and structuring them to allow for inclusion of additional learner-centered teaching strategies (Bonk & Wisher, 2000; Huba & Freed, 2000). For example, use of Bonk

and Cummings' (1998) 12 learner-centered recommendations for web-based instruction. Instructors could make greater use of course design and instructional activities that foster a learner-centered learning environment (Bonk & Wisher, 2000; Palloff & Pratt, 1999). Following the andragogical learner-centered model, instructors would assume the role as the facilitator or guide of the learning endeavor (Houle, 1996; Knowles, 1980). Further, moving toward a greater focus on self-directed learning with an emphasis on "the learner's control over the planning and execution of learning" (Brookfield, 1985, p. 9) would be consistent with adult learning principles.

Development of Sense of Community

The development of a sense of community among learners in essential to the learning process and an important aspect of distance learning (Fisher & Baird, 2005; Palloff & Pratt, 2003; Rovai, 2001a; Thompson & MacDonald, 2005). A sense of community among learners in the online learning environment contributes to learner success (Garrison & Kanuka, 2004; Haythornthwaite et al., 2000; Lave & Wenger, 1991; Palloff & Pratt, 2003; Rovai & Baker, 2004; Thompson & MacDonald, 2005). Learners who experience a sense of community also are more likely to have a quality online learning experience than those who do not experience a

sense of community (Garrison & Kanuka, 2004; Song et al., 2004). Syllabi for the distance-delivered degree program showed few references or strategies to foster the development of sense of community and connectedness among students. Incorporating a sense of community in the distance-delivered program may contribute to learner success and greater perceived levels of cognitive learning (Rovai, 2002b).

The creation of community "greatly enhances the learning experience and the likelihood of successful learning outcomes" (Palloff & Pratt, p. 167) regardless of the educational setting. Rovai and Baker (2004) found that it is easier for a sense of community to develop among students in a traditional, face-to-face learning environment than among students in a distance-delivered course. In the distance education environment, the key to a successful outcome is "the construction of a learning community, with the instructor participating as an equal member" (Palloff & Pratt, 1999, p. xvi). Consequently, the onus of developing a distance education learning environment conducive to fostering a sense of community and one that supports collegiality falls to the instructor (Rovai & Baker, 2004).

Rovai (2003) has shown that a constructivist, learner-centered teaching style can contribute to an increased sense of community among students in the online learning environment. The majority of the instructors in the distance-delivered program identified with the Progressive philosophical orientation. This orientation supports a learner-centered approach to teaching. Incorporating additional learner-centered teaching strategies may prove beneficial for the distance-delivered program.

Taylor, Marienau, and Fiddler (2000) stated that "as adult educators we are also adult learners, and that engaging in critical self-reflection about our existing assumptions, values, and perspectives can further prompt our development" (p. 317). It follows that instructors engaged in the distance-delivered degree program may find it useful to reflect on their philosophical views regarding adult education and how they affect curriculum and instruction.

Knowles (1980) asserted that "the behavior of the teacher probably influences the character of the learning climate more than any other single factor" (p. 47). In order to further implement their educational philosophy, instructors who have limited experience utilizing learner-centered teaching strategies may want to explore these

strategies further. In this process, it also may be useful for instructors to reflect on their personal educational philosophy and how it is displayed in their teaching.

Enhance Professional Development Opportunities

Teaching in the distance education environment presents new challenges and opportunities for instructors accustomed to classroom-based instruction (Palloff & Pratt, 1999). The courses in this program were modified and transformed from face-to-face format to distance-delivered format. Redesigning classroom-based courses into an online course format presents many challenges, and initial course preparation can be very time-consuming (Fein & Logan, 2003).

The design of a course needs to focus on the learner and not on the technology (Fein & Logan, 2003; Palloff & Pratt, 1999). In fact, technology should become transparent and "should only be used as a vehicle to convey the ability to create a collaborative, transformative process. It is only the means by which instructors and students can connect to form community" (Palloff & Pratt, 1999, p. 167).

Faculty training in distance education often involves how to manage the technology and course management software. Instruction in distance education theory and practices that includes a focus on the student, student

needs, and the teacher-learner transaction also is necessary. Attention must be given to the process of teaching in a distance education environment. Additional emphasis on the dynamics of this learning environment and ways to facilitate development of community can be recognized and incorporated into the program and courses.

Adult students can benefit from the incorporation of additional adult learning practices into the structure and delivery of the educational material in the distance education environment. Professional development activities could provide instructors with strategies to help them incorporate adult learning principles into their courses. In addition, it is critical that instructors receive the education and support needed to transition into the distance learning environment.

Expand Future Research

Several topic areas related to the development of a sense of community, adult learners, communication styles, and the teaching-learning transaction could benefit from additional research. Future research is needed to consider how different learning styles of students relate to the use of particular technologies and instructional approaches. Additional review and application of adult learning theories could influence the development of online learner-

centered practices for use in an academic environment to foster development of a sense of community among student learners.

Teaching styles are reflective of the instructors' philosophy of adult education (Conti, 2004; Zinn, 2004). Further exploration of teaching styles and how they relate to both philosophy of adult education and development of sense of community among the students could provide additional insight into the dynamics of the online learning environment. In consideration of the population size, it could be beneficial to supplement the results of future studies through a qualitative interview process with the instructors.

Data were not collected in the current study to identify whether a participant was a County Cooperative Extension Service faculty member or an agriscience teacher, and the demographic profile particular to each group is not known. If this study were replicated or expanded, additional demographic information from students would be useful. For example, distinguishing between participants who are agriscience teachers and those who are County Cooperative Extension Service faculty members may provide clarification regarding the development of a sense of community, student learning styles, or the affect of

teaching styles on students engaged in a particular profession.

As students progress through the program, it may be informative to track if their scores on the Classroom Community Survey vary. Future studies could correlate results to specific cohort groups and specific instructors. Additional correlational studies could be conducted relating the students' sense of community scores to the instructors' teaching style or philosophy of adult education.

Discussion

Students in this study indicated they felt a sense of community in the distance-delivered program. This occurred without a focus on the development of community by the instructors. Development of a sense of community may be a natural, human phenomenon that adults do in this type of distance-delivered educational setting. Sense of community could be how adult learning principles were operationalized in this learning situation. The manner in which elements of andragogy, self-directed learning, and constructivism interact in the distance-delivered program provides a rich source for future research activities. This information could provide insight into the dynamics of sense of

community and whether it is a natural learning tendency of human beings or a narrower phenomenon.

Further, research has indicated that in an educational setting an instructor serves a key role in influencing the learning environment. All but one of the instructors held the Progressive philosophical orientation. This philosophy is characterized by a learner-centered approach to adult education and a problem-solving approach to teaching. The sense of community indicated by the students may have been the result of the natural Progressive philosophy of the instructors. Further study with a larger, more diverse sample to isolate these variables could lead to clarification of the influence of the students, the instructors, and the student-instructor interactions on the development of a sense of community. Depending on the outcome, instructors may need training in the principles of adult learning rather than on how to build a sense of community.

The University of Florida responded to the demands of a knowledge-driven society and the changing demographics of those seeking higher education by developing a distance-delivered program for agricultural educators. Over 20 years ago, Malcolm Knowles (1984) predicted the central role technology would serve in education:

> We are entering an era of major transformation of our systems for delivering educational services. I believe we are nearing the end of the era of our edifice complex and its basic belief that respectable learning takes place only in buildings and on campuses. Adults are beginning to demand that their learning take place at a time, place, and pace convenient to them. In fact, I feel confident that most educational services by the end of this century (if not decade) will be delivered electronically—by interactive cablevision, satellite television, computer networks, and other means still to be invented. Our great challenge now is to find ways to maintain the human touch as we learn to use the media in new ways. Only the andragogical model provides guidelines for accomplishing this feat at this time. (p. 422)

Indeed, a challenge of distance-delivered education is how the human touch can be maintained. Development of a sense of community and feelings of connection in the online learning environment are important aspects of education that address the "need of distant learners to feel satisfied with group efforts, to experience a sense of belonging, and to have a larger set of individuals to call on for support" (Rovai, 2001b, Conclusion, para. 5). With community incorporated into the process, distance education "is a way to promote a generation of empowered learners who can successfully navigate the demands of a knowledge society" (Palloff & Pratt, 1999, p, 167). It is through development of sense of community in the online learning environment that a "human touch" can be fostered.

Distance education instructors are an important component in the development of a sense of community. The challenge for educators is how to assist learners develop these skills and relationships while helping to navigate through the distance-delivered courses. Educators can help foster the development of relationships by giving attention to the use of adult learning principles in their course development. In turn, this could help foster the development of a sense of community.

As shown in this study, older non-traditional adults returned to formal academic education for a degree program that fit their career goals. Educators are faced with the challenge to use current, emerging, and future technologies to allow students to achieve their potential and to maintain educational quality. An understanding of adult learning, teaching style, and educational philosophy are important elements of the instructors' education and training that can assist them in developing effective teaching strategies for the distance learning environment and for helping establish a sense of community in their classes that can foster student learning.

This research has identified the importance of sense of community and connectedness in distance learning and has opened inquiry into an understanding of these components in

the new distance-delivered master of science degree program. Instructors are now aware of their educational philosophy and can use this understanding to explore their teaching style and their course development and delivery.

Just as Knowles asserted over 20 years ago, we continue to be in an era of major transformation. Our era is one where learning comes first and where education can take place anywhere and anytime.

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APPENDICES

Appendix 1

Schedule of Courses

AEC Distance Education Master of Science Distance-Delivered Degree Program
As of July 6, 2006

Course No.	Short Title	Audience	Term Offered
AEE 6905	Statistical Thinking	Both	Spring every-1
AEE 5xxx	Beginning Extension Faculty Course	Ext**	Spring every-1
AEE 5xxx	Beginning Agriscience Teachers	Tea**	Spring every-1
AEE 6300	Planned Change	Both*	Spring odd-2
AEE 6767	Research Strategies in AEC	Both	Summer odd-1
AEE 6512	Program Development	Ext	Summer odd-2
AEE 5301	Technical Skill Development	Tea	Summer odd-2
AEE 5206	Advanced Instructional Techniques	Both	Fall odd-1
AEE 6704	Extension Admin. and Supervision	Ext	Fall odd-2
AEE 5454	Leadership Development	Both	Spring even-2
AEE 6611	Adult Education	Ext	Summer even-1
AEE 5228	Agriscience Laboratory Instruction	Tea	Summer even-1
AEE 5805	Technical Skill Development II	Tea	Summer even-2
AEE 6552	Program Evaluation	Both	Fall even-1
AEE 6426	Volunteer Leadership Development	Ext***	Fall even-2
AEE 6912	Nonthesis Research	Both	Spring every-1
	FINAL EXAM	Both	Spring every-2

*While other professionals may seek enrollment, the two primary target audiences for this program are school-based agriscience teachers and county extension faculty.

**Beginning teachers and extension county faculty other than those enrolled in the distance education MS cohort will be allowed to enroll in these two courses only. Other DE courses will be restricted to students in the MS distance education cohorts.

***Many agriscience teachers may opt to enroll in this course as their elective.

Spring '05		
Course		**Cohort**
Session 1		
AEE 6905	Beg Ext. Faculty *or Elective*	A(Ext)
AEE 6905	Beg Ag Teach *or Elective*	A (Tch)
AEE 6905	Statistical Thinking	A (all)
Session 2		
AEE 6300	Planned Change	A (all)

Summer '05		
Course		**Cohort**
Session 1		
AEE 6767	Research Strategies in AEC	A (all)
Session 2		
AEE 6512	Program Development	A (Ext)
AEE 5301	Tech Skill Develop I	A (Tch)

Fall '05		
Course		**Cohort**
Session 1		
AEE 5206	Adv. Instructional Tech	A (all)
Session 2		
AEE 6704	Ext Admin & Super	A (Ext)

Spring '06		
Course		**Cohort**
Session 1		
AEE 6905	Statistical Thinking	B (all)
Session 2		
AEE 5454	Leadership Development	A/B (all)

Summer '06		
Course		**Cohort**
Session 1		
AEE 6611	Adult Education	A/B (Ext)
AEE 5228	Ag Lab Instruction	A/B (Tch)
Session 2		
AEE 5805	Tech Skill Develop II	A/B (Tch)

Fall '06		
Course		**Cohort**
Session 1		
AEE 6552	Program Evaluation	A/B (all)
Session 2		
AEE 6426	Volunteer Lead Develop	A/B (Ext)
	Elective	A/B (Tch)

Spring '07		
Course		**Cohort**
Session 1		
AEE 6912	Nonthesis Research	A (all)
AEE 5xxx	Beg Ext. Faculty *or Elective*	B/C (Ext)
AEE 5xxx	Beg Ag Teach *or Elective*	B/C(Tch)
AEE 6905	Statistical Thinking	C (all)
Session 2		
	Written Final Exam	A (all)
AEE 6300	Planned Change	B/C (all)

Summer '07		
Course		**Cohort**
Session 1		
AEE 6767	Research Strategies in AEC	B/C (all)
Session 2		
AEE 6512	Program Development	B/C (Ext)
AEE 5301	Tech Skill Develop I	B/C (Tch)

Fall '07		
Course		**Cohort**
Session 1		
AEE 5206	Adv. Instructional Tech	B/C (all)
Session 2		
AEE 6704	Ext Admin & Super	B/C (Ext)

Spring '08		
Course		**Cohort**
Session 1		
AEE 6912	Nonthesis Research	B (all)
AEE 6905	Statistical Thinking	D (all)
Session 2		
	Written Final Exam	B (all)
AEE 5454 (all)	Leadership Development	C/D

Summer '08		
Course		**Cohort**
Session 1		
AEE 6611	Adult Education	C/D (Ext)
AEE 5228	Ag Lab Instruction	C/D (Tch)
Session 2		
AEE 5805	Tech Skill Develop II	C/D (Tch)

Fall '08		
Course		**Cohort**
Session 1		
AEE 6552	Program Evaluation	C/D (all)
Session 2		
AEE 6426	Volunteer Lead Develop	C/D (Ext)
	Elective	C/D (Tch)

Spring '09		
Course		**Cohort**
Session 1		
AEE 6912	Nonthesis Research	C (all)
AEE 5xxx (Ext)	Beg Ext. Faculty *or Elective*	D/E
AEE 5xxx	Beg Ag Teach *or Elective* D/E(Tch)	
AEE 6905	Statistical Thinking	E (all)
Session 2		
	Written Final Exam	C (all)
AEE 6300 (all)	Planned Change	D/E

	Admit	Graduate
Cohort A	Spring '05	Spring '07
Cohort B	Spring '06	Spring '08
Cohort C	Spring '07	Spring '09

PHILOSOPHY OF ADULT EDUCATION INVENTORY

Each of the 15 items on the Inventory begins with an incomplete sentence, followed by five different options that might complete the sentence. Find the corresponding number and letter on the answer sheet and indicate your response by circling a number from 1 (strongly disagree) to 7 (strongly agree). **Please rate ALL the possible responses**. There are no "right" or "wrong" ratings.

1. In planning an educational activity, I am most likely to:
   (a) identify, in conjunction with learners, significant social and political issues and plan learning activities around them.
   (b) clearly identify the results I want and construct a program that will almost run itself.
   (c) begin with a lesson plan that organizes what I plan to teach, when and how.
   (d) assess learners' needs and develop valid learning activities based on those needs.
   (e) consider the areas of greatest interest to the learners and plan to deal with them regardless of what they may be.

2. People learn best:
   (a) when the new knowledge is presented from a problem-solving approach.
   (b) when the learning activity provides for practice and repetition.
   (c) through dialogue with other learners and a group coordinator.
   (d) when they are free to explore, without the constraints of a "system."
   (e) from an "expert" who knows what he or she is talking about.

3. The primary purpose of Adult Education is:
   (a) to facilitate personal development on the part of the learner.
   (b) to increase learners' awareness of the need for social change and to enable them to effect such change.
   (c) to develop conceptual and theoretical understanding.
   (d) to establish the learners' capacity to solve individual and societal problems.
   (e) to develop the learners' competency and mastery of specific skills.

4. Most of what people know:
   (a) is a result of consciously pursuing goals, solving problems as they go.
   (b) they have learned through critical thinking focused on important social and political issues.
   (c) they have learned through a trial-and-feedback process.
   (d) they have gained through self-discovery rather than some "teaching" process.
   (e) they have acquired through a systematic educational process.

5. Decisions about what to include in an educational activity:
   (a) should be made mostly by the learner in consultation with a facilitator.
   (b) should be based on what learners know and what the teacher believes they should know at the end of the activity.
   (c) should be based on a consideration of key social and cultural situations.

(d) should be based on a consideration of the learner's needs, interests and problems.
(e) should be based on careful analysis by the teacher of the material to be covered and the concepts to be taught.

6. Good adult educators start planning instruction:
   (a) by considering the end behaviors they are looking for and the most efficient way of producing them in learners.
   (b) by identifying problems that can be solved as a result of the instruction.
   (c) by clarifying the concepts or theoretical principals to be taught.
   (d) by clarifying key social and political issues that affect the lives of the learners.
   (e) by asking learners to identify what they want to learn and how they want to learn it.

7. As an adult educator, I am most successful in situations:
   (a) that are unstructured and flexible enough to follow learners' interests.
   (b) that are fairly structured, with clear learning objective and built-in feedback to the learners.
   (c) where I can focus on practical skills and knowledge that can be put to use in solving problems.
   (d) where the scope of the new material is fairly clear and the subject matter is logically organized.
   (e) where the learners have some awareness of social and political issues and are willing to explore the impact of such issues on their daily lives.

8. In planning an educational activity, I try to create:
   (a) the real world--problems and all--and to develop learners' capacities for dealing with it.
   (b) a setting in which learners are encouraged to examine their beliefs and values and to raise critical questions.
   (c) a controlled environment that attracts and holds learners, moving them systematically towards the objective(s).
   (d) a clear outline of the content and the concepts to be taught.
   (e) a supportive climate that facilitates self-discovery and interaction.

9. The learners' feelings during the learning process:
   (a) must be brought to the surface in order for learners to become truly involved in their learning.
   (b) provide energy that can be focused on problems or questions.
   (c) will probably have a great deal to do with the way they approach their learning.
   (d) are used by the skillful adult educator to accomplish the learning objective(s).
   (e) may get in the way of teaching by diverting the learners' attention.

10. The teaching methods I use:
   (a) focus on problem-solving and present real challenges to the learner.
   (b) emphasize practice and feedback to the learner.
   (c) are mostly non-directive, encouraging the learner to take responsibility for his/her own learning.
   (d) involve learners in dialogue and critical examination of controversial issues.
   (e) are determined primarily by the subject or content to be covered.

11. When learners are uninterested in a subject, it is because:
    (a) they do not realize how serious the consequences of not understanding or learning the subject may be.
    (b) they do not see any benefit for their daily lives.
    (c) the teacher does not know enough about the subject or is unable to make it interesting to the learner.
    (d) they are not getting adequate feedback during the learning process.
    (e) they are not ready to learn it or it is not a high priority for them personally.

12. Differences among adult learners:
    (a) are relatively unimportant as long as the learners gain a common base of understanding through the learning experience.
    (b) enable them to learn best on their own time and in their own way.
    (c) are primarily due to differences in their life experiences and will usually lead them to make different applications of new knowledge and skills to their own situations.
    (d) arise from their particular cultural and social situations and can be minimized as they recognize common needs and problems.
    (e) will not interfere with their learning if each learner is given adequate opportunity for practice and reinforcement.

13. Evaluation of learning outcomes:
    (a) is not of great importance and may not be possible, because the impact of learning may not be evident until much later.
    (b) should be built into the system, so that learners will continually receive feedback and can adjust their performance accordingly.
    (c) is best done by the learners themselves, for their own purposes.
    (d) lets me know how much learners have increased their conceptual understanding of new material.
    (e) is best accomplished when the learner encounters a problem, either in the learning setting or the real world, and successfully resolves it.

14. My primary role as a teacher of adults is to:
    (a) guide learners through learning activities with well-directed feedback.
    (b) systematically lead learners step by step in acquiring new information and understanding underlying theories and concepts.
    (c) help learners identify and learn to solve problems.
    (d) increase learners' awareness of environmental and social issues and help them to have an impact on these situations.
    (e) facilitate, but not to direct, learning activities.

15. In the end, if learners have not learned what was taught:
    (a) the teacher has not actually taught.
    (b) they need to repeat the experience, or a portion of it.
    (c) they may have learned something else which they consider just as interesting or useful.
    (d) they do not recognize how learning will enable them to significantly influence society.
    (e) it is probably because they are unable to make practical application of new knowledge to problems in their daily lives.

Sense of Community in Graduate Students and Instructors' Philosophy of Adult Education in a Distance-Delivered Master of Science Degree Program

Information Sheet

Highest degree earned (circle one):

Bachelors
Masters
Doctorate

Years since receipt of last degree: _____

Years of experience teaching graduate students: _____

Number of courses taught using distance education: _____

Did you receive training related to teaching in the distance education format?
Yes No

Gender (circle one):

Female
Male

Age: _____

Classroom Community Survey

About You

The following information will help us better understand the information that you provide us.

(To indicate your response, please click in the box next to your choice.)

Gender:

- ☐ Female
- ☐ Male

Your Age: _____

Race:

- ☐ American Indian
- ☐ Asian or Pacific Islander
- ☐ Black/African American
- ☐ Hispanic
- ☐ White
- ☐ Other
- ☐ Decline to State

Highest degree earned:

- ☐ Bachelors
- ☐ Masters
- ☐ Doctorate

Years since receiving your last degree: _____
Years of experience in your current profession: _____
Number of courses taken via distance education: _____

Classroom Community Scale

Directions: Below you will see a series of statements concerning the courses in your master's degree program. Read each statement carefully and select the choice that comes closest to indicate how you feel about the course in your program; that is, **answer each item based on your overall experience in the Distance-Delivered Degree Program rather than just focusing on one course.** There are no correct or incorrect responses. If you neither agree nor disagree with a statement or are uncertain, select Neutral. Do not spend too much time on any one statement, but give the response that seems to describe how you feel. **Please respond to all items.**

To indicate your response, just click in the box next to your choice.

1. I feel that students in this course care about each other.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

2. I feel that I am encouraged to ask questions.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

3. I feel connected to others in the courses in this program.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

4. I feel that it is hard to get help when I have a question.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

5. I do not feel a spirit of community.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

6. I feel that I receive timely feedback.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

7. I feel that this course is like a family.

☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

8. I feel uneasy exposing gaps in my understanding.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

9. I feel isolated in the courses in this program.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

10. I feel reluctant to speak openly.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

11. I trust others in the courses in this program.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

12. I feel that the courses in this program result in only modest learning.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

13. I feel that I can rely on others in the courses in this program.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

14. I feel that other students do not help me learn.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

15. I feel that members of the courses in the program depend on me.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

16. I feel that I am given ample opportunities to learn.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

17. I feel uncertain about others in the courses in the program.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

18. I feel that my educational needs are not being met.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

19. I feel confident that others will support me.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

20. I feel that the courses in the program do not promote a desire to learn.
- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

Thank you for participating and making this study possible.

Classroom Community Survey
Scoring Key

Overall CCS Raw Score

CCS raw scores vary from a maximum of 80 to a minimum of zero. Interpret higher CCS scores as a stronger sense of classroom community.

Score the test instrument items as follows:

For items: 1, 2, 3, 6, 7, 11, 13, 15, 16, 19
Weights: Strongly Agree = 4, Agree = 3, Neutral = 2, Disagree = 1,
Strongly Disagree = 0

For items: 4, 5, 8, 9, 10, 12, 14, 17, 18, 20
Weights: Strongly Agree = 0, Agree = 1, Neutral = 2, Disagree = 3,
Strongly Disagree = 4

Add the weights of all 20 items to obtain the overall CCS score.

CCS Subscale Raw Scores

CCS subscale raw scores vary from a maximum of 40 to a minimum of zero.

Calculate CCS subscale scores as follows:

Connectedness: Add the weights of odd items: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19

Learning: Add the weights of even items: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

(Rovai, 2002a)

Oklahoma State University Institutional Review Board

Date:	Wednesday, October 11, 2006
IRB Application No	ED06188
Proposal Title:	Sense of C ommunity in Graduate Students and Instructors' Philosophy of Adult Education in a Distance-Delivered Master of Science Degree Progran
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 10/10/2007

Principal Investigator(s ✓

Mary Anne Gularte
1193 N. Lakeview Drive
Sand Springs, OK 74063

Gary J Conti
1193 N. Lakeview Dr.
Sand Springs, OK 74063

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46

☑ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sue C Jacobs

Sue C. Jacobs, Chair
Institutional Review Board

VITA

Mary Anne Gularte

Candidate for the Degree of

Doctor of Education

Thesis: A DESCRIPTION OF STUDENTS' SENSE OF COMMUNITY AND INSTRUCTORS' PHILOSOPHY OF EDUCATION IN A DISTANCE-DELIVERED DEGREE PROGRAM

Major Field: Human Resource Development and Adult Education

Biographical:

Education: Received Bachelor of Arts degree from University of California, Santa Barbara, 1978; received Master of Science degree from Oklahoma State University, Stillwater, Oklahoma, 1984. Completed requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, May 2007.

Experience: Currently Director, Human Resources, for the Chabot-Las Positas Community College District, Pleasanton, California. Previously was Director and Lecturer, Office of Human Resources, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, Florida; Director, Human Resources and Affirmative Action, and Interim Director, Agricultural Communications Services, Division of Agricultural Sciences and Natural Resources, Oklahoma State University, Stillwater, Oklahoma. Additional experience at Oklahoma State University and the University of California, Santa Barbara.

Professional Memberships: Academy of Human Resource Development, International Society of Performance Improvement, College and University Professional Association, Association of California Community College Administrators.

Name: Mary Anne Gularte Date of Degree: May 2007

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: A DESCRIPTION OF STUDENTS' SENSE OF COMMUNITY AND INSTRUCTORS' PHILOSOPHY OF EDUCATION IN A DISTANCE-DELIVERED DEGREE PROGRAM

Pages in Study: 181 Candidate for the Degree of Doctor of Education

Major Field: Human Resource Development and Adult Education

Scope and Method of Study: This study used a descriptive research design to describe students' sense of community and instructors' philosophy of adult education in a distance-delivered agricultural education and communication master of science degree program. Study participants included 23 students and 8 faculty engaged in the program. Students' sense of community in the online learning environment was identified with the Classroom Community Survey (CCS) instrument. Instructors' philosophy of education was identified with the Philosophy of Adult Education Inventory (PAEI). Descriptive statistics were used to describe the data. Archival data, consisting of course syllabi were analyzed and themes identified.

Findings and Conclusions: The distance-delivered degree program was implemented to respond to the educational needs of adults serving as County Cooperative Extension Service faculty and middle and high school agriscience teachers. Students in the distance-delivered program were older their campus-based cohorts and had an extended break in their formal education, an average of nearly 15 years. Over 91% of the students scored above the midpoint of the range on the CCS, indicating that students somewhat agreed that a sense of community existed. The majority of the scores on both the Connectedness and Learning subscales were above the midpoint, indicating agreement that students felt connected and that a sense of learning existed in the program. No significant relationships were found between the CCS scores or subscale scores and any of the demographic variables identified. Most instructors had significant experience teaching graduate students, but limited experience teaching in the distance learning environment. The highest scored philosophical orientation for the majority (63%) of the instructors was the Progressive orientation, and the Humanistic orientation was the second highest (25%) scored orientation. Both orientations support a learner-centered approach to adult education, which is consistent with the field of agricultural education.

ADVISER'S APPROVAL: Gary J. Conti