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THE INFLUENCE OF FEMINIST PEDAGOGY ON STUDENT PARTICIPATION AND STUDENT PERCEPTION OF LEARNING ENVIRONMENT IN DISTANCE EDUCATION: A COMPARATIVE STUDY OF WEB-BASED GRADUATE DISTANCE EDUCATION COURSES

Tammy R. Johnson

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Doctor of Education
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Powell Toth, Ph.D., Chair
Michael Cunningham, Ed.D.
Joyce East, Ph.D.
Beth Triplett, Ed.D.

Leadership Studies Program

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ABSTRACT

The Influence of Feminist Pedagogy on Student Participation and Student Perception of Learning Environment in Distance Education: A Comparative Study of Web-Based Graduate Distance Education Courses

Tammy R. Johnson

The purpose of this study was to determine if a relationship existed between the level of feminist pedagogy employed in a course and student participation or student perception in that course. The study attempted to measure the level of feminist pedagogy employed in eight randomly selected, web-based distance education courses using a researcher-created instrument: **The Feminist Pedagogy Scoring Rubric**. Additionally, student perception of learning environment in each course was analyzed through the use of the **Distance and Open Learning Environment Scale (DOLES)**. The rate of student participation in each course was determined by analyzing archived online communications.

Four main tenets of feminist pedagogy were measured by The Feminist Pedagogy Scoring Rubric: **Heterogeneity, Collaborative Learning Environment, Connected Learning,** and **Decentralized Authority**. The DOLES instrument included 40 survey items divided into five main core scales: **Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation and Material Environment, and Home Environment**.

The findings of this study indicate that there is a strong, positive relationship between the level of feminist pedagogy employed in a course and the level of student participation in that course. No relationship was found between the level of feminist pedagogy employed in a course and students' perceptions of the learning environment in that course.

DEDICATION

To my mother, for dragging me out of bed every morning for thirteen years… even when I was sure that school was a waste of time.

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To my sister who has turned out to be one of my best friends—I'm glad we never succeeded in beating each other to death…

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CHAPTER ONE

Introduction

Recently, the number of distance education courses and programs offered at both the undergraduate and graduate levels of higher education has increased dramatically. In fact, between 1994 and 1998, distance education programs in the United States increased by 72 % (The Institute for Higher Education Policy, 2000). On campuses across the nation, administrators and faculty members are scrambling to expand or create effective distance education programs and courses (The Institute for Higher Education Policy, 2000). Due to the relative paucity of original research in the field of distance education, many pedagogical and programmatic decisions are based on opinion, traditional academic practices or financial considerations (Merisotis, 1999; Morgan, 2001; Thompson, 1999). These decisions may have significant implications for future retention rates in distance education programs.

Often, programmatic decisions regarding distance education are based on factors other than students' learning styles and academic preferences (Merisotis, 1999; Morgan, 2001; Thompson, 1999; Wright, 1999). Specifically, administrators and faculty members often design and implement distance education courses without regard to the unique characteristics of female learners in distance education settings, even though women comprise the majority of distance education students nationally (Burge, 1998; Furst-

Bowe & Dittman, 2000; Thompson, 1999). Feminine learning styles, which more women than men possess, differ considerably from masculine learning styles and a student's sex may play an important role in his or her preferences regarding distance education courses (Beazley, 2000; Brown, 1998; Dvorak, 1996; Gougeon, 1998; Kanwar, 1990; Kramerae, 2001; Omoregie, 1997; Summers, 1996). To better serve all students and improve retention rates in programs that employ distance education, administrators should take sex-related differences into consideration when creating or expanding distance-learning courses and programs (Furst-Bowe & Dittman, 2000; Kramerae, 2001).

Distance Learning

Although distance learning as a general concept dates back to the 1800s, recent advances in information technology make distance education in the 21st century a distinctive and more enticing option (Roach, 1999). In recent years, the use of technology in higher education has become one of the biggest issues facing college and university administrators ("Distance education," 2000; Schneider, 1999; Wolf, 1999). As the capabilities of technology multiply, it will continue to have a profound impact on institutions of higher education around the world (Merisotis, 1999). At many institutions, the use of technology has allowed distance education to become a major part of the curriculum. In fact, business expert Peter Drucker predicts that traditional colleges will last only another 30 years before dying off entirely (Frances, 1999; West, 1999). As radical as this statement may seem, most institutions are beginning to take a serious look at the opportunities and challenges presented by technology, as well as what it means to higher education in the 21st century.

During the past decade, student access to and use of information technology on college campuses has exploded (Brown, 2000; Lamb, 1999). Students who might have taken one computer science course ten years ago can now obtain a bachelor's or master's degree almost or entirely online (Lamb, 1999). Most schools now offer distance education courses to some extent, with a few institutions offering distance education exclusively. Wireless products have become mainstays on college campuses nationwide, and on some campuses students receive laptops along with their first schedule of classes (DeCerce, 2001). The demand for distance education, and online learning specifically, continues to increase even as students, faculty, and colleges struggle to meet the unique challenges inherent in this new technology.

A 1995 survey by the National Center for Education Statistics found that one third of higher education institutions offered distance education courses and another quarter planned to offer such courses by 1998. Forty-two percent of the institutions surveyed in 1995 did not offer and did not plan to offer distance education courses (Dewald, N., Scholtz-Crane, A., Booth, A. & Levine, C., 2000; Lamb, 1999). Within one year, however, these statistics had changed dramatically: in 1999, the National Center for Education Statistics found that 85 % of institutions planned to offer distance-learning courses by the year 2002 (West, 1999). Bruce Chaloux, director of the Southern Regional Education Board's Electronic Campus, estimates that today only 10 –15 % of colleges and universities in the United States have not created significant web-based education programs (Carnevale, 2001b). The United States Department of Education confirmed these findings with a 2000 survey revealing that distance education programs

increased nationally by 72 % from 1995 to 1998 (Carnevale, 2000c; The Institute for Higher Education Policy, 2000).

Although public colleges and universities (larger institutions in general) are more likely to offer distance education courses, the demand for technology on all college campuses continues to increase (Carnevale, 2000c). This demand can be attributed, in part, to the changing demographics of the college student nationwide (Olsen, 1999). The typical college student on a contemporary campus is likely to be over 25 years of age, non-residential, working full or part time, and involved with additional family responsibilities (West, 1999). Non-traditional students expect institutions to offer flexible scheduling, increased access to instructional resources, and more interactive forms of learning. Often adult education programs, tailored to meet the needs of working adults, are delivered almost entirely via distance education technologies (Furst-Bowe, 2000). Adults tend to choose a degree program based on its ability to meet both their personal and professional needs, which may explain why many students are choosing institutions like the University of Phoenix and the Western Governors University Virtual University. Both schools primarily offer distance education programs (West, 1999).

Colleges and universities are also seeing a rise in the number of students who are returning to campus after years in the work force, either to update their qualifications or pursue a new career (Lamb, 1999; Patterson, 2000). This trend will require schools to alter their modes of delivery and become more accommodating as life-long learners drive the continued expansion of distance-learning in higher education (Carnevale, 2001a; Roach, 1999; West, 1999).

Often, when deciding whether to create a distance-learning program, administrators are blinded by the promised benefits of such a program. Indeed, by most accounts, the technological revolution promises to transform lives and contribute immeasurably to the improvement of society (Merisotis, 1999). In higher education, technology is often spoken of as if it is the answer to all accessibility, motivational and financial problems. The widespread use of technology in distance education is also expected to improve the quality of instruction that students receive and, ultimately, alter the roles and responsibilities of faculty (Seagren & Watwood, 1997). In fact, this "technological utopianism" is part of a long tradition in higher education in which every new innovation is meant to be the cure for one or more social ills (Green, 1999). This widespread perception, along with competitive pressure from peer institutions and software vendors, leads many institutions to create extensive online programs (Blumenstyk, 1999a; Carnevale, 2001b). In the rush to keep up with competitors and to benefit their schools financially, many administrators do not consider the obstacles that distance education courses present for students, faculty, and, ultimately, the college itself.

Technological innovation has transformed distance education from an afterthought on most college campuses to a major form of instructional delivery. There are, of course, both advantages and disadvantages inherent in the new delivery methods for distance education. The new technologies can also affect learning outcomes of male and female students very differently (Von Prummer, 2000; Kramerae, 2001). To allow all students to take full advantage of curriculum offerings, administrators must consider sex-related differences when developing or expanding distance education programs.

Sex-Related Distance Learning Issues

With the increased use of technology in education, questions are again raised about learning environments that discriminate based on sex (Bennett & Brunner, 2000). While educators have recently begun discussions regarding gender in distance education, there has been relatively little research on the topic. As recently as a decade ago, virtually no attempt had been made to relate feminist theory and practice to distance education (Kanwar, 1990). Recently, however, sex-related issues in distance education are being raised in professional and scholarly meetings and writings (Stacy, 1995; Kramerae, 2001). Despite this academic interest in sex-related distance education issues, college administrators often fail to investigate the varying impact that distance education will have on male and female students. This oversight may have far reaching consequences, such as lower retention rates, as learners in higher education become increasingly non-traditional and female (Kramerae, 2001; Mulhauser, 2001; West, 1999).

Most experts in the fields of education and technology have welcomed the expansion of distance education and view it as a great equalizer in regard to opportunity (Roach, 1999). Advocates for women and minorities, however, warn that the proliferation of information technology has the potential to deepen already existing class divides between those who have access to information technology and those who do not (Kramerae, 2001; Roach, 1999). Numerous studies have also revealed that a sex gap exists at all levels within the field of technology. The "digital divide," as the sex gap in information technology is often called, has been documented repeatedly by many researchers (Kramerae, 2001; Zubrow, 1989; Beazley, 2000; Bennett & Brunner, 2000).

Researchers and observers have reported sex-related differences in both attitudes toward computing and the use of computers (Zubrow, 1989). Women, in general, are less comfortable with technology and hold lower expectations of themselves than do men in regard to tasks that involve technology (Zubrow, 1989). Not surprisingly then, students can experience different problems with distance education courses based on sex (Tsai, 1999). In fact, some students in online classes now experience many of the same gender-related problems that have plagued students in traditional classrooms for years. Sexual harassment, for instance, has been reported in several online classrooms (Machanic, 1998).

Studies also reveal that sex can be a crucial determining factor in the communication style used in public online communications (Dvorak, 1996). Women in online classes attempt to use multiple forms of communication more often than do men, including relationship building, horizontal communication, and the development of a sense of group interdependency (Gougen, 1998). Men tend to rely on reporting as their primary form of online communication, are generally more task-oriented and, thus, are usually more suited to the information dissemination style that many online instructors employ (Gougen, 1998).

A feminine learning style, which more women than men possess, values collaboration and consensus building. Students who possess a feminine learning style tend to prefer a more personal communication style, and some advocates for women in higher education worry that an online class based on a traditional pedagogy offers fewer opportunities for interpersonal communication with professors (Kramerae, 2001; Von Prummer, 2000). Indeed, many instructors have found that collaboration and group

process are the most difficult skills to incorporate into an online class (Von Prummer, 2000).

Despite the communication challenges inherent in distance education, conventional wisdom suggests that women, especially single, working mothers, stand to benefit most from the new technology (Blumenstyk, 1997). For many women, work and family responsibilities can combine to create a major challenge to succeeding in an educational environment. Most women have both careers and child care responsibilities— a combination that makes a commute to campus all but impossible. Therefore, female students are more likely to choose a degree program based on how it will blend with their family and work responsibilities (Furst-Bowe, 2000). Distance education programs offer women increased access to academic programs and greater flexibility in the scheduling of courses. These factors may contribute to the greater number of women enrolled in distance education courses (Furst-Bowe, 2000; Thompson, 1999).

Countless studies have described the very real tendency of women to remain silent and participate less in traditional classrooms (Kramerae, 2001; Von Prummer, 2000; Blumenstyk, 1997). In fact, there is an entire body of research showing that women have been socialized to speak less often in class than men at all levels of education (Blumenstyk, 1997). In distance education classes, however, research shows that sex is not necessarily a significant predictor of the extent to which a student will participate in discussions (Howard, 2000). When given the opportunity, women in distance education courses are just as likely to participate in discussions as men in the same courses and are more willing to participate in discussions online than in a traditional

classroom setting (Howard, 2000). In fact, several studies have found that in some distance education settings females perform significantly better academically than males (Darwazeh, 1998). Studies have also found that women use course web sites and participate in electronic discussions more often than men in distance education courses (He & Jacobson, 1996). This increased participation may be a result of greater opportunities for women to participate in some online courses, as opposed to traditional classrooms that tend to discourage the participation of women.

Studies have also repeatedly revealed another gender-related problem in academic environments: women tend to downplay their abilities and opinions in face-to-face encounters. In private, however, women accurately describe their abilities and achievements and are more willing to portray themselves as competent, relative to men (Brown, 1998). This finding appears to pertain to online communication as well, especially when courses are designed so that there are opportunities to communicate with some degree of anonymity. In fact, women in one study almost always chose male pseudonyms when writing anonymously in one portion of an online course. Because the women may have felt disempowered by their own sex, the male pseudonyms afforded them a sense of credibility (Pagnucci & Mauriello, 2001).

The elimination of many sex dominance issues common in the traditional classroom may be one of the most potentially beneficial aspects of distance education (Seagren, & Watwood, 1997). Pervasive sex stereotypes often lead to classroom discrimination (Beyer, 1999). In online courses, sex may be less apparent and, therefore, less of a factor in determining how students respond to one another and to professors. There are, however, "ways that women can be shut down online," says sex and

technology researcher Cheyenne Bonnell, "It's all according to what questions you ask" (Blumenstyk, 1997, A36). If discussions are set up as debates, she adds, "women are still not going to contribute to them. Women don't like to beat each other out" (Blumenstyk, 1997, A36). Some women grew up learning to hide their intellect and, therefore, may need encouragement to participate in online discussion (Blumenstyk, 1997). Instructors must employ pedagogies that ensure the participation of women in online dialogue. These findings suggest that a feminist pedagogy would create the online environment most conducive to the success of students with feminine learning styles.

Feminist Pedagogy

There is still much that is not known about sex-related issues in distance education. Scholars are only beginning to examine distance education relative to gender-related learning styles (Stacy, 1995). Researchers have found, however, that one of the greatest barriers to the success of students with feminine learning styles in distance education is the sense of disconnectedness that many experience (Burge, 1993). In fact, a feeling of isolation is one of the most frequent complaints of female distance learners (Kramerae, 2001). In the recent landmark report *The Third Shift: Women Learning Online* by the American Association of University Women (AAUW), researchers made several recommendations for administrators and professors relative to distance education. These recommendations include finding ways to value differences in age and sex, as well as establishing places for online students to meet face to face. Administrators are also encouraged to disseminate broadly the scholarship and loan information for online programs and to develop mechanisms for continual evaluation (Kramerae, 2001).

The AAUW report also makes several recommendations for professors of distance learning courses. According to the report, professors should be sure that materials used in the course are relevant to women and underrepresented groups. Professors should also be aware of sex-related differences in learning styles and computer mediated communication. Other researchers suggest that the best way for professors to ensure the success of female students is to assist students in finding a voice and overcoming isolation, as well as developing an atmosphere of connected learning in which members nurture each other's ideas (Hipp, 1997). Positive pluralism (the full participation of every student) should be a high priority for every professor (Kramerae, 2001).

The recommendations made in the AAUW report have many commonalities with feminist approaches to teaching and learning. In fact, many researchers have recognized that the holistic strategies for promoting connectedness among female distance education students have strong links to existing feminist theories and practices (Burge, 1993). The feminist perspective centers on the premise that women and men, in general, have very different learning styles and that women respond more positively to certain teaching approaches (Blumenstyk, 1997). The overall objectives of a feminist pedagogy are to empower all students, make all students more comfortable with the learning process, enable students to think and write critically, and celebrate choice (Davis, 1989; Mullin, 1994).

A feminist pedagogy is one that attempts to decentralize authority. Such a pedagogy is by nature collaborative, interactive and participatory as it strives to foster the individual voice in the classroom. Cooperation, rather than competition, distinguishes the

feminist process due to the fact that a feminist consciousness is inclusive rather than exclusive (Fortune, 1995). The environment in an online class can ideally support collaboration and interaction, both hallmarks of the feminist classroom (Rashley, 2001). If more professors find ways to incorporate these principles, all students who possess feminine learning styles will continue to perform better in online classes (Rashley, 2001).

The professor who utilizes a feminist pedagogy will insist upon integration of the student's personal experiences and his or her affective response to the subject matter (Davis, 1989). Additionally, students will be discouraged from being passive recipients of knowledge by the creation of a learner-active environment (Davis, 1989). Based on the aforementioned hallmarks of feminist pedagogy, it can be predicted that such a teaching style in distance education courses will enhance students' educational experiences and create an engaged, inclusive learning environment.

Conclusion

In the higher education community, there is still relatively little knowledge concerning technology and its effect on the learning process (Merisotis, 1999). Institutions tend to make decisions about distance education based on their existing institutional culture. School officials often assume that their practices serve the needs of both students and faculty members (Carnevale, 2001a) when, in reality, large segments of the student population are being ignored. Distance learning, like other forms of education, can only be successful if administrators are committed to recognizing the needs of students (Carnevale, 2000a). College and university administrators need to examine the many forms of technology that are being used in distance learning programs

and determine ways to better meet the needs of all students, including students with feminine learning styles (Blumenstyk, 1997) which, in turn, may help improve the overall pedagogy in higher education (Blumenstyk, 1997). Consequently, as administrators make programmatic and pedagogical decisions regarding distance education courses, they should be aware of the implications these decisions may have for factors affecting retention rates of female distance learners (Furst-Bowe & Dittman, 2000).

As late as 1999, there was little original research related to distance education in general (Merisotis, 1999). Even though distance education presents many challenges for college administrators, there is almost no research that examines distance education as it is delivered from a feminist or non-feminist perspective (Burge, 1998; Furst-Bowe & Dittman, 2000). The absence of research relating to distance education in general and sex-related issues in particular persists even today. Before beginning or expanding a distance education program, college administrators must determine how such programs will impact students, faculty, and the college itself. More research is needed in the area of perceptions of and experiences of students with feminine learning styles in distance education programs (Furst-Bowe, 2000). Colleges and universities must examine the characteristics of students with feminine learning styles in distance education programs to develop institutional plans that provide the academic and support services these students need. Men and women tend to approach distance education very differently and these variations should be taken into account when planning distance education programs or courses (Burge, 1993). The impact of distance education programs upon female students in particular must be considered if institutions of higher education truly aim to end sex related inequities in the classroom, both traditional and virtual. The number of women

who attend college is expected to increase to 58 % of the college student population over the next ten years (Mulhauser, 2001). It will be important, therefore, for administrators to recognize as many ways as possible to retain female students.

Today, distance education is a reality in higher education and its presence will likely increase in the future. Advocates for female students must look for ways to make distance education and other forms of technology more accessible to all women. Faculty must learn to design classes that take feminine learning styles into account and incorporate relationship-building activities. These changes will be important not only for women, but for all students who utilize feminine learning styles and who value collaboration. Distance education courses based on a feminist pedagogy may provide increased opportunities for women to interact (Burge, 1993; Hocks, 1999; Winfield, 1998) and may increase levels of participation among female students. By improving affective dimensions of the classroom environment, feminist-centered distance education courses may increase feelings of connectedness and, thus, retention rates among female distance learners (Von Prummer, 2000).

In light of the foregoing information, it is imperative to identify ways to increase the participation of women in distance education classes. It is also important to find methods of teaching online courses that create classroom environments conducive to the involvement of students with feminine learning styles. In this study, the researcher has attempted to answer questions related to the aforementioned objectives.

Research Questions

1. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and students' perceptions of learning environment?

2. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and the level of student participation?

3. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course, a student's sex, and his or her perception of learning environment?

Operational Definitions

Level of Feminist Pedagogy- A mean score on The Feminist Pedagogy Scoring Rubric.

Perception of Learning Environment- Mean scores on five core areas (Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation, and Material Environment) of the Distance and Open Learning Environment Scale (DOLES)

Level of participation- A mean score based on the average number of postings students make to the online portion of a class.

Sex- A student's response (male or female) to a survey item

Significance of the Study

Historically, retention rates in distance education courses and programs have been lower than retention rates in traditional programs (Furst-Bowe & Dittmen, 2000). In fact, it has been estimated that nearly 70 percent of distance education students drop out permanently or temporarily before completion of a degree program (Furst-Bowe & Dittman, 2000). One contributing factor to low retention rates for women in distance education programs is the sense of disconnectedness (Burge, 1998). Researchers suggest that by increasing the level of participation and involvement of women in distance

education courses, feelings of connectedness can be increased (Furst-Bowe & Dittman, 2000). This study examines whether students enrolled in feminist-based distance education courses participate more in class and whether these students feel more positive regarding their learning environment than students enrolled in non-feminist-based courses. According to Gulick and Urwick (1967) there are seven basic functions in which administrators engage. Planning, organizing, staffing, directing, coordinating, reporting and budgeting are the primary responsibilities of administrators. A study that investigates the relationship between distance education courses based on feminist pedagogy and student perception of classroom environment in those particular courses will have many implications for higher education administrators as they engage the aforementioned functions and the entire administrative process.

The data derived from this study will benefit program directors as they plan for and organize distance education courses and programs. Specifically, administrators may need to plan for facilities that will accommodate occasional face-to-face meetings of distance learners (Kramerae, 2001). Staffing decisions may be made more effectively if the pedagogy a professor employs is taken into account. Professors who use a feminist pedagogy may be better suited to teaching distance education classes, especially in programs that tend to enroll large numbers of female students (Kramerae, 2001).

Department chairs and directors of distance education programs can be instrumental in establishing feminist pedagogy as the norm in distance education classes. These administrators can direct professors to explore current research in the field of distance education and coordinate their efforts in obtaining current research relative to women in distance education. As department chairs and directors of distance education

programs prepare budgets, it will be important to take technology support and training for professors into account. Because feminist pedagogy was shown to provide a significant advantage to students in distance education courses in terms of increasing their participation rates, training should be provided for all distance education instructors. Finally, institutional officials must be able to adequately evaluate distance education courses and programs. Only by gathering data on the type of pedagogy employed in a distance education course or program, among other variables, can these administrators conduct effective evaluations.

Limitations of the Study

This study is a modified static group comparison of predominantly web-based graduate-level distance education courses. Eight such courses have been analyzed relative to the level of feminist pedagogy employed in each. The study attempts to ascertain whether a relationship exists between the level of feminist pedagogy employed in a distance education class and students' level of participation. The study also attempts to determine if a relationship exists between the level of feminist pedagogy employed in distance education courses and students' perceptions of the online learning environment. Additionally, the study attempts to determine if a relationship exists between the level of feminist pedagogy employed in a course, a student's sex and his or her perception of learning environment.

The researcher has attempted to control internal validity in a variety of ways. Instructors of the selected courses were not given information regarding the nature of the study or the specific variables the researcher planed to examine. The level of feminist pedagogy employed in each course was determined by an independent panel of experts

using a scoring rubric created by the researcher. The scoring rubric was validated in two successive stages. Archived class records were utilized in determining the number of postings each student made to the online portion of the course. The researcher employed quantitative methodology in analyzing the number of student postings and in determining whether or not a relationship exists between this variables and the level of feminist pedagogy employed in each course. The Distance and Open Learning Environment Scale (DOLES) was utilized to determine students' perceptions of the online learning environment. Quantitative methodology was used to determine if a relationship exists between the level of feminist pedagogy employed in each course, students' perceptions of the online learning environment, and the level of student participation. The researcher attempted to study classes that had typical distributions of male and female students.

Participants in the study were graduate students and professors in the Graduate School of Education and Professional Development at Marshall University in Huntington, West Virginia. The study, therefore, cannot be readily generalized to undergraduate populations (Johnson & Christensen, 2000). The study did not take into account extraneous variables such as instructor characteristics other than the level of feminist pedagogy employed by each. Additionally, the survey is limited by the accuracy of participants' responses (Kerlinger & Lee, 2000).

CHAPTER TWO

Review of the Literature

Introduction

The number of distance education courses and programs offered at all educational levels has increased dramatically in the past decade. Between 1994 and 1998, distance education programs in the United States increased by 72 % (The Institute for Higher Education Policy, 2000). Administrators and faculty members on campuses across the nation are scrambling to expand or create effective distance education programs and courses (The Institute for Higher Education Policy, 2000). There has, however, been relatively little original research in the field of distance education. Thus, many pedagogical and programmatic decisions regarding distance education are based simply on opinion, traditional academic practices or financial considerations (Merisotis, 1999; Morgan, 2001; Thompson, 1999). Several studies have shown that students enrolled in distance education courses exhibit lower retention rates than students enrolled in traditional courses (Carnevale, 2001). Clearly, these issues have significant implications for the future of distance education programs.

Programmatic decisions regarding distance education are often based on many factors other than students' learning styles and academic preferences (Merisotis, 1999; Morgan, 2001; Thompson, 1999; Wright, 1999). Administrators and faculty members often design and implement distance education courses and programs with little regard to the unique characteristics of female learners in distance education settings, regardless of the fact that women comprise the majority of distance education students nationally (Burge, 1998; Furst-Bowe & Dittman, 2000; Thompson, 1999). Research has clearly

shown that feminine and masculine learning styles can differ considerably, and that a student's sex may play an important role in his or her preferences regarding distance education courses because more women than men possess feminine learning styles (Beazley, 2000; Brown, 1998; Dvorak, 1996; Gougeon, 1998; Kanwar, 1990; Kramerae, 2001; Omoregie, 1997; Summers, 1996).

Despite the preponderance of evidence that women comprise the majority of distance education students, very few studies have explored the way students with feminine learning styles are affected by the methods employed in distance education (Von Prummer, 2000). Many studies have concluded that distance education has the potential to provide equal opportunities in higher education, but that these opportunities are regularly being missed (Von Prummer, 2000). To improve retention rates and better serve all students in programs that employ distance education, administrators should take sex-related differences into consideration when creating or expanding distance-learning courses and programs (Furst-Bowe & Dittman, 2000; Kramerae, 2001).

According to Christine Von Prummer, a leading researcher in gender related distance education issues, from the beginning of distance education programs, women have been a principal population.

> Women have traditionally been underrepresented in face-to-face higher education; their educational careers and aspirations are subject to interruption by the demands of childcare, and they often spend considerable amounts of time in the home, which is targeted as the natural place for distance study. Women should therefore feature prominently in distance education and their needs should be of

primary concern to the designers of distance education courses (Von Prummer, 2000, p.1)

Distance Learning

During the last century, higher education has grown steadily in size, resources and influence. Although it has grown tremendously, higher education's basic structure has remained remarkably unchanged (Newman, 2000). Recently, however, powerful changes have begun to take place within higher education. Some of the most powerful forces driving the paradigm shift at universities all over the world are the rapid advances being made in technology and the way these advances are being used in the delivery of higher education (Newman, 2000).

The concept of distance learning originated in the 1800s, long before the Internet was introduced. Penn State, for example, has offered distance education programs since 1892, when the U.S. Post Office first began delivering mail to rural areas. Following the initial introduction of written correspondence classes, radio, television and video courses were gradually incorporated as the technologies became available. Today, the World Campus at Penn State offers 18 web-based certificate and degree programs consisting of 155 courses. Offerings at the institution have evolved as the available technology has evolved (Carnevale, 2000).

Recent advances in information technology make distance education in the 21st century a distinct and much more enticing option (Roach, 1999). Although, the increase in distance education technology may appear to have occurred almost overnight, in reality most institutions have slowly incorporated the new technologies into their existing

curricula as technological innovation has progressed over the last twenty years, (Brown, 2000).

A key to modern distance education, the Internet began as a department of defense project in the 1960s (Brown, 2000). Innovations to the World Wide Web were made in the 1980s at the Center for European Nuclear Research, and by the mid 1990s, the Internet was being utilized globally. In time, people were able to communicate, shop, research and study online. Today, some experts believe that these transformations are barely the beginning. Some researchers assert that many transformations lie ahead of us and that "No one fully knows what those transformations will be… [perhaps] a new kind of information fabric in which learning, working, and playing co-mingle" (Brown, 2000, p.12). Indeed, both the United States government and private organizations continue to pour millions of dollars into investments in information technology (Devarics, 2001).

As the capabilities of technology multiply, technology will continue to have a profound impact on institutions of higher education around the world (Merisotis, 1999). At many institutions, the use of technology has allowed distance education to become a major part of the curriculum. Dees Stallings, director of academic affairs at VCampus Corporation, which offers distance education and support to universities and colleges asserts that this change is permanent and not merely a temporary phenomenon (Carnevale, 2001b, A41). Furthermore, business expert Peter Drucker predicts that traditional colleges will last only another 30 years before dying off entirely (Frances, 1999; West, 1999). As radical as this statement may seem, most institutions are beginning to take a serious look at the opportunities and challenges presented by technology, as well as what it means to higher education in the 21st century.

During the past decade, student access to and use of information technology on college campuses has exploded (Brown, 2000; Lamb, 1999). Students who took only one required computer science course ten years ago can now obtain a bachelor's or master's degree almost or entirely online (Lamb, 1999). Most schools now offer distance education courses to varying extents, with a few institutions offering distance education exclusively. Wireless products have become mainstays on college campuses nationwide, and on a growing number of campuses students receive laptops along with their first schedule of classes (DeCerce, 2001). The demand for distance education, and online learning specifically, continues to increase even as students, faculty, and colleges struggle to meet the unique challenges inherent in this new technology.

For years, institutions focused on investing in basic information technology, including equipment and software. In recent years, however, the focus has shifted to enhancing connectivity with students, researchers, and the global community (National Association of State Universities and Land-Grant Colleges, 1999). As technology has evolved, administrators have faced new challenges regarding the use of technology in higher ("Distance education," 2000; Schneider, 1999; Wolf, 1999). In a recent survey of campus computing officials, issues related to distance education were ranked the number one challenge facing institutions ("Distance education", 2000).

A 1995 survey by the National Center for Education Statistics found that one third of higher education institutions offered distance education courses and another quarter planned to offer such courses by 1998. Forty-two percent of the institutions surveyed in 1995 did not offer and did not plan to offer distance education courses (Dewald, N., Scholtz-Crane, A., Booth, A. & Levine, C., 2000; Lamb, 1999). Within one year,

however, these statistics had changed dramatically; in 1999, the National Center for Education Statistics found that 85 percent of institutions planned to offer distance-learning courses by the year 2002 (West, 1999). The United States Department of Education, with a 2000 survey, revealed that distance education programs increased nationally by 72 percent from 1995 to 1998 (Carnevale, 2000c; The Institute for Higher Education Policy, 2000). In 2001, Bruce Chaloux, director of the Southern Regional Education Board's Electronic Campus, confirmed these findings by estimating that only 10 –15 % of colleges and universities in the United States had not created significant web-based education programs (Carnevale, 2001b).

Administrators often ask some basic questions when considering distance education programs such as "Should we offer them? Who will teach them? Do we have the technology to deliver them? How should we price them? And what kind of revenue will they generate?" (Morgan, 2001, p.27). Although public colleges and universities, and larger institutions in general, are more likely to offer distance education courses, the demand for technology on all college campuses is continually increasing (Carnevale, 2000c). This demand can be attributed, in part, to the changing demographics of the college student nationwide (Olsen, 1999). At one time, the traditional age (18-21) college student comprised the majority of students on college campuses. Most students came to college directly from high school and were living independently for the first time. These students studied a particular subject for four years, earned a degree, and left campus permanently to join the world of work (West, 1999).

Today, fewer than 25 percent of college students are in the 18-21 year old age group. The typical college student on a contemporary campus is likely to be over 25

years of age, non-residential, working full or part time, and managing additional family responsibilities (West, 1999). Non-traditional students expect institutions to offer flexible scheduling, increased access to instructional resources, and more interactive forms of learning. Often adult education programs, tailored to meet the needs of working adults, are delivered almost entirely via distance education technologies (Furst-Bowe, 2000). Adults tend to choose a degree program based on its ability to meet both their personal and professional needs, which explains why many students are choosing institutions like the University of Phoenix and the Western Governors Virtual University, both of which are schools that primarily offer distance education programs (West, 1999).

College and university administrators are also seeing an increase in the number of students who are returning to campus after years in the work force, either to update their qualifications or pursue a new career (Lamb, 1999; Patterson, 2000). This trend will require schools to alter their missions and become more accommodating as life-long learners drive the continued expansion of distance learning in higher education (Carnevale, 2001a; Roach, 1999; West, 1999). During the 1997-98 academic year alone, 1.6 million students were enrolled in college-level distance education courses (The Institute, 2000).

In contrast to traditional, on campus students, distance education students are more likely to be older, female, and married. While many live a greater distance from campus than typical undergraduates, there is an increasing number of students who live close to campus but are choosing to enroll in distance education courses (Dewald, et al, 2000). In terms of academic differences between on campus and distance education students, distance learners tend to be more motivated and task oriented than traditional

students and often must study in less than favorable environments (Dewald, et al, 2000). When creating a distance education course or program, faculty and administrators must keep these differences in mind in order to meet differing student needs and to help students overcome a wider variety of obstacles. As one researcher notes, it may be tempting for faculty and administrators to overlook or eliminate the elements of a traditional campus experience that are difficult to reproduce electronically (Dewald, et al, 2000).

Often, when deciding whether to create a distance-learning program, administrators are seduced by the promised benefits of such a program. Indeed, by most accounts, the technological revolution promises to be a great equalizer that will transform lives and contribute immeasurably to the improvement of society (Merisotis, 1999). In higher education, technology is often spoken of as the answer to all accessibility, motivational and financial challenges. The widespread use of technology in distance education is also expected to improve the quality of instruction students receive and, ultimately, alter the roles and responsibilities of faculty (Seagren & Watwood, 1997). In fact, this "technological utopianism" is part of a long tradition in higher education in which every new innovation is meant to be the cure for one or more social ills (Green, 1999). "Some obviously extravagant claims—and even more extravagant investments—have been made about the prospect of distance education as the universal solvent for higher education," says Mary A. Burgan of the American Association of University Professors (Schneider, 1999, p.A42). This widespread positive perception of distance education, along with competitive pressure from peer institutions and software vendors, leads many institutions to create extensive online programs (Blumenstyk, 1999a;

Carnevale, 2001b). In the rush to keep up with competitors and to benefit their schools financially, many administrators do not consider the obstacles that distance education courses present for students, faculty, and, ultimately, the college itself. In fact, almost two decades after personal computers have become a mainstay on college campuses, most colleges and universities still do not have a comprehensive technology plan in place (Wright, 1999). Incorporating technology into the existing curricula ranks as the top instructional technology concern on most college campuses (Wright, 1999).

In 2001, nearly 2 million U.S. students were enrolled in online courses (Peabody, 2001). Critics of distance education worry that online education will supplant the traditional classroom and perhaps degrade the quality of learning and instruction. "It's the difference between just calling your mother on the phone and going to visit her," says Martin Hittleman, Senior Vice President of the California Federation of Teachers (Peabody, 2001, p.1). Many faculty members complain that distance education courses take more time to deliver and to work with students. Some assert, however, that they actually have more interaction with students in distance education courses than with students in traditional classrooms (Patterson, 2000). The majority of college faculty members have favorable attitudes toward distance education, although most readily admit that they prefer to teach distance education courses that have limited enrollments (Carr, 2000). Distance education is "No longer a kind of peripheral thing, but a very central concern for a significant number of faculty" says Clifford A. Lynch, Director of the Coalition for Networked Information (Schneider, 1999, p.A42). Higher education administrators must sift through these contradictory perspectives as they build or expand their distance education offerings.

Yet another challenge administrators face involves the millions of dollars required to keep up with the ever-increasing expense and brief shelf life of emerging technologies (Olsen, 1999). Many schools have joined together to form partnerships, virtual libraries and even e-universities (Olsen, 1999). Recently, E-global Library, the first internet-based virtual library was designed specifically for online students and librarians (Heilig, 2001).

Administrators must also consider the debate over the benefits of online communication versus face-to-face contact. The lack of live classroom interaction in distance education courses has had an unforeseen, and unfortunate, consequence. Distance education courses offer a unique venue for academic dishonesty because faculty and students rarely, if ever, interact face to face. Results of a recent study indicate that both faculty and students believe it is easier to cheat in distance learning classes (Kennedy, 2000).

Some institutions have chosen to forego distance education entirely, citing their emphasis on the importance of students' participation in a residential community (Carnevale, 2001). Conversely, some overcrowded institutions hope distance education will draw students from their main campus and relieve some of the pressure on faculty and other resources (Carnevale, 2001).

In terms of the costs associated with distance learning, information technology may save institutions money in terms of staff time and travel costs, as well as the actual delivery of instruction at a distance. Scale is perhaps the most important issue to consider in terms of information technology costs. On a small scale, distance education is more costly than traditional delivery, but on a larger scale, the costs associated with distance

education decrease significantly when compared to the number of students being served (Frances, 1999).

One of the most critical issues administrators must consider when planning for distance learning is that of student satisfaction. Most students who are enrolled in distance education courses report being satisfied with the format of the class, but many complain about the lack of personal interaction (Survey of students, 1998). The majority of students in a recent survey also readily admit that convenience is the primary reason for enrolling in a distance education class and say they would take additional distance education courses in the future (Survey of students, 1998). The desire for convenience, it seems, outweighs most students' desire for personal contact within a traditional classroom.

Martha Field, a professor at Greenfield Community College, asserts that students have a love-hate relationship with distance education. In a recent survey on students' perceptions of distance education, Field found that:

> Students really like the convenience, the flexibility, the freedom, the ability to work at their own pace, and the ability to study around their work and family schedules. But students missed the interaction with faculty and others students that a classroom course offers on a regular basis and mentioned the need for a high degree of self-discipline and self-motivation to prevent them from falling behind in course work (Field, 1998, p.6).

Based on student feedback such as this, many faculty members and administrators are beginning to explore the possibility of 'hybrid teaching' which is a combination of online coursework and face-to-face meetings (Young, 2002). The hope is that this format

will meet multiple learning preferences. Some students who do not participate in traditional classroom discussions are more likely to participate in online discussions (Young, 2002). One reason some students may be more willing to participate in online discussions is that they have time to think about their comments before responding to a professor's question or a classmate's comment (Young, 2002). John Bourne, editor of the *Journal of Asynchronous Learning Networks*, asserts that "[w]ithin five years, you'll see a very significant number of classes that are available in a hybrid fashion. I would guess that somewhere in the 80-90 percent range of classes could sometime become hybrid" (Young, 2002, p.A28).

Another administrative consideration involves learning preferences which tend to differ between men and women. The new technologies can affect learning outcomes of male and female students very differently. To allow all students to take full advantage of curriculum offerings, administrators must consider sex-related differences when developing or expanding distance education programs.

Institutions also need accurate data when making programming decisions regarding distance education. Unfortunately, most of the literature regarding distance education is based on opinion, including how-to articles or second hand reports with no original research and no actual research subjects (Merisotis, 1999). Experts have concluded that there is relatively little original research dedicated to explaining or predicting phenomena related to distance education (Merisotis, 1999). The Institute for Higher Education Policy argues, in a 1999 report, that many articles and papers published on distance education are not useful because they do not contain original research on the effectiveness of distance education. Much of the original research that has been done, the

institute argues, is of questionable quality, which renders the findings inconclusive (Blumenstyk & McCollum, 1999). Researchers have traditionally placed more emphasis on the effectiveness and "utopian" possibilities of technology and its potential for classroom instruction. Very little research has focused on the practical applications and implications for actual classroom instruction (Merisotis, 1999).

Specifically, researchers assert that there is a gap in the research regarding differences among students. Most research in distance education has focused on distance education classes as compared to traditional classes. This research has not taken into account the wide range of attitudes and achievement levels within various groups (Kramerae, 2001; Von Prummer, 2000).

> The factors influencing these differences could include gender, age, educational experience, motivation, and others. Gathering samples of students and amalgamating them into averages produces an illusory "typical learner" which masks the enormous variability of the student population. Further research needs to focus on how individuals learn, rather than how groups learn (Merisotis, 1999, p.12).

Researchers also suggest that personal aspects of distance education courses need to be studied, including whether technology facilitates or hinders the development of personal relationships (Eddy & Spaulding, 1996). Recent surveys have reported that students make connections less often and have less personal interaction in distance education courses (Dewald, et al, 2000). One of the most important aspects of distance education for faculty and administrators to consider involves the pedagogical objectives or the ultimate purpose of the learning experience (Dewald, et al, 2000). A key method

recently gaining recognition as critical to attaining pedagogical objectives in distance education is active learning, which requires the students' full participation (Dewald, et al, 2000).

Although several studies have attempted to ascertain student satisfaction with distance education courses in general (Powers, Davis, & Torrence, 1999; DeBourgh, 1999), research on the actual impact that faculty members, with their various teaching styles and pedagogies, have on student learning is minimal (Kezar, 1999). For example, community colleges often serve a diverse and geographically isolated population, and many of these institutions have been at the forefront of distance learning technology (Inman & Kerwin, 1999). Because student-teacher interaction is different in a distance-learning environment, it involves a set of methods that are very different from traditional instructional methods. Thus, the role of faculty is being:

> transformed dramatically. Instead of communicating information, instructors monitor communication. Instead of selecting information, they augment information already provided. Instructors are expected to play new roles, humanizing the technology or teaching students how to use the technology. This represents a major shift in the nature of interaction and several researchers have suggested that there will have to be a major transformation of the way in which instructors are trained (Inman & Kerwin, 1999, p.582).

Based on this and other research, it is becoming clear that faculty members are going to be forced to change their model and level of communication with distance learning students (Kramerae, 2001; Inman & Kerwin, 1999).

The most significant way to improve student learning and satisfaction with online courses is to increase the opportunities for students to communicate (Cooper, 2000). Students must be able to participate in two way communication with the professor and other students on a regular basis (Cooper, 2000). Students can be required to email or call the instructor on a regular basis or to participate regularly in online class discussions, and this participation can be monitored with a variety of tracking features present with most web-based courses (Cooper, 2000).

Distance Learning Issues Specific to Women

Most experts in the fields of education and technology have welcomed the expansion of distance education and view it as a great equalizer in regard to opportunity (Roach, 1999). Advocates for women and minorities, however, warn that the proliferation of information technology has the potential to deepen already existing class divides between those who have access to information technology and those who do not (Kramerae, 2001; Roach, 1999). The College Board has warned that "people of low income, African Americans, Hispanics, and people with less education are less likely to have access to computers or on-line services than those with higher incomes, whites, Asians, and people with a college education" (Blumenstyk & McCollum, 1999, A31). Numerous studies have also revealed that a sex gap exists at all levels within the field of technology. This "digital divide" has been documented repeatedly by many researchers and across many disciplines (Kramerae, 2001; Bennett & Brunner, 2000).

Although educators have recently begun discussions regarding female learners in distance education, there has been relatively little research on the topic. While

researchers have been concerned with the experience of women in distance education for little more than a decade (May, 1992), almost no research has focused on ways to actually improve the distance education experience for women (Kramerae, 2001; Von Prummer, 2000; Burge, 1993). As recently as a decade ago, virtually no attempt had been made to relate feminist theory and practice to women in distance education (Kanwar, 1990). Today, however, sex-related issues in distance education are being raised in professional and scholarly meetings and writings (Stacy, 1995; Kramerae, 2001). Indeed, modern technology offers new opportunities to challenge learning environments that discriminate against women (Bennett & Brunner, 2000).

Both empirical and anecdotal evidence strongly suggests that gendered learning styles have many implications for distance education (Von Prummer, 2000; Kramerae, 2001). Despite the recent academic interest in sex-related distance education issues, college administrators often fail to investigate the varying impact that distance education will have on male and female students. This oversight may have far reaching consequences, such as lower retention rates, as learners in higher education become increasingly non-traditional and female (Kramerae, 2001; Mulhauser, 2001; West, 1999). Although women comprise the majority of distance education students, they are often underrepresented in college administrative positions and in the design of software and the development of online courses, according to Cheris Kramarae, author of "The Third Shift: Women Learning Online." Many of the currently proposed and actual changes in higher education involving new communication technologies make this a critical time to examine the implications of gender in online learning (Kramerae, 2001).

For many years, researchers and observers have reported sex differences in attitudes toward computing and the use of computers (Zubrow, 1989). Women are less comfortable with technology and hold lower expectations of themselves in regard to tasks that involve technology (Zubrow, 1989). Not surprisingly then, students experience different problems with distance education courses based on sex (Tsai, 1999). Men are more aggressive in face-to-face exchanges and often dominate discussions in traditional classrooms. The increased opportunity for women to participate may be one of the most positive aspects of distance education. In one recent study of economics students enrolled in both traditional and online sections of the same class, women in the distance education courses felt "More comfortable discussing their ideas in online chats than they do blurting out their answers in classrooms" (Carnevale, 2002).

Many educators believe distance education is gender neutral, or even woman-friendly, and often cite advantages of distance education that would seem to favor the success of female students. Perhaps the advantage most often cited as favoring women by proponents of distance education is the fact that distance education courses rely partly or entirely on asynchronous learning, which allows students to exercise creativity with their study schedules. Even courses that require face-to-face meetings or synchronous online discussions offer a greater degree of flexibility in terms of scheduling than do traditional courses. Students often study from the comfort of their own home, which can be a great distance from campus. Today, it is even possible to earn an entire degree without ever having visited an actual campus (West, 1999).

Despite the communication challenges inherent in distance education, conventional wisdom suggests that women, especially single, working mothers, stand to

benefit most from the new technology (Blumenstyk, 1997). For many women, work and family responsibilities can combine to create a major challenge to succeeding in an educational environment. Most women have both careers and child care responsibilities— a combination that makes a commute to campus all but impossible. Therefore, female students are more likely to choose a degree program based on how it will blend with their family and work responsibilities (Furst-Bowe, 2000). Distance education programs offer women increased access to academic programs and greater flexibility in the scheduling of courses, which may be a primary reason that more women than men are enrolled in distance education courses (Furst-Bowe, 2000; Thompson, 1999).

Women are almost always responsible for domestic duties, regardless of the extent to which they are employed outside the home. While it is often assumed that couples in which both partners work share domestic and childcare responsibilities "this assumption is patently false… domestic and parenting work is not shared equally, and the double or triple burden of family and paid work nearly always is the woman's responsibility" (Von Prummer, 2000, p. 57). Although some men participate in household duties, recent studies show that the division of household and child rearing chores is far from equal (Von Prummer, 2000; Kramerae, 2001).

In a recent survey, distance education students were asked the following question: 'Whom or what do you have to take into account/ or what takes precedence when you wish to study?' Female respondents almost always cited domestic responsibilities, including care of children, aging parents, and their partners' schedules. Men, on the contrary, tended to cite work related responsibilities that took precedence over their

distance studies—they rarely mentioned that domestic responsibilities interfered with their studies (Kramerae, 2001). Researchers have concluded, based on multiple studies, that men do indeed have more time to spend on their studies and are also able to organize their time more flexibly (Von Prummer, 2000; Kramerae, 2001). Women have less time to study, in general, and must schedule their study time around a wide range of domestic and professional commitments (Von Prummer, 2000; Kramerae, 2001).

Women and men also report, in various surveys, that the decision of when to buy a home computer, what type of computer to buy, and how much to spend on equipment is generally the male partner's decision. Occasionally, a joint decision is made, involving both partners, but rarely is the female partner responsible for decisions regarding computer equipment (Von Prummer, 2000). This relative lack of control over the type of computer equipment available to them may deter some women from entering a distance education program (Von Prummer, 2000; Kramerae, 2001). Even when technology is equally available, men report having greater control over access to technology relative to their distance studies (Von Prummer, 2000).

According to Von Prummer, it is easy to understand why factors associated with distance education can be assumed to favor female students:

> With respect to changing their geographic location in order to further their own educational or career goals, women have traditionally been less mobile than men. Images of the housebound mother of small children and the dependent wife of a working husband are often called up in this context. Conversely, women might have to move away from a location near their school or university because their partner relocates… In being able to set their own timetables for their distance

> studies, women who are housewives and mothers of small children are seen as having no prescribed work schedule, and consequently they are assumed to be able to fit their course studies quite easily into a daily routine of housework and childcare. Distance education, therefore, is often considered to be especially suited to mature women who want to pursue an education while raising a family, or continuing to work in a lower level job, or both (Von Prummer, 2000, p.3).

If the flexibility distance learning provides is so critical for women, Von Prummer also asks why women complete degree programs at a lower rate than men. Studies have shown that, although more women than men enter many distance-learning programs, a higher percentage of men almost always complete the programs (Von Prummer, 2000). Clearly there must be some other aspect of distance education that could be adjusted to better meet women's learning needs.

Research has shown that women generally prefer a learning style called "social learning," which supports feminist theories and theorists such as Gilligan and Belenky (Von Prummer, 2000). Many distance education programs expect the student to be a self-sufficient, isolated learner, an expectation quite opposite of social learning and one which effectively creates a hostile environment for students with feminine learning styles (Von Prummer, 2000).

Women repeatedly go to great lengths to achieve connectedness with other students. Many studies have shown that female distance education students make greater use of study centers and academic support services. Women generally have greater obstacles to connecting with other students, such as arranging childcare and transport, but

they place a high value on, and attend more regularly, support services and out of class meetings (Von Prummer, 2000).

Studies also reveal that sex is a crucial factor in the communication style used in public online communications (Dvorak, 1996). Women in online classes attempt to use multiple forms of communication, including relationship building, horizontal communication, and the development of a sense of group interdependency (Gougen, 1998). A feminine learning style, which more women than men possess, values collaboration and consensus building. Women tend to prefer a more personal communication style, and some advocates for women in higher education worry that an online class based on a traditional pedagogy offers fewer opportunities for interpersonal communication with students and professors. Men rely on reporting as their primary form of online communication and are generally more task-oriented; thus, men are usually more suited to the information dissemination style many online instructors employ (Gougen, 1998). Many instructors have found that collaboration and group process are the most difficult skills to incorporate into an online class.

Countless studies have described the very real tendency of women to remain silent and participate less in traditional classrooms (Kramerae, 2001; May, 1992). In fact, there is an entire body of research showing that women have been socialized to speak less often in class than men at all levels of education (Blumenstyk, 1997). In distance education classes, however, studies show that sex is not a significant predictor of the extent to which a student will participate in discussions. When given the opportunity, women in distance education courses are just as likely to participate in discussions as men in the same courses; and, women are more willing to participate in discussions

online than in a traditional classroom setting (Howard, 2000). In fact, studies have found that in the appropriate distance education setting, females perform significantly better academically than males (Darwazeh, 1998). Studies have also found that women use course web sites and participate in electronic discussions more often than men in distance education courses (He & Jacobson, 1996). This increased participation may be a result of greater opportunities for women to participate in some well-designed online courses, as opposed to traditional classrooms that tend to discourage the participation of women.

Studies also repeatedly show that women tend to downplay their abilities and opinions in face-to-face encounters. In private, however, women accurately describe their abilities and achievements, and are more willing to portray themselves as competent, relative to men (Brown, 1998). This finding appears to pertain to online communication as well, especially when there is some degree of anonymity. In fact, women in one study almost always chose male pseudonyms when writing in an online course. Because the women may have felt disempowered by their own sex, the male pseudonyms afforded them a sense of credibility (Pagnucci & Mauriello, 2001).

The elimination of many sex dominance issues common in the traditional classroom may be one of the most potentially beneficial aspects of distance education (Seagren, A. & Watwood, B, 1997). Pervasive sex stereotypes often lead to classroom discrimination (Beyer, 1999). Sexual harassment has even been reported in several online classrooms (Mechanic, 1998). In online courses, sex may be less apparent and, therefore, less a factor in determining how students respond to peers and professors. There are, however, "ways that women can be shut down online," says sex and technology researcher Cheyenne Bonnell, "It's all according to what questions you ask"

(Blumenstyk, 1997, A36). If discussions are set up as debates, she adds, "women are still not going to contribute to them. Women don't like to beat each other out" (Blumenstyk, 1997, A36). Women who grew up learning to hide their intellect may need encouragement to participate in online discussion (Blumenstyk, 1997). Instructors, therefore, must employ pedagogies that ensure the participation of women in online dialogue.

A documented gap exists between female and male students in the confidence they have in their computing abilities. Evidence does show, however, that women can achieve success in online courses if the learning environment is safe, collaborative, and encourages the full participation of all students. In a recent study, researchers concluded that "both achievement and attitude scores for women who received web-based instruction which utilized a teaching style that matched their learning style were higher compared with achievement and attitude for women who received instruction which did not match their learning style" (Mitchell, 2000, p.1). These findings suggest that a feminist pedagogy would create the online environment most conducive to the success of students with feminine learning styles.

Feminist Pedagogy

Feminist pedagogy was influenced by the progressive ideas of Dewey and the 'liberatory teaching' espoused by Freire. Feminist educators are concerned with creating an education relevant to the personal lives and concerns of students. Instructors who employ a feminist pedagogy examine the curriculum and the ways in which it can be made more inclusive of women and under-represented groups (Clifford, et al, 1997). In

fact, many researchers have recognized that the holistic strategies for promoting connectedness among female distance education students have strong links to existing feminist theories and practices (Burge, 1993). The feminist perspective centers on the premise that women and men, in general, have very different learning styles and that women respond more positively to certain teaching approaches (Blumenstyk, 1997). The overall objectives of a feminist pedagogy are to empower students, make female students more comfortable with the learning process, enable students to think and write critically, and celebrate choice (Davis, 1989; Mullin, 1994).

Translating theories related to feminist pedagogy into practice can be a formidable task for many instructors (Owen-Smith, 1997). Feminists argue for the decentralization of power in the classroom environment so that all participants, including the instructor, are free to speak (Owen-Smith, 1997). According to those who employ a feminist pedagogy, the classroom is a place where students should be free to speak, contradict, challenge, disclose, and become empowered (Owen-Smith, 1997).

A feminist pedagogy, then, is by nature collaborative, interactive and participatory as it strives to foster the individual voice in the classroom. This cooperative environment, rather than an environment of competition, distinguishes the feminist process in that a feminist consciousness is inclusive rather than exclusive (Fortune, 1995). The environment in an online class can ideally support collaboration and interaction, both hallmarks of the feminist classroom (Rashley, 2001). Many benefits of distance education are especially relevant to courses in which an attempt is being made to create a dynamic learning environment (Rashley, 2001). If more professors find ways to

incorporate these principles, all students who possess feminine learning styles will continue to perform better in online classes.

Instructors who employ a feminist pedagogy attempt to create a safe classroom atmosphere that is non-confrontational and supportive (Sullivan, 1997). The feminist teacher negotiates knowledge more than he or she presents it; knowledge is constantly redefined in all its forms as it is developed through tensions between and contributions of class content, students, teachers, and larger societal factors (Ropers-Huilman, 1995). Faculty members must remain active learners as well as sources of authority and expertise in the feminist classroom.

Perhaps most importantly, feminist pedagogy recognizes the power and creative potential of heterogeneity (Brown, 1992). Indeed, the major underlying themes in feminist pedagogy involve investigating the ways knowledge, voice, and authority are constructed and identifying ways to deal with difference (Tisdell, 1995). Ideally, a feminist pedagogy is a transformative process that empowers all individuals and affirms differences in race, class, and gender (Bernard, 1995). The professor who utilizes a feminist pedagogy will insist upon integration of the student's personal experiences and his or her affective response to the subject matter (Davis, 1989). Additionally, students will be encouraged to be active participants in a learner-active environment (Davis, 1989). Based on the aforementioned hallmarks of feminist pedagogy, it can be predicted that such a teaching style in distance education courses will enhance the educational experience for students who possess feminine learning styles and create an engaged, inclusive learning environment for all students.

A feminist pedagogy, in its most basic form, seeks to replace hierarchical forms of authority with shared leadership and democratic decision-making (Rashley, 2001). According to one feminist, women's studies faculty member, "While the Internet can be an ideal venue for exploring that pedagogy, a number of scholars have noted that our acceptance of technology as a delivery means for distance education cannot be uncritical. While technology holds tremendous possibilities for empowering women through greater educational opportunity, it can also create barriers" (Rashley, 2001, p.1).

Some researchers have questioned whether or not feminist instructors are naturally more democratic, cooperative and concerned with connections and relationships than they are competitive and authoritarian (Clifford, et al, 1998). Because many students have never experienced education based on feminist pedagogy, there is often some uncertainty and resistance on the part of students (Clifford, et al, 1998). One student, when asked to contribute to a discussion on deciding what form assessment should take in a particular class, became frustrated and finally said, "It is the staff member's job to decide on assessment" (Clifford, et al, 1998).

Although students who have not experienced education from a feminist perspective are often resistant in the beginning, they usually rate these same courses favorably by the end of the term (Martini Clark, 2000). Students report that traditional courses taught from the feminist perspective are student centered, experiential, comfortable, and students also feel that they learn more in these courses than in courses that are based on traditional pedagogy (Martini Clark, 2000). According to J. Bernard, author of "Toward a Richer Understanding of Feminist Pedagogy: Lessons from Inside a Feminist Classroom":

> Feminist pedagogy as a transforming process influences the individual's being in relation to race, class, and gender issues. This transformational process is thought of as a re-forming of self across and toward differences. In this sense, transformation is the emergence of a different self-understanding around these critical issues, evoking a new interpretation of the world… feminist pedagogy is defined as exploring the production and reproduction of social inequality based on gender, race, and class, developing participatory and liberatory practices, and seeking social change through social action (Bernard, 1995, p.1).

Many administrators erroneously believe that sexist language and teaching practices have been practically eradicated in higher education. However, a number of faculty members continue to use sexist language and reinforce stereotypes in the course material that they use. One example, from a recent study on distance education, was a problem presented in an upper level economics class (Von Prummer, 2000). The course material in the class addressed the question:

> What happens to firms when the founder is too old to carry on and has no children who could take over the running of the family enterprise… According to the text, this situation could arise in cases where the son chooses a different career or the daughter marries a man who lives in another city so that both the son and the son-in-law cannot take over as head of the family firm. The course author does not conceive of a situation in which the daughter might be inclined and qualified to take over the firm, or in which the son might wish to move to another town with his new partner (Von Prummer, 2000, p.11).

Further research shows that some women do not have difficulty with sexist language and presuppositions such as the aforementioned example. Many women have either become skilled at reinterpreting language in a way that allows them to feel included or they accept without question traditional male and female roles (Von Prummer, 2000). Increasingly, however, more women are beginning to question sexist language and the male biased course materials they are expected to utilize, which do not include them or their life experiences (Von Prummer, 2000).

The strongest predictor that a faculty member will employ a feminist pedagogy is a commitment to student development, regardless of gender, discipline, or the type of institution where he or she teaches (Wakai, 1994). Additionally, participation in seminars to integrate the perspectives of women and minorities was a significant predictor of whether a faculty member chose to employ a feminist pedagogy (Wakai, 1994).

Historically, the major criticism of distance education by faculty who are attempting to employ a feminist pedagogy is that it is often difficult to create a collaborative, participatory learning environment (Rashley, 2001). However, the evolving technology used in distance education courses, such as forums, message boards and mailing lists, lend themselves very successfully to this type of learning environment (Rashley, 2001). The environment of the Internet is also "One that lends itself to the notion of learning as constructed by our culture and our interactions with others, rather [than] the learner as merely receiver of knowledge" (Rashley, 2001, p.1).

There is still much that is not known about sex-related issues in distance education. Scholars are only beginning to examine distance education relative to the

needs of students with feminine learning styles (Stacy, 1995). Researchers have found, however, that one of the greatest barriers to the success of women in distance education is the sense of disconnectedness that distance learners report (Burge, 1993). Studies have shown that the greatest influence on student satisfaction in a distance education course is the amount of interaction that occurs between the instructor and students (Kirby, 1999). In fact, a feeling of isolation is one of the most frequent complaints of female distance learners (Kramerae, 2001). In the recent landmark report *The Third Shift: Women Learning Online* by the American Association of University Women (AAUW), researchers made several recommendations for administrators and professors relative to distance education. According to this study, administrators must find ways to value differences in age and sex, as well as establishing places for online students to meet face to face. While new technologies have expanded the opportunities for interaction in web-based courses, meaningful interaction that contributes to student growth and learning requires careful planning by the instructor (Kirby, 1999).

Studies have shown that students must be taught to use interactive technologies, such as email, bulletin boards and chat rooms before they are required to use the technologies in class (Kirby, 1999; Fey, 1992). These skills are then reinforced as the course progresses and students become more adept with their newly acquired skills. Additionally, faculty members must plan collaborative course activities that are specifically designed to meet course objectives (Kirby, 1999). Faculty members who wish to employ a feminist pedagogy in distance education courses must also use communicative interventions that bring attention to "shifting power relations within a specific discursive context… enacting feminist interventions in online environments

changes the online community's identity and narrow sense of audience, and… creating feminist multimedia helps ensure a more human, diverse, and gender balanced human presence in all forms of technology and new media (Hocks, 1999, p.107).

The AAUW report also makes several recommendations for professors of distance learning courses. According to the report, professors should be sure that materials used in the course are relevant to women and underrepresented groups (Kramerae, 2001). Professors should also be aware of sex-related differences in learning styles and computer mediated communication. Women are not typically socialized to take ownership of their own learning in the same way that men are (Kasik, 1998). This can happen for a variety of reasons, including the fact that women tend to interact differently than men in the classroom and these interactions may not be taken seriously (Kasik, 1998). "When gender and pedagogy are ill-matched, learning is impeded" (Kasik, 1998, p.1).

Other researchers suggest that the best way for professors to ensure the success of students with feminine learning styles is to assist students in finding a voice and overcoming isolation, as well as developing an atmosphere of connected learning in which members nurture each other's ideas (Hipp, 1997). Positive pluralism (the full participation of every student) should be a high priority for every professor (Kramerae, 2001). The recommendations made in the AAUW report obviously have many commonalities with feminist approaches to teaching and learning.

Bonnie Winfield, a veteran feminist educator, offers several suggestions for teaching online courses. Winfield asserts that educators who wish to bring a feminist perspective to online courses follow their own best advice-- not the experts'. Instead of

following advice and extensive lesson plans, Winfield realized she was "Constructing the knowledge, not allowing students to participate in that construction. So I dropped the structure well before the first day of class, and allowed the course to happen in a more feminist manner" (Winfield, 1998).

Winfield also recommends that instructors find ways to bridge the gap between students at two or more remote sites, such as face-to-face meetings or some other venue that allows social interaction. This helps students get to know one another and feel more comfortable as part of a community of learners. Finally, Winfield urges instructors to use a variety of forms of group interaction in order to create a real sense of community and to allow students to interact without interference from the instructor (Winfield, 1998).

Elizabeth Burge, a researcher at the forefront of gender related issues in distance education, advocates for the use of feminist pedagogy in distance learning courses. According to Burge, instructors of distance education courses must become connected with and responsive to their students by developing their understanding of how unity, diversity, and interdependence operate in learners' environments (Burge, 1993). Burge asserts that many of the holistic strategies for promoting connectedness with female distance learners in particular have strong links to existing feminist theories, practice, and values. Several of these strategies, including the following, can be used to connect with distance learners: applying thematic and interdisciplinary treatments when structuring course content; using multiple sources of information; seeking patterns in real-life contexts or simulations; identifying and legitimizing the positive and negative feelings that are often associated with personal change; using learning partnerships that do not depend on expert knowledge; promoting context-sensitive thinking; designing gender-

sensitive learning environments and course content; and helping women learn to talk about their roles as adult learners and how those roles connect with and/or conflict with other life roles (Burge, 1993).

Burge also suggests other steps distance education faculty members can take to improve the quality of their teaching: educators should examine their professional language, promote research results that are applicable for women, develop feminine transformative models of teaching and learning, and continually reflect on their practice (Burge, 1993).

Summary

In the higher education community, very little is known about the effect of technology on the learning process (Merisotis, 1999). Institutions tend to make decisions about distance education based on traditional pedagogies and existing institutional culture. School officials often assume that their practices serve the needs of both students and faculty members (Carnevale, 2001a) when, in reality, large segments of the student population are being ignored. Researchers have found that female distance learning students are, at times, not being served by this newer form of higher education (Kramerae, 2001; Von Prummer, 2000; Roach, 1999). Administrators must be committed to the needs of all students if distance-learning endeavors are to be successful (Carnevale, 2000a).

In the next ten years, the number of women who attend college is expected to increase to 58 % of the total college student population (Mulhauser, 2001). Obviously, this majority and their predominant learning style should be considered as administrators plan to educate and retain female students. While traditional measures of success, such

as financial and status rewards, often draw women to higher education, most also seek connections and personal development from a college education (Barbara, 2001). It is clear that further research is needed to determine the best ways to recruit, teach and retain female learners (Barbara, 2001).

College and university administrators need to examine the many forms of technology that are being used in distance learning programs and determine ways to better meet the needs of all students, including those with feminine learning styles (Blumenstyk, 1997). Decision makers must also examine the various educational pedagogies to determine the best fit for students in distance learning courses (Mitchell, 2000). This, in turn, may help improve the overall pedagogy in higher education (Blumenstyk, 1997). Consequently, as administrators make programmatic and pedagogical decisions regarding distance education courses, they should be aware of the implications these decisions may have on the retention of female distance learners (Furst-Bowe & Dittman, 2000).

Before beginning or expanding a distance education program, college administrators must determine how such programs will impact students, faculty, and the college itself. As late as 1999, there was a relative paucity of original research related to distance education (Merisotis, 1999). This absence of research relating to distance education in general and sex-related issues in particular makes decision making in regard to distance education quite a challenge. More research is needed in the area perceptions of and experiences of students with feminine learning styles in distance education programs (Furst-Bowe, 2000). Men and women tend to approach distance education very differently and these variations should be taken into account when planning distance

education programs or courses (Burge, 1993). Colleges and universities must examine the characteristics of female students in distance education programs to develop institutional plans that provide the academic and support services these students need. In addition, the impact of distance education programs upon female students must be considered if institutions of higher education truly aim to end sex related inequities in the classroom, both traditional and virtual.

Several studies from around the globe support the conclusion that distance education, despite the inherent problems it presents for women, offers opportunities for women which are worth taking. "It is up to distance education policy makers," Von Prummer says, "to provide a framework for women students which will limit the risks and maximi[z]e the opportunities" (Von Prummer, 2000, p.1).

Advocates for female students must look for ways to make distance education and other forms of technology more accessible to, and interactive for, women. Faculty must learn to design classes that take feminine learning styles into account and incorporate relationship-building activities. These changes will be important not only for the majority of women, but for all students who utilize feminine learning styles and who value collaboration.

Even though distance education presents many challenges for college administrators, there has been almost no research that examines distance education as it is delivered from a feminist or non-feminist perspective (Burge, 1998; Furst-Bowe & Dittman, 2000). Research does exist, however, that indicates distance education courses based on a feminist pedagogy may provide increased opportunities for women to interact (Burge, 1993; Hocks, 1999; Winfield, 1998) and may increase levels of involvement and

participation among female students. Utilizing a feminist pedagogy in distance education would "require the provision of interactive elements which would allow students to meet and to learn together and to share their experiences both of studying at a distance and of the ways their personal and professional lives interact with their studies" (Von Prummer, 2000, p.8). By improving affective dimensions of the classroom environment, feminist-centered distance education courses may increase feelings of connectedness and, thus, retention rates among female distance learners.

In light of the foregoing information, administrators must plan for increases in women's participation in distance education classes. Critical to the planning process is the utilization of teaching methods in online courses that facilitate classroom environments which are conducive to the involvement of women. Rather than simply searching for ways to help women adapt to the system and be more successful in distance education programs, administrators and faculty members must also look for ways to change the nature of distance education and make it more accessible for students with feminine learning styles. Research suggests that there should be a more cooperative, less competitive climate and that students should be encouraged to interact and to connect with one another (Von Prummer, 2000; Kramerae, 2001; Burge, 1993). In this study, the researcher has attempted to answer questions related to the aforementioned objectives.

CHAPTER THREE

Introduction to Methods

The purpose of this study was to determine if a relationship exists between the level of feminist pedagogy employed in web-based distance education courses, the level of student participation in these courses, and student perception of the course learning environments. Additionally, the study determines if a relationship exists between students' sex, perception of learning environment and the level of feminist pedagogy employed in a course. The study examines web-based, graduate courses offered at Marshall University Graduate School of Education and Professional Development (GSEPD) during the fall semester of 2002.

Population and Sample

The population for this study consisted of 1949 graduate students and professors at Marshall University GSPED who were enrolled in or were teaching distance education courses in the GSEPD during the fall semester 2002. One hundred thirty two distance education courses were offered through the College of Education during the 2002 fall semester (Appendix A). The sample examined in this study consisted of students as well as professors of eight distance education courses in the GSEPD that were chosen through selective random sampling. The researcher selected courses, based on professors' willingness to participate and relative distributions of total courses, from each of the following six departments in the Graduate School of Education and Professional Development: Counselor Education, Elementary and Secondary Education, Leadership Studies, School Psychology, Special Education, and Reading Education. Duplicate sections of courses were eliminated from the population. All classes were open to

master's level, education specialist, and doctoral level students. This study utilized selective random sampling. The number of courses studied from each department was based on the relative distribution of courses in all departments.

Appendix A contains a list of all online course offerings in the College of Education for the Fall 2002 semester. There were 157 students enrolled in the eight selected courses (N=1949; n=157). In addition to the completion of the Distance and Open Learning Environment Scale (DOLES), which is an instrument designed specifically to assess the environment of distance learning courses, students were asked to supply basic demographic information regarding sex. Students were guaranteed anonymity in regard to both demographic data and survey responses. Professors were guaranteed anonymity when they agreed to participate in the study. Results of the study are reported with no accompanying identifying characteristics.

Design

This study utilized analytical statistical analysis to determine if relationships exist between the level of feminist pedagogy employed in each course, level of student participation, student perception of learning environment, and student sex. According to Stanley and Campbell (1964), non-experimental research designs are perceived to be the easiest, least costly, and most prevalent type of research. Research based on non-experimental design, although considered weaker than experimental research, can provide useful, valid knowledge if conducted properly.

The purpose of this study was to determine if a relationship exists between the aforementioned variables. The aim of the researcher was to determine if any patterns exist relative to the independent and dependent variables. The study utilized a

comparison and correlation design to analyze the relationships between the independent and dependent variables (Johnson & Christensen, 2000).

Courses were selected, based on relative distributions and professors' willingness to participate, from each of the six departments in the school of education. The researcher guaranteed anonymity to students and faculty in these courses relative to both demographic data and survey responses. The researcher sent a letter to all professors of fall 2002 distance education courses in the GSEPD requesting professors' participation (Appendix B). A list of courses was generated from those who agreed to participate and eight courses were randomly selected from this list.

A panel of experts analyzed the online portion of each course to determine the level of feminist pedagogy employed in that course. A mean feminist pedagogy score was calculated for each course. Experts were chosen based on their level of experience with higher education, feminist pedagogy, and distance learning. All experts signed a confidentiality agreement that stipulated all course content was confidential and subject to all intellectual property laws (Appendix C).

Students in each of the eight courses completed the Distance and Open Learning environment Scale (DOLES) (Appendix D). The survey was scored by the researcher, entered into SPSS, and analyzed relative to each of the five survey areas: Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation and Material Environment, and Home Environment. Additionally, archived class communication records were analyzed to determine the level of student participation in each course.

Data collected allowed the researcher to answer the following research questions:

1. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and students' perceptions of learning environment?

2. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and the level of student participation?

3. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course, a student's sex, and his or her perception of learning environment?

Instrumentation

Feminist Pedagogy Scoring Rubric

Following an extensive review of literature, the researcher compiled a list of characteristics that described courses based on feminist pedagogy. Based on characteristics from this list, the researcher constructed a scoring rubric that describes courses with low, moderate, and high levels of feminist pedagogy (Appendix E). Validation consisted of a review of the scoring rubric and directions by experts in the field of feminist pedagogy (Appendix F). These experts were asked to review the scoring rubric and directions in terms of content, appropriateness, relevance, and readability. The researcher modified the scoring rubric and directions as necessary throughout the validation process. The rubric was modified to include descriptions that were met with consensus by all experts.

Distance and Open Learning Environment Scale

The Distance and Open Learning Environment Scale (DOLES) was developed as an instrument to assess distance-learning environments. Although there has been a growing concern regarding the quality of students' experiences in distance education

settings, there was no instrument designed specifically to test this environment until the development of DOLES (Jegede, Fraser, & Fisher, 1998). The development of DOLES was based on five criteria: consistency with the literature on learning environments, consistency with instruments for face-to-face learning environments, coverage of distance and open learning characteristics, economy in terms of the time needed for answering and scoring the instrument, and salience to students and distance and open educators (Jegede, Fraser, & Fisher, 1998).

DOLES consists of 51 items that are allocated to five core scales: Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation and Material Environment, and Home Environment. The instrument was field tested at two separate universities and the alpha reliability coefficient for each scale ranged from 0.70 to 0.89. The mean correlation of an individual scale with the other scales ranged from 0.10 to 0.28 and every item had a factor loading that was greater than 0.40 for its own scale and less than 0.40 with all other scales (Jegede, Fraser, & Fisher, 1998).

Data Collection

Feminist Pedagogy Scoring Rubric

A panel of experts analyzed the online portion of selected distance education courses using a feminist pedagogy scoring rubric. The courses were analyzed according to the following tenets of feminist pedagogy: heterogeneity, decentralized authority, connected learning, and collaborative learning environment. Experts assigned a raw score to each course based on characteristics of the course as compared to the scoring rubric. Raw scores were combined to derive a mean score for all courses. The rubric

contained descriptions of courses with low, moderate, and high levels of feminist pedagogy.

Classrooms exhibiting low levels of a given characteristic were assigned one point, classrooms exhibiting moderate levels of a given characteristic were assigned two points, and classrooms exhibiting high levels of a given characteristic were assigned three points. Thus, each class could receive a raw score of 1,2, or 3 on each of the four characteristics. The total score assigned to each course by a given expert could range from 3-12. A mean score for each course was determined based on the combined raw scores assigned by each expert.

DOLES

The DOLES instrument consists of 5 core scales with a total of 51 items. Each item may be responded to with 'Always,' 'Often,' 'Sometimes,' 'Seldom,' and 'Never.' These responses were assigned scores of 5.0, 4.0, 3.0, 2.0, and 1.0 respectively. A mean score for each core scale was determined for each distance-learning course.

Level of Student Participation

The level of student participation in each course was determined through analysis of archived class communications. Participation was defined as the mean number of postings by students in each course.

Data Analysis

All data, including survey responses, demographic information, and feminist pedagogy scores, were entered into SPSS (Statistical Package for the Social Sciences) version 11.0. Statistical analysis was performed to determine if a relationship exists

between the independent variable (level of feminist pedagogy employed) and the dependent variables (student participation and student perception of learning environment). Additionally, demographic data was analyzed to determine if any relationships exist relative to the dependent variables. A mean feminist pedagogy score was determined for each course, as well as a mean class score for each DOLES core scale. A mean for level of student participation in each course was also determined. The researcher utilized a linear model to compare the aforementioned means, including simple regression analysis (Johnson & Christensen, 2000).

Summary

The study analyzed selected online courses that were offered during the fall semester of 2002 through the Graduate School of Education and Professional Development at Marshall University. This study collected three types of data: level of feminist pedagogy employed in a course, student perception of learning environment, and level of student participation in that course. The purpose of this study is to determine if a relationship exists between the aforementioned variables or between the aforementioned variables and a student's sex.

CHAPTER FOUR

Presentation and Analysis of Data

Chapter Four of this comparative study of the influence of feminist pedagogy on student perception and student participation in web-based distance education courses presents the data collected in each stage of the study as well as a statistical analysis of the data. The chapter is presented in five sections: population and sample, stage one: determination of level of feminist pedagogy, stage two: the determination of student perception, stage three: determination of level of participation, and a summary of major and ancillary findings. In various sections of the chapter, findings for level of feminist pedagogy, student perception and level of participation are presented and analyzed separately with little discussion of the relationship between the variables. In the summary, the results are synthesized and the relationships between level of feminist pedagogy, student perception, and level of participation are presented relative to the research questions posed.

Population and Sample

The population for this study consisted of 1949 graduate students and 132 professors at Marshall University Graduate School of Education and Professional Development (GSEPD) who were enrolled in or were teaching distance education courses in the GSEPD during the fall semester 2002. One hundred thirty two distance education courses were offered through the GSEPD during the 2002 fall semester (Appendix A). The sample examined in this study consisted of students as well as professors of eight distance education courses in the GSEPD that were chosen through selective random sampling.

Stage One: Determination of Level of Feminist Pedagogy

The sample for stage one, the determination of the level of feminist pedagogy, was limited by selective random sampling from a list of courses whose professors agreed to participate in the study. During the fall semester, 2002, 132 web-based distance education courses were offered in the GSEPD at Marshall University. Professors of all 132 courses were sent a letter requesting their participation, and the voluntary participation of their students, in the study. A list was constructed consisting of all courses with professors who agreed to participate in the study. Courses were randomly selected from this list, generating a sample of nine courses. One class did not meet during a final, scheduled class meeting due to inclement weather. Data from this course was not obtained, leaving eight total courses in the sample for the study.

Stage Two: Determination of Student Perception

The sample for stage two, determination of student perception, consisted of the students enrolled in each of the eight aforementioned web-based, distance education courses. Students were requested to participate in the study on a completely voluntary basis. All students in all eight courses (157) agreed to participate and completed the DOLES questionnaire.

Stage Three: Determination of the Level of Participation

The sample for stage three, determination of level of participation, consisted of the 157 students enrolled in the eight randomly selected, fall 2002 online courses in the Marshall University GSEPD. Students in all courses participated in stage three.

Stage One: Determination of Level of Feminist Pedagogy

Following an extensive review of literature, the researcher compiled a list of characteristics that described courses based on feminist pedagogy. Based on characteristics from this list, the researcher constructed a scoring rubric that describes courses with low, moderate, and high levels of feminist pedagogy (Appendix E). Validation consisted of a review of the scoring rubric and directions by experts in the field of feminist pedagogy (Appendix F). These experts were asked to review the scoring rubric and its directions in terms of content, appropriateness, relevance, and readability. The researcher modified the scoring rubric and directions as necessary throughout the validation process. The rubric was modified to include descriptions that were met with consensus by all experts.

A panel of experts was selected to analyze the online portion of eight distance education courses using a feminist pedagogy scoring rubric. The rubric contained descriptions of courses with low, moderate, and high levels of feminist pedagogy. Experts were chosen based on their level of experience with higher education, feminist pedagogy, and distance learning. All experts signed a confidentiality agreement which stipulated all course content was confidential and subject to all intellectual property laws (Appendix C). The courses were analyzed according to the following tenets of feminist pedagogy: heterogeneity, decentralized authority, connected learning, and collaborative learning environment. Experts assigned a raw score to each course based on characteristics of the course as compared to the scoring rubric. Raw scores were combined to derive a mean score for all courses. Classrooms exhibiting low levels of a given characteristic were assigned one point, classrooms exhibiting moderate levels of a

given characteristic were assigned two points, and classrooms exhibiting high levels of a given characteristic were assigned three points. Thus, each class could receive a raw score of 1, 2, or 3 on each of the four characteristics. The total score assigned to each course by a given expert could range from 3-12. A mean score for each course was determined by combining the raw scores assigned by each expert.

Findings of Stage One: Determination of Level of Feminist Pedagogy

Each expert independently analyzed all eight randomly selected online courses. For each course, the raw scores from the three experts were analyzed to determine a mean score for level of feminist pedagogy. Mean feminist pedagogy scores ranged from 5.0 to 10.0 with a remarkably even distribution of scores. There was a negative skew in the scores reported, indicating an overall low level of feminist pedagogy in the courses analyzed. Findings for level of feminist pedagogy for each course are presented in Table 1.

Table 1

Level of Feminist Pedagogy

Course	Expert	HTR*	DA*	CL*	CLE*	Total	Total Mean
Course 1	1	1	2	2	1	6	6.667
	2	1	1	1	1	4	
	3	3	2	2	3	10	
Course 2	1	1	1	2	1	5	5.0
	2	1	1	1	1	4	
	3	1	2	1	2	6	
Course 3	1	2	3	3	3	11	8.667
	2	1	1	1	1	4	
	3	2	3	3	3	11	
Course 4	1	1	2	3	1	7	7.0
	2	1	2	2	2	7	
	3	2	2	2	1	7	
Course 5	1	1	1	2	1	5	6.667
	2	1	1	1	1	4	
	3	3	2	3	3	11	
Course 6	1	3	2	3	2	10	9.667
	2	2	2	2	2	8	
	3	3	2	3	3	11	
Course 7	1	2	2	2	2	8	7.333
	2	1	2	1	1	5	
	3	2	2	3	2	9	
Course 8	1	3	3	3	3	12	10.0
	2	1	2	2	2	7	
	3	2	3	3	3	11	

*HTR= Heterogeneity
DA= Decentralized Authority
CL= Connected Learning
CLE= Collaborative Learning Environment

Stage Two: Determination of Student Perception

The Distance and Open Learning Environment Scale (DOLES) was developed as an instrument to assess distance-learning environments. The development of DOLES was based on five criteria: consistency with the literature on learning environments, consistency with instruments for face-to-face learning environments, coverage of distance and open learning characteristics, economy in terms of the time needed for answering and scoring the instrument, and salience to students and distance and open educators (Jegede, Fraser, & Fisher, 1998).

DOLES consists of 51 items which are grouped into five core scales: Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation and Material Environment, and Home Environment. The instrument was field tested at two separate universities and the alpha reliability coefficient for each scale ranged from 0.70 to 0.89. The mean correlation of an individual scale with the other scales ranged from 0.10 to 0.28 and every item had a factor loading that was greater than 0.40 for its own scale and less than 0.40 with all other scales (Jegede, Fraser, & Fisher, 1998).

Each item on the DOLES instrument may be responded to with 'Always', 'Often', 'Sometimes', 'Seldom', and 'Never.' These responses are assigned scores of 5.0, 4.0, 3.0, 2.0, and 1.0 respectively. A mean score for each core scale was determined for each distance-learning course. Students in each of the eight courses were asked to complete the Distance and Open Learning environment Scale (DOLES) (Appendix D). Students in all eight courses (157) agreed to complete the survey. Additionally, students were asked to indicate whether they were male or female as part of the survey. The survey was scored by the researcher, entered into SPSS (Statistical Package for the Social Sciences)

and analyzed relative to each of the core survey scales*:* Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation and Material Environment, and Home Environment.

Findings of Stage Two: Determination of Student Perception

Data from the DOLES questionnaire, including, demographic information, was entered into SPSS version 11.0. Mean scores for each of the five core scales on the DOLES instrument were determined for each course. Additionally, class means were determined based on student sex for each course. Findings for each of the core scales for each class, as well as means for males and females in each class, are presented in Table 2.

Table 2

Student Perception

Course	DS1	DS2	DS3	DS4	DS5
Course 1 Total	3.8	1.85	2.17	2.12	1.65
Course 1 Female	3.83	1.91	2.19	2.14	1.65
Course 1 Male	3.71	1.56	2.07	2.05	1.67
Course 2 Total	3.67	1.32	2.29	1.61	1.31
Course 2 Female	3.57	1.36	2.46	1.68	1.37
Course 2 Male	4	1.22	1.71	1.36	1.11
Course 3 Total	3.5	1.72	2.9	1.86	1.91
Course 3 Female	3.47	1.78	2.79	1.93	1.96
Course 3 Male	3.6	1.51	3.26	1.76	1.7
Course 4 Total	3.07	1.33	1.73	1.53	1.67
Course 4 Female	2.85	1.16	1.2	1.44	1.57
Course 4 Male	3.29	1.51	2.26	1.54	1.57
Course 5 Total	2.95	1.4	2.74	1.54	1.57
Course 5 Female	3.04	1.48	2.83	1.64	1.7
Course 5 Male	2.82	1.27	2.59	1.38	1.38
Course 6 Total	3.16	1.83	2.37	2.14	1.8
Course 6 Female	3.32	1.69	2.25	1.82	1.67
Course 6 Male	2.95	2	2.56	2.77	2.08
Course 7 Total	3.71	2	2.89	2.48	2.09
Course 7 Female	3.8	2.3	2.94	2.78	2.21
Course 7 Male	3.43	1	2.71	1.45	1.67
Course 8 Total	3.45	1.44	2.7	1.68	1.83
Course 8 Female	3.34	1.3	2.58	1.62	1.88
Course 8 Male	3.57	1.6	2.83	1.74	1.78

DS1= DOLES SCALE ONE- Student Cohesiveness
DS2= DOLES SCALE TWO- Teacher Support
DS3= DOLES SCALE THREE- Personal Involvement and Flexibility
DS4= DOLES SCALE FOUR- Task Orientation and Material Environment
DS5= DOLES SCALE FIVE- Home Environment

Stage Three: Determination of Level of Participation

The level of participation in each course was determined through analysis of archived class communications. Level of participation was defined as the mean number of postings by students in each course.

Findings of Stage Three: Determination of Level of Participation

The total number of postings in each course ranged from 0 to 320. In each course, the total number of public bulletin board postings was divided by the total number of students enrolled in that course to determine a mean score for level of participation. The findings for level of participation in each course are presented in Table 3.

Table 3

Level of Participation

Course	Total Postings	Total Students	Mean Postings/Student
Course 1	17	22	.773
Course 2	0	15	0
Course 3	111	28	3.964
Course 4	0	11	0
Course 5	114	25	4.56
Course 6	283	15	18.867
Course 7	193	12	16.083
Course 8	320	29	11.034

Summary of Findings

Q1.What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and students' perceptions of learning environment?

Student perception of the learning environment in each of the eight courses studied was analyzed based on responses to the Distance and Open Leaning Environment Scale (DOLES). For each course, a mean score on each of the 5 core DOLES scales was determined. SPSS was used to calculate Pearson Correlation Coefficients for each of the mean scores relative to level of feminist pedagogy in each course (Table 4). The findings relative to each scale are as follows:

DOLES Core Scale 1

There was no statistically significant relationship between student responses to DOLES Core Scale 1, Student Cohesiveness, and level of feminist pedagogy.

DOLES Core Scale 2

No statistically significant relationship was found between DOLES Core Scale 2, Teacher Support, and level of feminist pedagogy.

DOLES Core Scale 3

No statistically significant relationship was found between DOLES Core Scale 3, Personal Involvement and Flexibility, and level of feminist pedagogy.

DOLES Core Scale 4

There was no statistically significant relationship found between DOLES Core Scale 4, Task Orientation and Material Environment, and level of feminist pedagogy.

DOLES Core Scale 5

DOLES Core Scale 5, Home Environment, exhibited no statistically significant relationship with level of feminist pedagogy.

Table 4

Student Perception/ Feminist Pedagogy Correlations

	FPGRP	SP1	SP2	SP3	SP4	SP5
FPGRP	-	.422	.694	.692	.602	.150
SP1	.422	-	.049	.672	.181	.773
SP2	.694	.049	-	.046	.183	.427
SP3	.692	.672	.046	-	.441	.194
SP4	.602	.181	.183	.441	-	.071
SP5	.150	.773	.427	.194	.071	-

FPGRP= Group Feminist Pedagogy Scores

SP1= Student Perception One = Student Cohesiveness

SP1= Student Perception Two = Teacher Support

SP1= Student Perception Three = Personal Involvement and Flexibility

SP1= Student Perception Four = Task Orientation and material Environment

SP1= Student Perception Five = Home Environment

Q2.What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and the level of student participation?

There was a negative skew in the experts' analysis of the level of feminist pedagogy in the courses studied. Experts who analyzed the courses expressed a uniform opinion that none of the classes included in the study exhibited a high level of feminist pedagogy, thus limiting the range of scores that were produced through their analysis. Therefore, the courses were divided into three groups prior to analysis to take into account, in part, this negative skew. Courses were divided into the following three groups based on means: Low equaled more than one standard deviation below the mean for feminist pedagogy, Medium equaled one standard deviation below to one standard deviation above the mean for feminist pedagogy, and High equaled more than one standard deviation above the mean for feminist pedagogy.

After the courses were divided into the aforementioned groups, there was a significant correlation found between the level of feminist pedagogy employed in a course and the rate of participation of students in that course. As the level of feminist pedagogy in a course increases, so does the participation rate of students in that course (Table 5).

Table 5

Student Participation/ Feminist Pedagogy Correlations

	PARTRT	FPGRP
PARTRT	-	.039
FPGRP	.039	-

PARTRT = Participation Rate

FPGRP = Group Feminist Pedagogy Score (based on low, medium and high groupings. Groupings determined based on one standard deviation above and one standard deviation below the mean)

Q3. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course, a student's sex, and his or her perception of learning environment?

Student perception of the learning environment in each of the eight courses studied was analyzed based on responses to the Distance and Open Leaning Environment Scale (DOLES). Student responses were divided into 2 groups, male and female, prior to analysis. For each course, a mean score on each of the 5 core DOLES scales was determined for both male and female students. SPSS was used to calculate Pearson Correlation Coefficients for each of the mean scores relative to level of feminist pedagogy in each course (Table 6). The findings relative to each scale are as follows:

DOLES Core Scale 1

There was no statistically significant relationship between male or female student responses to DOLES Core Scale 1, Student Cohesiveness, and level of feminist pedagogy.

DOLES Core Scale 2

No statistically significant relationship was found between male or female student responses to DOLES Core Scale 2, Teacher Support, and level of feminist pedagogy.

DOLES Core Scale 3

No statistically significant relationship was found between female student responses DOLES Core Scale 3, Personal Involvement and Flexibility, and level of feminist pedagogy. Male students however, gave responses that indicated a strong, positive relationship between student perception of personal involvement and flexibility and level of feminist pedagogy.

DOLES Core Scale 4

There was no statistically significant relationship found between male or female student responses to DOLES Core Scale 4, Task Orientation and Material Environment, and level of feminist pedagogy.

DOLES Core Scale 5

Female student responses to DOLES Core Scale 5, Home Environment, exhibited no statistically significant relationship with level of feminist pedagogy. The responses of male students, however, did show a strong, positive relationship between level of feminist pedagogy and positive perception of material environment.

Table 6

Male/ Female Perception correlations with Feminist Pedagogy

Correlations

		FPTOT
SP1F	Pearson Correlation	-.128
	Sig. (2-tailed)	.763
	N	8
SP1M	Pearson Correlation	.022
	Sig. (2-tailed)	.958
	N	8
SP2F	Pearson Correlation	.040
	Sig. (2-tailed)	.925
	N	8
SP2M	Pearson Correlation	.647
	Sig. (2-tailed)	.083
	N	8
SP3F	Pearson Correlation	.114
	Sig. (2-tailed)	.788
	N	8
SP3M	Pearson Correlation	.736*
	Sig. (2-tailed)	.037
	N	8
SP4F	Pearson Correlation	-.034
	Sig. (2-tailed)	.936
	N	8
SP4M	Pearson Correlation	.605
	Sig. (2-tailed)	.112
	N	8
SP5F	Pearson Correlation	.484
	Sig. (2-tailed)	.225
	N	8
SP5M	Pearson Correlation	.870**
	Sig. (2-tailed)	.005
	N	8

CHAPTER FIVE

Summary, Discussion of Findings, and Recommendations

Chapter Five includes the following sections: a review of the purpose of the study, a review of the methods of the study, and a synthesis of the findings along with their relationship with the professional literature. Chapter Five also includes sections on the implications of the study, limitations of the study, and a discussion of the recommendations for further study.

Summary of the Study's Purpose and Procedures

Purpose of Study

This was a three-stage, comparative study of web-based graduate distance education courses. The major objectives of the study were to determine if a relationship existed between the level of feminist pedagogy employed in a distance education course, the level of student participation and/or student perception of that course. Additionally, the study proposed to determine if a relationship existed between the sex of a student and his or her perception of the course relative to the level of feminist pedagogy employed. The following research questions formed the parameters for the study:

Q1.What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and students' perceptions of learning environment?

Q2.What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and the level of student participation?

Q3. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course, a student's sex, and his or her perception of learning environment?

Procedures for the Study

This three-stage, comparative study was conducted through the use of two separate quantitative instruments. The first stage used the Distance and Open Learning Environment Scale (DOLES) to determine student perception of various aspects of each course. The second stage employed a researcher-created instrument, The Feminist Pedagogy Scoring Rubric, to determine the level of feminist pedagogy employed in each course. The third and final stage consisted of analyzing archived electronic class communications in each course to determine the level of participation. The population for the study consisted of 1949 graduate students enrolled in distance education courses in the Graduate School of Education and Professional Development (GSEPD) in the fall of 2002. The sample for the study consisted of 157 students enrolled in eight randomly selected courses.

Stage One: Determination of Level of Feminist Pedagogy. Stage one of this study consisted of the administration of The Feminist Pedagogy Scoring Rubric by a panel of selected experts. Stage one was designed to determine the level of feminist pedagogy that was employed by professors in each selected online course. The Feminist Pedagogy Scoring Rubric was developed by the researcher after an extensive review of the literature. The rubric consisted of four main scoring areas that represented the main tenets of feminist pedagogy. The four main scoring areas were: Heterogeneity, Decentralized Authority, Connected Learning, and Collaborative Learning Environment.

The panel of experts was given electronic access to each of the randomly selected distance education courses. Experts were able to access all online aspects of each course including, bulletin boards, assignments, postings, course syllabi, required readings and other relevant course information. Based solely on the online portion of the courses, experts completed a scoring rubric for each course and these scores were analyzed to determine a mean feminist pedagogy score for each course.

Stage Two: Determination of Student Perception. In the second stage of the study, students were asked to voluntarily complete the DOLES survey. Students responded to 51 statements related to the learning environment of the distance education course in which they were enrolled. The 51 statements were based on a Likert scale with the following options: 1 (*never*), 2 (*seldom*), 3 (*sometimes*), 4 (*often*), 5 (*always*) (Appendix D). The sample for stage one was limited by random sampling; only students in the eight selected distance education courses were asked to complete the survey. All students (157) in the eight selected distance education courses agreed to participate in the study.

The second stage of the study, the administration of the DOLES survey instrument, was designed to ascertain student perception of the eight randomly selected distance education courses. The DOLES instrument included five core scales: Student Cohesiveness, Teacher Support, Personal Involvement and Flexibility, Task Orientation and Material Environment, and Home Environment. For each class a mean score on each of the five core scales was determined. Additionally, mean core scores were determined for each course based on male and female responses.

Stage Three: Determination of level of participation. In the third stage of the study, archived course communications were analyzed to determine the level of student participation in each course. The number of postings in each course was divided by the number of students enrolled in each course. Thus, a mean postings-per-student score was obtained for each course.

Synthesis of Findings and Conclusions

Methodology

Methodology is generally defined as the means by which data is collected, analyzed and presented for review. This study was strictly quantitative in design and was conducted using a variety of instruments and methods (Johnson & Christiansen, 2000). The professional literature in the areas of feminist pedagogy, distance education, and student perception of learning environments played a critical role in the development and design of this study. In this section, the procedures of inquiry used in the study are discussed in relation to the professional literature relative to the aforementioned areas. The methodology utilized in the study should be taken into consideration as researchers pursue recommendations for further study.

Stage One : Determination of Level of Feminist Pedagogy

The level of feminist pedagogy employed in each course was ascertained through the administration of The Feminist Pedagogy Scoring Rubric. The Feminist Pedagogy Scoring Rubric was developed by the researcher after extensive review of the professional literature. The Feminist Pedagogy Scoring Rubric contained four major scoring areas for each course studied: Heterogeneity, Decentralized Authority, Connected Learning, and Collaborative Learning Environment.

Heterogeneity, the first major scoring area on The Feminist Pedagogy Scoring Rubric, is often discussed using a variety of interchangeable terms. Advocates of this approach to education will alternately describe diversity issues, positive pluralism, and inclusion as a means of achieving the involvement of all students in a course. The basic philosophy of those who advocate for heterogeneity, in all of its forms, is that all students should feel included in an educational setting and that the learning experience should attempt to reflect and value the life experiences of all students and cultures. The following statements defined a course with high levels of heterogeneity on The Feminist Pedagogy Scoring Rubric:

> "Course materials generally reflect various cultures, races, ethnicities, and both masculine and feminine learning styles are emphasized"
>
> "The course/professor recognizes and values other cultures and the experiences of females"
>
> "Students are regularly encouraged to examine issues from perspectives other than their own"

Decentralized Authority, another area scored by The Feminist Pedagogy Scoring Rubric, is perhaps the hallmark of any classroom that employs a feminist pedagogy. Statements on The Feminist Pedagogy Scoring Rubric that reflected a course with high levels of decentralized authority included:

> "Students feel empowered, free to communicate, disagree, and challenge one another or the professor"
>
> "The majority of participants (including the professor) are part of a community of learners"

"Discussion and open dialogue are encouraged and occur regularly"

Decentralized authority is characterized by the empowerment of all participants within a learning environment, including students and instructors. Most experts in the area of feminist pedagogy agree that the overall objective of feminist pedagogy is to empower students and cause them to become active participants in the learning process (Davis, 1989).

The area of Connected Learning, also scored on The Feminist Pedagogy Scoring Rubric, included the following statements which characterized courses with high levels of connected learning:

"The professor relates course content to students' life experiences"

"Students are encouraged to examine theoretical knowledge in the context of their own experience"

"Class structure and assignments regularly provide opportunities for connected learning"

Fran Davis, in *A Practical Assessment of Feminist Pedagogy*, asserts that in a feminist classroom, the instructor insists upon the integration of personal experience with the subject matter. This elicits an affective response to the subject matter and discourages students from being passive recipients of knowledge (Davis, 1989).

Collaborative Learning Environment, the fourth and final scoring area of The Feminist Pedagogy Scoring Rubric, included the following statements defining a course with a high level of collaborative learning:

"Collaboration, rather than competition, is encouraged"

"Class emphasis is on communication and consensus building"

"The professor encourages informal connections and relationship building"

A collaborative learning environment can perhaps be defined most accurately by what it is not. The hallmark of a class with a collaborative learning environment is the absence of competition. A sense of cooperation exists among students and the instructor(s) in a collaborative learning environment.

The aforementioned themes related to feminist pedagogy recur throughout the professional literature on the topic and were used in the development of The Feminist Pedagogy Scoring Rubric. The findings of this study indicate that there is a strong, positive relationship between the level of feminist pedagogy employed in a course and the level of student participation in that course. The correlation coefficient between level of feminist pedagogy employed and level of student participation in the courses studied was .039 (Table 5).

Although no relationship was found in this study between level of feminist pedagogy employed in courses and overall student perception, a relationship was found between the level of feminist pedagogy employed and two separate core DOLES scales in relation to the responses of males enrolled in the courses. This finding was surprising as the researcher expected to find a positive relationship between the level of feminist pedagogy employed in a course and the perception of females in that course. Surprisingly, the responses of male students in all courses indicated a strong positive relationship between the level of feminist pedagogy and scores on both the Personal Involvement and Flexibility and Material Environment scales.

The overall scores on The Feminist Pedagogy Scoring Rubric were negatively skewed. Experts who analyzed the courses expressed a uniform opinion that none of the

classes included in the study exhibited a high level of feminist pedagogy, thus limiting the range of scores that were produced through their analysis. This could be due to several reasons, including the suggestions by some researchers that feminist pedagogy may be hard to implement in online settings. Kramerae (2002), however, asserts that the contact necessitated by a feminist pedagogy "can be simulated in a distance learning environment, it just takes a little more effort".

Stage Two: Determination of Student Perception

Student perception of the distance education courses in this study was determined by using the Distance and Open Learning Environment Scale (DOLES). Although there has been a growing interest in the environments of distance education courses, as late as 1998 there was no instrument designed expressly for the purpose of studying distance education environments. DOLES was developed in 1998 by Barry Fraser, Darrell Fisher, and Olugbemiro Jegede for the express purpose of analyzing the learning environments in distance education courses (Jegede, Fraser & Fisher, 1998).

The instrument was field tested by the developers who obtained an alpha reliability coefficient for each scale ranging from 0.70 to 0.89 and a mean correlation of each scale with the other scales ranging from 0.10 to 0.28 (Jegede, Fraser & Fisher, 1998). The researchers found that mean scores on the Student Cohesiveness and Personal Involvement scales were low relative to the other scales on the instrument (Jegede, Fraser & Fisher, 1998).

Previous findings, relative to the DOLES instrument itself, were not replicated in this study. In this study, mean correlations for each scale with other scales ranged from .046 to .773. Additionally, for the entire study in general, scores on the Student

Cohesiveness scale were higher than scores on all other scales. This is contrary to the findings of the developers of DOLES. Scores for the Personal Involvement and Flexibility Scale were also considerably higher in this study, ranking toward the middle in relation to scores on the other scales. This study validated portions of the DOLES instrument to an extent, but the study did not reproduce the results that the developers were able to obtain during the initial validation stages of the instrument.

As distance education has expended in recent years, researchers have become increasingly interested in student perceptions of the learning environment in distance education settings. Students often complain about an inability to develop connections or relationships with classmates in online settings (Kramerae, 2002). In this study, however, students responded very positively to DOLES Core Scale 1- Student Cohesiveness. In fact, this scale received the highest overall score of any core scale. This result may have been influenced by the fact that, though the courses selected for this study were predominantly web-based, all courses had some type of limited face-to-face component. Researchers recommend that instructors include this face-to-face component as a means of improving student perception of online courses (Kramerae, 2002). The face-to-face component may have skewed the results for the Student Cohesiveness scale.

Stage Three: Determination of Level of Participation

The level of participation in each course was determined by analyzing the archived online communications of each distance education course. This study indicated a strong, positive relationship between the level of feminist pedagogy employed in a course and the level of student participation in that course. A correlation coefficient of

.039 between level of feminist pedagogy employed and level of student participation in the courses studied was found (Table 5).

A positive relationship between the level of feminist pedagogy employed in a course and the level of student participation in that course could be expected based on the professional literature related to the topic (Burge, 1998; Von Prummer, 2001). Research suggests that the use of positive pluralism will "create opportunities for every student to participate as fully as possible in online classroom" environments (Kramerae, 2002). This study certainly confirmed that suggestion and the similar suggestions of researchers who have based their opinions on anecdotal data and observations (Burge, 1998; Kramerae, 2002).

Conclusions

Q1.What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and students' perceptions of learning environment?

Literature suggests that the relationship between the level of feminist pedagogy employed in a distance education course and students' perceptions of the learning environment should exist (Kramerae, 2002; Von Prummer, 2001; Burge, 1998), however, none of the relationships analyzed in this study were statistically significant at the $\alpha = .05$ level. Although such a relationship is not evident in this study, this could be due to the relatively small size of the sample (8 classes). There was a negative skew evident in the reported levels of feminist pedagogy for the courses studied. All experts informally reported that none of the classes studied exhibited a high degree of feminist pedagogy, therefore, there was not a wide range for comparison. Researchers have suggested that

feminist pedagogy may be difficult to employ in online education settings (Kramerae, 2002) which may have resulted in this negative skew.

Q2.What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course and the level of student participation?

This study validated the findings of researchers who have suggested that there is a link between the level of feminist pedagogy employed in a course and student participation rates in that course (Kramerae, 2002; Von Prummer, 2001); Burge, 1998). The researcher found a strong, positive relationship (correlation coefficient .039) between the level of feminist pedagogy employed in a course and the level of participation in that course (Table 5).

This finding suggests that the higher the level of feminist pedagogy employed in a course, the more likely all students will be to participate in the online portion of distance education courses. Some researchers have advocated a feminist pedagogy as a means of increasing the participation rate of students, although these suggestions have been based mostly on anecdotal data. Kramerae in *The Third Shift: Women Learning Online*, advocates that a feminist pedagogy would ensure full participation of all students. "A laissez-faire approach allows the most aggressive individuals to have the most freedom" (Kramerae, 2002, p. 58). Creating an online environment based on a feminist pedagogy, she suggests, would increase the likelihood of full participation of all students. The findings of this study suggest that researchers who have speculated on a link between feminist pedagogy and participation rates are correct.

Q3. What is the relationship, if any, between the level of feminist pedagogy employed in a distance education course, a student's sex, and his or her perception of learning environment?

Contrary to the expectations of the researcher, there was no relationship between the level of feminist pedagogy employed in a course and the perception of female students in that course. Surprisingly, however, there was a strong, positive relationship between the level of feminist pedagogy employed in a course and the responses of male students to two of the five cores scales on the DOLES instrument.

Men in courses that were taught by employing a relatively high level of feminist pedagogy were more likely to respond positively to both the Personal Involvement and Flexibility scale and the Home Environment scale. The fact that men responded positively to statements related to home study environment is not surprising. Research indicates that men often have fewer distractions and a better environment in which to study at home when they enrolled in distance education courses (Von Prummer, 2001). It is not clear, however, how the level of feminist pedagogy in a course would positively affect men's perceptions of their home study environment.

Summary

The findings in this study did not reveal abundant new information concerning feminist pedagogy or its use in distance education. The study did, however, confirm the reports based on anecdotal and observational data in some previous studies (Kramerae, 2001; Von Prummer, 2002; Burge, 1998). The findings of this study validated the research of those who have predicted that a link exists between the level of feminist pedagogy employed in a course and student participation rates in that course (Kramerae,

2002; Von Prummer, 2001; Burge, 1998). The results of this study confirmed a strong, positive relationship (correlation coefficient .039) between the level of feminist pedagogy employed in online courses and the level of participation in those courses.

The finding of a strong, positive correlation between the level of feminist pedagogy employed in a course and student participation rates in that course suggests that the higher the level of feminist pedagogy, the more likely all students will be to participate in the online portion of a distance education course. In practical terms, increasing the number of online courses based on feminist pedagogy would increase the likelihood of full participation of all students in those courses. Increased participation, according to the professional literature (Kramerae, 2001), should increase retention rates in these same courses.

Although the professional literature suggests that a relationship between the level of feminist pedagogy employed in a distance education course and students' perceptions of the learning environment in that course should exist (Kramerae, 2002; Von Prummer, 2001; Burge, 1998), no such relationship was confirmed by this study. A negative skew was evident in the levels of feminist pedagogy for all courses included in this study. This finding seems to confirm the assertion by some researchers that a feminist pedagogy may be difficult to employ in online education settings (Kramerae, 2002).

An unexplained correlation was found between the level of feminist pedagogy employed in a course and male students' perceptions regarding certain aspects of their online learning environment. The higher the level of feminist pedagogy employed in a course, the more likely men were to report positive perceptions on both the Personal Involvement and Flexibility and Home Environment scales on the DOLES instrument.

Limitations of the Study

There were numerous limitations involved in this study. Some limitations were evident from the onset of the study while others presented themselves only as the study was being conducted. These limitations should be considered as the conclusions of the study are analyzed and as future research designs are considered.

Perhaps the single greatest limitation of the study was the fact that the study of feminist pedagogy in distance education settings is a relatively new field of research. There was very little professional literature directly related to feminist pedagogy in distance education and no instruments designed to measure its existence. Research from several unrelated fields was synthesized in order to develop the background for this study.

Several other limitations impacted the findings of the study as well. Although 132 distance education courses comprised the population for this study, only eight courses were included in the sample. Originally, the researcher planned to study 12 courses; however, it became feasible to study only eight upon the involvement of a volunteer expert panel.

The population itself consisted of a mostly homogeneous group of graduate students whose average age was 38 (Personal Communication, Ron Childress, 2002). These students have been shown by past research to be predominantly enrolled part time and employed full time. The characteristics of the population studied will limit the degree to which the findings of the study can be generalized.

Ideally, the study should have included some form of qualitative analysis. This may have allowed the researcher to determine the reason that female students did not

perceive classes with high levels of feminist pedagogy more positively, as the professional literature suggests they should have.

The Feminist Pedagogy Scoring Rubric was limited to comparative scoring. Researchers were only able to rate the level of feminist pedagogy employed in each course relative to the levels employed in other courses. The experts who analyzed the level of feminist pedagogy in each course all informally agreed that, in addition to the overall negative skew, no individual course exhibited a high level of feminist pedagogy. Without a course(s) to set a higher standard, the experts suggested that it was hard to analyze courses that were relatively similar in the level of feminist pedagogy they employed. Additionally, the level of feminist pedagogy employed in each course was determined solely on the basis of the online portion of each course. In person class meetings, which were part of every course in this study, may have somehow skewed the analysis of overall level of feminist pedagogy in each course.

Finally, the design of the study failed to take into account the level of online experience that students may have had. Higher level classes, which are generally taken later in a sequential program, may have elicited a more favorable response because students in those courses had more experience with web-based courses.

Implications of the Study and Recommendations for Further Study

Theoretical Implications

This study did not attempt to ascertain the feasibility of employing a feminist pedagogy in distance education courses. It was assumed that feminist pedagogy could be readily employed in distance education courses if the professor so desired. The findings of the study, especially the negative skew in the level of feminist pedagogy employed in the randomly selected courses, may indicate that it is more difficult to employ feminist pedagogy in online courses than in traditional classrooms. Further research should examine the feasibility of employing feminist pedagogy in distance education settings and the obstacles inherent in such an endeavor.

Research Implications

Population. This study was limited to sample of the population in the GSEPD. The population was enrolled predominantly part time, was employed full time and the average age the student in this program was 38 (Personal Communication, Ron Childress, 2002). Further research should focus on undergraduates and full-time, traditional age graduate students. Additional studies should also attempt to include a wide geographical range in the population and sample as well as students and professors from a variety of disciplines. The study purposely did not take into account the sex of the professor as the researcher and the professional literature agreed that sex of a professor does not necessarily indicate whether he or she will employ a high level of feminist pedagogy. This could, however, be a focus of further research and is actually suggested in the 2002 AAUW study *Third Shift.*

Methods. This study should serve as the basis for further research in the area of the utilization of feminist pedagogy in distance education settings. To date, very little research has been conducted in this area, and this study will lay the groundwork for additional inquiry. As discussed in the limitations, The Feminist Pedagogy Scoring Rubric was a researcher created instrument that may have failed to provide an accurate means of measuring the level of feminist pedagogy employed in the courses studied. Because there was no instrument in existence for measuring the level of feminist pedagogy employed in a course, the researcher created an instrument specifically for this purpose. The initial development of this instrument should be used as a starting point to develop and refine additional instruments expressly for this purpose.

The researcher did not obtain the expected results relative to the effects of feminist pedagogy on female and male students in this study. Because this finding directly conflicts with anecdotal findings in the professional literature, it should be investigated further before a conclusion is drawn that a relationship does not exist between the level of feminist pedagogy employed in a course and the varying perceptions of female and male students. Other methods of research should be utilized before a relationship between the level of feminist pedagogy employed in a course and the varying perceptions of female and male students are ruled out.

Additionally, this study did not reproduce the findings of which the developers of the DOLES instrument were able to obtain. Although the researchers who created DOLES reported a mean correlation of each scale with other scales ranging from 0.10 to 0.28, this study found mean correlations ranging from .046 to .773. Additional research should focus on the development and refinement of an instrument that more reliably measures

the perceptions of students in distance education settings relative to their learning environments.

Applied Implications

This study of the influence of feminist pedagogy on student perception and student participation in web-based distance education course will be important in the future for several reasons. The availability of distance education has expanded dramatically in the last decade, and the importance of distance education to institutions will only increase in the future. Indeed researchers recognize that:

> it is important to provide high-quality educational opportunities for people who, because of the tyranny of distance or other reasons, are unable to access face-to-face education. For such people, it is important to provide distance education, which is a non-contiguous form of study that affords the learner the flexibility of study independent of time, place, and space. Many institutions now find it either fashionable or practical for survival purposes to provide alternatives to instruction that entail classroom-bound face-to-face instruction (Jegede, Fraser & Fisher, 1998).

As the proliferation of distance education, and web-based education specifically, continues, administrators and faculty members must address the shortcomings of the medium. Most researchers agree that web-based distance education is here to stay. The pressing issue now appears to be:

> how to maximize the effectiveness of technology usage through appropriate use and design of relevant instructional strategies to enhance learning. Contrary to popular belief, distance and open education needs interactivity for effective learning just as much as face-to-face teaching does… the environment for

> learning and teaching through the distance mode plays a vital role in distance education. Ascertaining the kind, type and efficacy of the learning environment provided for distance learners appears to be central and at the forefront of the planning necessary for efficacious distance delivery of instruction (Jegede, Fraser & Fisher, 1998).

The findings produced by this study, then, will be of value to faculty and administrators as they investigate ways to provide a more positive experience for and increase the retention rates of distance education students. Because this study has shown that the level of feminist pedagogy employed in a course is directly and positively related to the level of participation of students in that course, higher education officials should examine ways of increasing the use of feminist pedagogy as on way to increase levels of student participation in distance education courses. Although further research needs to be done, the professional literature suggests that an increased level of participation in distance education courses will help increase retention rates of students in those same courses.

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Appendix A

Fall 2002 WebCT Courses

Counseling (Coun)

- COUN 556 Death and Grief Counseling - Section 101 (Suppa)
- COUN 579 Pharmacology in Counseling - Section 101 (Fortner)
- COUN 602 Human Development and Adjustment - Section 102 (Farrow)
- COUN 602 Human Development and Adjustment - Section 103 - Beckley (Farrow)
- COUN 603 Counseling Theories - Section 103 (Hagerman)
- COUN 605 Theory Prac Human Appr - Section 101 (Vecchio)
- COUN 606 Career and Lifestyle Development - Section 101 (Burton)
- COUN 606 Career and Lifestyle Development - Section 102 - (staff)
- COUN 670 Intervention Current Issues Schools - Section 102 - (Rubenstein)
- COUN 672 Organization and Administration of School Counseling Programs - Section 101 (Mullett)
- COUN 698 Internship in School Counseling - Section 103 (Schimmel)
- COUN 698 Internship in School Counseling - Section 104 (Schimmel)

Educational Foundations (EDF)

- EDF 502 Psy Middle Childhood Student - Section 101 (Huxley)
- EDF 580 Special Topic: Foundations of School Psychology - Section 103 (Boyles)
- EDF 612 Educational Evaluation - Section 101 (Pauley, F)
- EDF 616 Advanced Studies in Human Development - Section 104 (Burgess)
- EDF 616 Advanced Studies in Human Development - Section 105 - Beckley (Huxley)
- EDF 619 Educational Psychology - Section 103 (staff)
- EDF 621 Educational Research and Writing - Section 103 (Securro)
- EDF 621 Educational Research and Writing - Section 104 - (Bethel)
- EDF 621 Educational Research and Writing - Section 105 (Wilson, N.)
- EDF 665 Sociology of American Schools - Section 102 (Securro)

Elementary/Secondary Education (CI, CIEC, CIME, CISE, CISL)

- CI 501 Middle Childhood Curriculum - Section 101 (Meyer)
- CI 503 Methods for Teaching Middle Childhood Grades - Section 103 (Meyer)
- CI 659 Symposium I - Section 101 (Wilson, N.)
- CI 672 Practicum in Education - Section 101 (staff)
- CI 680 Symposium II - Section 101 (Pauley, W)
- CIEC 530 - Section 103 - WV (Heaton)
- CIEC 534 Applications Software in the Classroom Curriculum Area - Section 101 (staff)

- CIEC 600 Computing and Instructional Design - Section 101 (Heaton)
- CIEC 610 Local Area Networks and Telecommunications - Section 101 (Murphy)
- CIME 557 Precalculus for Math Education - Section 101 (Wilson)
- CIME 570 Teaching Mathematics to Early Adolescent - Section 101 (Cipoletti)
- CISE 572 Environmental Education Elem/Middle School Teacher - Section 101 (Pauley, W)
- CISL 552 Intercultural Comm/ESL - Section 101 (Debela)
- CISL 553 Methods ESL: Language - **Cancelled**

Humanities (HUMN, LITS)

- HUMN 604 Expository Writing for Research - Section 102 (East)
- LITS 600 Special Topic: Modern American Poetry - Section 103 - (Smith)

Instructional Technology - Library Science (ITL)

- ITL 501 History Library and Information Retrieval Systems - Section 101 (SIAS, Arnold)
- ITL 525 Library Organization and Administration - Section 101 (Seymour)

Leadership Studies (LS)

- LS 500 Introduction to School Leadership - Section 101 (Galbraith)
- LS 500 Introduction to School Leadership - Section 102 (Galbraith)
- LS 506 Plan Res & Eval for School Lead - **Cancelled**
- LS 506 Plan Res & Eval for School Lead - Section 102 (Leary)
- LS 512 Curriculum Leadership - Section 101 (Eagle)
- LS 512 Curriculum Leadership - Section 102 (Eagle)
- LS 512 Curriculum Leadership - Section 103 - (Eagle)
- LS 530 Human Relations - Section 101 (Jones)
- LS 530 Human Relations - Section 102 (Jones)
- LS 530 Human Relations - Section 103 - (Jones)
- LS 532 Human Relations in the Public Sector - Section 131 (Long)
- LS 535 Technology and the Classroom - Section 131 (Nicholson)
- LS 615 Leadership in the Public Sector - Section 101 (Toth)
- LS 615 Leadership in the Public Sector - Section 102 (Toth)
- LS 630 The School and the Community - Section 101 (Cunningham)
- LS 630 The School and the Community - Section 102 (Cunningham)
- LS 685 Intern: Portfolio Assessment - Section 101 (Nicholson)
- LS 685 Intern: Portfolio Assessment - Section 102 (Nicholson)
- LS 691 The Attendance Director - Section 101 (Pack)
- LS 726 Institutional Advancement in Higher Education - Section 101 (Prisk)

Psychology (PSY, SPSY)

- PSY 520 Introduction to I-O Psychology - Section 102 (Wilson, R.)

- PSY 623 Experimental Design - Section 101 - (Wilson, R.)
- PSY 674 Biological Bases of Behavior (Wilson, R.)
- SPSY 616 Advanced Developmental Psychology - Section 101 (Boyles)
- SPSY 675 Psychological Foundations of School Psychology - Section 101 (Boyles)
- SPSY 745 Internship - Section 102 (Boyles)

Reading (CIRG)

- CIRG 614 Adolescent Literacy - Section 101 (O'Byrne)
- CIRG 621 Curriculum Issues and Problems Reading - Section 102 (O'Byrne)

Special Education (CISP)

- CISP 510 Instructional Prac/Excep Child - Section 101 (Wolf)
- CISP 535 General Special Education Programming - Section 103 (Porter)
- CISP 611 Special Education Research I - Section 103 - Beckley, WV (Wolf)

Visual Impairments (CIVI)

- CIVI 503 Instructional Strategies for the Visually Impaired - Section 101 - (Roman)

Appendix B

March 19, 2003

Marshall University
Graduate School of Education and Professional Development

Dear Faculty Member:

This fall, I plan to conduct a dissertation study involving WebCT courses in the Graduate School of Education and Professional Development. Courses will be chosen at random from a list of those with instructors who agree to participate in this study. Your participation would include granting access to a panel of experts (through the creation of a mock student account) who will examine particular aspects of the course. These experts will consist of faculty members who have extensive backgrounds in education, and distance learning. All experts will sign a confidentiality agreement with respect to student/professor privacy issues and intellectual property rights.

Students in your course will also be asked to complete a learning environment survey toward the end of the semester, which should take approximately 20-30 minutes of class time. I would need to administer the survey during the final in-person class meeting. Additionally, you will be asked to provide end of course summary data from the Flashlight course tool.

There will be no identifying descriptors of courses, students or faculty members included in the dissertation. All data relative to individual courses, students and faculty members will remain strictly confidential. If you volunteer and your course is selected for the study, you will be provided summary data relative to your individual course upon request.

If you are willing to participate in this study, please answer the following questions, sign and return at your earliest convenience. Thank you for your consideration.

Tammy R. Johnson
Associate Director of Admissions
Marshall University
Old Main 125
Huntington, WV

Professor_____

WebCT Course #s taught Fall 2002_____

Signature_____Date_____

Appendix C

Expert Confidentiality Agreement

As a participating expert, I do hereby agree to maintain confidentiality regarding course content, evaluation results, and all aspects of the dissertation study entitled:

THE INFLUENCE OF FEMINIST PEDAGOGY ON STUDENT PARTICIPATION AND STUDENT PERCEPTION OF LEARNING ENVIRONMENT IN DISTANCE EDUCATION: A COMPARATIVE STUDY OF WEB-BASED GRADUATE DISTANCE EDUCATION COURSES

Additionally, I agree to respect all intellectual property rights of students, professors, and any external organizations or individuals associated with selected courses.

I understand that by signing this agreement I pledge to maintain confidentiality indefinitely regarding all aspects of this study and the courses associated with it.

Signature_____

Date_____

Appendix D
DOLES- Revised

1. I make friendships with other students in this course.

2. Students in this course get to know each other.

3. It is easy to organize a group for a project.

4. The course is made up of individuals who do not know each other.

5. I communicate with other students in this course by fax.

6. I communicate with other students in this course by telephone.

7. Students are not in close enough contact to develop likes or dislikes for one another.

8. The instructor is not approachable.

9. If I have a course-related inquiry, the instructor finds time to respond.

10. The instructor helps me identify problem areas with my studies.

11. The instructor responds promptly to my questions.

12. The instructor sends me comprehensive feedback on my assignments.

13. The instructor addresses my questions about the course content adequately.

14. The instructor treats me with respect

15. The instructor encourages my participation.

16. It is difficult to make contact with the instructor

17. I have a say in what I actually do in this course.

18. I get the chance to discuss my relevant personal experiences.

19. The course encourages students to develop alternative strategies for learning

20. I am allowed to work at my own pace.

21. All students in the course are expected to cover the same topics as each other.

22. I am able to follow my own areas of interest.

23. I decide how much I want to learn within a given period.

24. Expectations of assignments are clear in this course.

25. I have little idea about what the course is trying to accomplish.

26. Activities are planned carefully.

27. Students in this subject appear confused.

28. The organization of this course is easy to follow.

29. The course keeps me focused on what is to be learned.

30. The institution provides adequate printed study materials.

31. Printed study materials provided for the subject are user friendly.

32. The printed study materials meet the needs of all learners.

33. The presentation of the content in the printed study materials is poor.

34. Printed study materials structure my learning activities closely.

35. My physical study environment is conducive to learning.

36. The design of my study environment allows adequate movement.

37. The arrangement of the furniture in my study environment is satisfactory.

38. The design of the desks and chairs in my study environment is inadequate.

39. The lighting where I study is unsatisfactory.

40. The background noise where I study distracts me during study time.

41. The physical environment is conducive to my study.

42. I worry about my personal safety when I study at the Study Centre.

43. The design of my study environment allows adequate movement.

44. The arrangement of the furniture in the Study Centre is satisfactory.

45. The design of the desks and chairs in the Study Centre is inadequate.

46. The lighting where I study is unsatisfactory.

47. There is sufficient ventilation where I study.

48. The institution provides interactive technology study resources.

49. Operating procedures for technology resources are provided.

50. The technology resources used in this subject allow interaction between tutor and student.

51. The technology resources do not enhance learning.

DOLES - Original

Scale	Mean	Std Dev	Item No	Item Wording
Student Cohesiveness	1.93	1.04	1	I make friendships with other students in this subject.
	1.89	0.96	2	Students in this subject get to know each other.
	1.40	0.67	3	It is easy to organise a group for a project.
	2.06	1.19	4	The subject is made up of individuals who do not know each other.
	1.10	0.41	5	I communicate with other students in this subject by fax.
	1.72	1.06	7	I communicate with other students in this subject by telephone.
	2.16	1.34	8	Students are not in close enough contact to develop likes or dislikes for one another.
Teacher Support	3.91	1.01	20	The tutor is not approachable.
	4.13	0.89	21	If I have a study-related enquiry, the tutor finds time to respond.
	3.19	1.17	22	The tutor helps me identify problem areas with my studies.
	3.75	1.00	23	The tutor responds promptly to my queries.
	3.45	1.08	24	The tutor sends me comprehensive feedback on my assignment.
	3.63	1.00	25	The tutor addresses my queries about the subject content adequately.
	4.30	1.01	26	The tutor does not treat me with respect
	3.40	1.19	27	The tutor encourages my participation.
	3.12	1.10	28	It is difficult to make contact with the tutor
Personal Involvement & Flexibility	2.26	1.14	33	I have a say in what I actually do in this subject.
	2.29	1.11	36	I get the chance to discuss my relevant personal experiences.
	2.93	1.03	37	The subject encourages students to develop alternative strategies for learning
	3.64	1.17	47	I am allowed to work at my own pace.
	1.73	0.88	48	All students in the subject are expected to cover the same topics as each other. I am able to follow my own areas of interest.
	2.75	1.05	49	I decide how much I want to learn within a given period.
	2.78	1.41	53	
Task Orientation & Material Environment	3.65	0.96	41	Expectations of assignments are clear in my subject.
	3.90	0.86	42	I have little idea about what the subject is trying to accomplish.
	3.70	0.83	43	Activities are planned carefully.
	3.44	0.86	44	Students in this subject appear confused.
	3.83	0.78	45	The organisation of my subject is easy to follow.
	3.77	0.81	46	The subject keeps me focused on what is to be learned.
	4.42	0.72	61	The institution provides adequate printed study materials.
	4.02	0.83	62	Printed study materials provided for the subject are user friendly.
	3.68	0.88	63	The printed study materials meet the needs of all learners.
	3.87	0.96	64	The presentation of the content in the printed study materials is poor.
	4.04	0.80	65	Printed study materials structure my learning activities closely.
Home Environment	3.79	0.84	66	The physical environment is conducive to my study.
	4.17	0.87	68	The design of my study environment allows adequate movement.
	3.94	1.01	69	The arrangement of the furniture in my study environment is satisfactory.
	3.34	1.36	70	The design of the desks and chairs in my study environment is inadequate.
	3.94	1.14	71	The lighting where I study is unsatisfactory.
	3.28	1.04	73	The background noise where I study distracts me during study time.
Student Centre Environment	3.53	0.91	74	The physical environment is conducive to my study.
	4.11	1.13	75	I worry about my personal safety when I study at the Study Centre.
	3.72	0.91	76	The design of my study environment allows adequate movement.
	3.66	0.90	77	The arrangement of the furniture in the Study Centre is satisfactory.
	3.42	1.15	78	The design of the desks and chairs in the Study Centre is inadequate.
	4.00	1.02	79	The lighting where I study is unsatisfactory.
	3.78	1.04	80	There is sufficient ventilation where I study.

	2.84	1.21	56	The institution provides interactive technology study resources.
	3.25	1.31	57	Operating procedure for technology resources are provided.
Technology Resources	2.28	1.11	59	The technology resources used in this subject allow interaction between tutor and student.
	3.77	1.05	60	The technology resources do not enhance learning.

Item means of 5.0, 4.0, 3.0, 2.0, and 1.0, respectively, correspond to the responses of 'Always', 'Often', 'Sometimes', 'Seldom', and 'Never'. However scoring has been reversed for all items with a negative connotation (e.g. Items 20, 28).

APPENDIX E **FEMINIST PEDAGOGY SCORING RUBRIC**

Course Title:	Course Number:

HETEROGENEITY

Low	**Moderate**	**High**
▪ Course materials are ethnocentric and course assignments are based primarily on masculine learning styles ▪ The course/professor does not value or recognize other cultures or the experiences of females ▪ Students are not encouraged to examine issues from perspectives other than their own	▪ Some course materials reflect other cultures, races, and ethnicities; both masculine and feminine learning styles are occasionally reflected in course assignments ▪ The course/professor sometimes recognizes other cultures and the experiences of females ▪ Students are occasionally encouraged to examine issues from perspectives other than their own	▪ Course materials generally reflect various cultures, races, ethnicities, and both masculine and feminine learning styles are emphasized ▪ The course/professor recognizes and values other cultures and the experiences of females ▪ Students are regularly encouraged to examine issues from perspectives other than their own
1	**2**	**3** ____

DECENTRALIZED AUTHORITY

Low	**Moderate**	**High**
▪ Students do not feel empowered, free to communicate, disagree, and challenge one another or the professor ▪ Participants (including the professor) are not part of a community of learners ▪ Discussion and open dialogue are not encouraged	▪ Students sometimes feel empowered, free to communicate, disagree, and challenge one another or the professor ▪ Some participants (which may or may not include the professor) are part of a community of learners ▪ Discussion and open dialogue are sometimes encouraged	▪ Students feel empowered, free to communicate, disagree, and challenge one another or the professor ▪ The majority of participants (including the professor) are part of a community of learners ▪ Discussion and open dialogue are encouraged and occur regularly
1	**2**	**3** ____

CONNECTED LEARNING

Low	**Moderate**	**High**
▪ The professor does not relate course content to students' life experiences ▪ Students are seldom encouraged to examine theoretical knowledge in the context of their own experience ▪ Class structure and assignments do not provide opportunities for connected learning	▪ The professor sometimes relates course content to students' life experiences ▪ Students are sometimes encouraged to examine theoretical knowledge in the context of their own experience ▪ Class structure and assignments occasionally provide opportunities for connected learning	▪ The professor relates course content to students' life experiences ▪ Students are encouraged to examine theoretical knowledge in the context of their own experience ▪ Class structure and assignments regularly provide opportunities for connected learning
1	**2**	**3** ____

COLLABORATIVE LEARNING ENVIRONMENT

Low	**Moderate**	**High**
▪ Collaboration is not encouraged ▪ Competition/ individualism is encouraged ▪ Class emphasis is not on communication and consensus building ▪ The professor does not encourage informal connections and relationship building	▪ Collaboration, rather than competition, is sometimes encouraged ▪ Class emphasis is occasionally on communication and consensus building ▪ The professor sometimes encourages informal connections and relationship building	▪ Collaboration, rather than competition, is encouraged ▪ Class emphasis is on communication and consensus building ▪ The professor encourages informal connections and relationship building
1	**2**	**3**

Total (add four subscores): ____

Appendix F

Validation of The Feminist Pedagogy Scoring Rubric

Dr. Barbara Ladner
Associate Professor, West Virginia State College
Ph.D., Yale University, 1987

Dr. Penny Sanders
Senior Lecturer, University of Texas at Dallas
Ph.D., Texas A&M 1997

Dr. Linda Spatig
Professor of Advanced Educational Studies, Marshall University
Ed.D., University of Houston 1986

Dr. Becky Goodwin
Faculty, Marshall University Graduate College
Ed.D., West Virginia University, 2002