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An Analysis of Student Attitudes Toward Old Dominion University's TELETECHNET: A Comparison of Traditional and Non-Traditional Sites

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AN ANALYSIS OF STUDENT ATTITUDES TOWARD OLD DOMINION UNIVERSITY'S TELETECHNET: A COMPARISON OF TRADITIONAL AND NON-TRADITIONAL SITES

by

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ABSTRACT

AN ANALYSIS OF STUDENT ATTITUDES TOWARD OLD DOMINION UNIVERSITY'S TELETECHNET: A COMPARISON OF TRADITIONAL AND NON-TRADITIONAL SITES

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The purpose of this study is to investigate factors that shape a student's attitudes toward Old Dominion University's TELETECHNET system. This research utilizes a sample of 238 students enrolled in the TELETECHNET system. An analysis of student responses, based on location, was conducted, to see if a significant difference in the mean attitudes toward TELETECHNET exist between on-site and distance students. Analysis revealed a difference between studio and non-studio students on a variety of factors. This included the respondent's connection to other students, their attitude toward distance education, their willingness to take another TELETECHNET class and their attitude toward the grading process.

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CHAPTER I

INTRODUCTION

The purpose of this study is to determine what factors associated with distance education influence students' attitudes. Distance education is a learning system by which the student is separated from the parent institution and the instructor and information is transferred through a medium such as television or radio. Distance education has existed for many years and has manifested itself in a number of different ways. However, it is only recently that technological and economic factors have reached the point that educational institutions have become able to provide more of a hands-on-learning structure. Students have become less autonomous than in the past and the level of interaction between student and teacher has increased.

The roots of distance education extend back over a century originating in the form of mail order or correspondence-based education. The learner was able to obtain his or her degree via the mail by studying at home

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The format of this thesis follows the current style requirements of the *American Sociological Review*.

and returning tests and lessons to an institution for assessment (Hanson, Maushak, Schlosser, Anderson, Sorensen, and Simonson 1996:3).

A natural progression from correspondence involved the introduction of electronic communication. In the 1920s, radio-based communication institutions, mainly private, heightened the level of interaction between student and instructor, allowing the student to have direct contact with the instructor (Hanson et al. 1996:4).

Another transition took place in the 1960s with satellite communication. This technology allowed a instructor to lecture to a class providing audio and visual stimuli for the student. It was not until the 1980s that this technology became cost effective and thus "enabled the rapid spread of instructional television" (Hanson et al. 1996:4). In addition to the video and audio feed, there is often two-way audio, and in some cases visual, communication allowing a higher level of communication between instructor and student. In this level of distance education the structure of the learning environment has become more similar to that of a traditional setting. However,

satellite-based education is still not as structured as its traditional counterpart.

With the use of technologies such as email and LAN-based communication systems, the level of communication between learners and their instructors is heightened at a fraction of the cost and time of previous communication methods.

The advent of cost-effective communications within the last two decades has increased a student's or learner's ability to converse both with instructors and other learners. Thus, a greater number of institutions are beginning to develop their own distance-based programs. Smaller institutions are also seeking the support of larger ones in order to participate in distance learning.

Past research on this topic highlights several areas that provide insight not only into how a student is able to receive information but also how factors such as distance (Naitao 1996), age (Peruniak 1983; Small 1986; Hiola and Moss 1990; Dille and Menzack 1991), gender (Peruniak 1983; Hiola and Moss 1990; Brunner 1991; May 1994; Koch 1998), the support of the home institution, self motivation (Heinze 1983; Howard 1985; Small 1986; Collins and Murphy 1987;

Zaveck 1991; Linn 1996; Manzo 1997), as well as other factors influence how the student perceives their learning experience. To gain an understanding of the distance learning system, student perceptions of their educational experience must be examined.

How well students do in their educational endeavor has an impact on their attitude toward the learning program. The role of a student's attitude toward distance education is one which has been examined (McCormick 1985; Marland, Patching, Putt, and Putt 1990; Mose and Maney 1993; Whiteman, Scott and McElnay 1994; Davenport and Wormell 1997). The goal of this research is to compare and examine relationships between the previously mentioned variables and student attitudes toward distance learning in relationship to the traditional and non-traditional classroom setting.

The research will focus on one distance education program, the Old Dominion University's TELETECHNET program. The TELETECHNET program was launched in the 1994-95 academic year and as of the 1997-98 academic school year the program has incorporated over twenty community colleges, as well as business and industrial sites, military bases and local learning centers. The TELETECHNET system present at this

University is comprised of a one way video and two way audio system which uses a satellite system to broadcast the classes throughout the state and to other locales outside the state as well(Smith 1997).

In the past research has been conducted on the topic of student attitudes toward TELETECHNET. The results of their study are important to look at as a guide toward this research project. In an analysis of graduating seniors Smith(1997:7-8) that student satisfaction was unaffected by the location in regards to the student's perception of their knowledge gained. However, in overall course satisfaction and satisfaction with the course instruction Smith(1997) found that distance students had an overall higher level of satisfaction than on campus students.

The findings of this report are important, however, when analyzing the overall student satisfaction it only looks at the individuals who are graduating from the program. The currently proposed study seeks to look not only at, this group, but also to obtain information from any student currently enrolled in the TELETECHNET program, whose class has been selected for this survey. Also this will differ from the Smith (1997) study insomuch that the size of

the distance learning program has grown. At the time of the Smith (1997) study there was a projected enrollment of slightly less than 4,000 students. However, by the Fall 1998 this number has risen by almost one third (Old Dominion University, Office of Distance Learning 1998). Also, in this time period the number of locations has also increased to over 60 sites in Virginia, North Carolina, Indiana and Washington (Schlosser 1998:10). It is for reasons such as the increase in course enrollment in conjunction with the addition of new sites, as well as a need to examine attitudes of students throughout the program (not just seniors) which makes this study different from the Smith (1997) study and necessary to conduct.

The goal of this research is to identify which students have a positive attitude toward distance learning and will compare distance learning students in a studio classroom (i.e. is the same classroom as the professor while he or she teaches the distance learning course) to those outside the studio to determine if there is a difference between the two.

CHAPTER II

LITERATURE REVIEW

When researching the subject of distance education there are a number of different factors which one must explore to determine how well a student will perform in this type of educational endeavor. To this end one must examine not only the literature which exists on variables which affect a student's attitude toward distance education, but one must look at information on this type of learning institution as well.

BENEFITS/PROBLEMS OF DISTANCE EDUCATION

Wilson (1997:13) argues that advances in technology have allowed a convergence between distance and traditional learning. The distance education system of the 1990s has become a hybrid of the traditional and distance learning institutions, resulting in a system which uses technology to enhance the teaching capabilities of educational institutions.

In recent years, many benefits of distance education have been realized. One such example comes from Campbell

and Storo (1996:290) who argue that the stereotypes which often prevent specific genders and races from preforming well in traditional settings do not apply in distance education because the student may not always be visible to the instructor. Thus the learning becomes more equitable and therefore the student's learning experience can be enhanced more than in a traditional setting.

Wheatley and Greer (1995) also highlight the benefit of travel to distance education, where the learner does not have to travel to and from a home campus. Also through the use of satellite technology, information presented at one site can be broadcast throughout a network thereby reaching a greater number of students (Wheatley and Greer 1995:343).

Walsh and Reese (1995:58) discuss the economic benefit of distance education. It can reduce the cost of teaching since different campuses are utilizing the same resources. Distance education provides the advantages of a large university to areas which can not support such an institution (Walsh and Reese 1995:58). In addition to benefitting distant sites, university administrators can use it to reach new audiences and generate more income (Walsh and Reese 1995:59).

Benefits of distance education can also be related to the student. Guri-Rozenblit (1990) states that distance education will result in an improvement of a student's study skills. The author cites an Australian study which demonstrated that students enrolled in distance education courses had a greater level of independent study skills then students in traditional classes (Guri-Rozenblit 1990:77). In addition distance education can serve non-traditional students (defined as a learner who has returned to college after a period of time where the individual was not part of the educational environment) by offering course work tailored to individual schedules (Guri-Rozenblit 1990:78-79).

Although there are benefits to distance education there are also problems. Baker (1986) suggests that students in distance based programs often have problems comprehending the information posted from the professor to the student (1986:224-225). He argues that instructors must make their expectations clear so students will understand the goals of a specific assignment. He also cites problems with student feedback. Because "a student is learning all the time, and needs to know frequently how he or she is progressing"

(Baker 1986:225). Since the student at a distance does not always have immediate feedback from the professor, he or she may develop problems in the comprehension of material.

Another disadvantage of distance education is that the student is not physically present with the instructor when information is transferred. Although a student may feel free to leave or regulate how the information is transferred to them, distance learning is not without its downfalls most of which relate to the communication which takes place between the sender and receiver. Since "distance education does not readily offer teachers the opportunity to modify the flow of information on the basis of moment-to-moment feedback from learners, as in the case of in face-to-face education" (Cropley and Kahl 1983:33) thus may affect how a student perceives his or her learning experience. Although the need of the instructor is to design a class which is heavy in structure, Cropley and Kahl note that the student will have a higher degree of freedom than in a traditional setting (1983:37), because the instructor is not present to moderate the learner's behavior.

THEORETICAL BACKGROUND

When one attempts to develop an understanding of distance education, it is necessary to look at some of the theoretical orientations that attempt to explain this phenomena. One individual who looks at the role of theory in this field is Keegan (1986). In his work he discusses three general theoretical ideas which surround distance education.

Within the theory of independence and autonomy there is the rationale that the learner must act as an independent agent and rely on himself or herself rather than structure from the teacher as a means to learn (Keegan 1986:74). Keegan (1986:74-78) describes a progression towards independence and autonomy. Keegan (1986) suggests that as an individual moves further away in distance as well as increasing the level of autonomy, the student will need to have a greater degree of self motivation. Keegan (1986) also notes that the higher degree of independence from the teaching institution the learner will be "compelled to accept a comparatively high degree of responsibility for the conduct of the learning program" (Keegan 1986:74).

Comparing this theory to Old Dominion University's TELETECHNET system does not fit well. This is because the University gives the student a low level of autonomy. The classes offered in this program are often highly structured and therefore do not allow for a high level of independence. Where it does compare to this theory is in the concept that although the student is in close contact with the instructor the distance learner must balance a higher level of self motivation and must be able to conduct themselves in a manner which is conducive to autonomous learning.

Another theoretical idea discussed by Keegan (1986) relies heavily on the work of Otto Peters. Peters states that the formation of distance education was a direct result of the industrial era (Keegan 1986:81). He draws this conclusion on the basis that industrialization was a necessary component to distance education. With industrialization came an infrastructure which allowed the conveyance of information to and from students over large geographic areas. Peters goes further by theorizing that distance education is dialectic to that of traditional education, insomuch that it is "egalitarian, profane, democratic, aimed at a mass audience, technologically based,

and free from the dimensions of educational time, places and persons"(Keegan 1986:86).

This idea is not shared by Keegan who contends that the dialectical relationship cited by Peters is not as different as Peters perceives (Keegan 1986:88). Viewing distance education as the antithesis to traditional learning does not fit well with TELETECHNET at Old Dominion University. Since course work is developed for students both in a traditional setting (the main campus) and the distance learning campuses as well, these two different systems are perceived to be the same by the instructor rather than different.

A final theoretical idea examined by Keegan is interaction and communication. One misconception addressed is the concept that distance education relies solely on the student (Keegan 1986:96). Within his work Keegan (1986) discusses Holmberg who argues that students have their work structured in the manner that the information presented to them has been developed by the instructor (Keegan 1986:96). Holmberg continues by stating that in some distance based programs the communication between student and teacher can be accomplished through written assignments, thereby making

"students' assignments facilitators of communication rather than as instruments of assessment"(Keegan 1986:97).

Keegan (1986) also deals with the work of Daniel who has expanded on the theoretical ideas of Holmberg. He concluded that with higher levels of interaction between student and teacher, there will be a reduction of the perception of independence therefore making it closer to a traditional setting (Keegan 1986:101). Increasing "the proportion of interactive activities [will] improve student performance, but it does so at a price"(Keegan 1986:101). The relationship between interaction and cost is one which is met with the discretion of the parent institution. With increased levels of interaction there will be the increased cost of distributing that information. How interactive an institution wishes to make its program is dependent on the amount of money they wish to invest.

The design of the TELETECHNET system within this University does not allow for a great deal of independence. Since classes are designed for students at a distance as well as those in a traditional setting, they are structured in a way which requires them to meet at specific times with course work to be completed by appointed times. Although

there is a lower level of autonomy present it requires more self motivation to perform well at a distance. Illustrating that there are still some differences between the students present at the studio or traditional site and those present at the distance sites.

The industrialization of society relates to the third idea discussed by Keegan (1986). The TELETECHNET system is based on a two way audio and one way video communication. The level of interaction via the internet between student and teacher can be kept high thus allowing students perception of distance education to be similar to that of a traditional institution.

DISTANCE VS. TRADITIONAL EDUCATION

The goal of this study is to compare distant site students' perceptions of what they have learned and their attitudes towards their education to students who are enrolled in the studio classroom which is similar to a traditional classroom. It is therefore important to look at research which compares the relationship between these two learning styles (Kahl and Cropley 1986; Beare 1989; Wong 1990; Sounder 1993).

Kahl and Cropley (1986) note that an individual who is typically enrolled in a distance based education will be married, a nontraditional student, is most likely to be in an educational environment by choice and will be self-disciplined both in organization and study habits. Furthermore, the distance learning student will prefer course work which is highly structured and will experience a lower level of confidence than the traditional student (Kahl and Cropley 1986:43).

Sounder (1993) and Wong (1990) dealt with how students evaluated a specific course. The majority of respondents agreed that the class was in fact a success (Sounder 1993:44). These responses were dependent on the location of the student. Students in the distance learning site were less likely to think that there was a difference between traditional and distance learning than those in the traditional setting. Also the distant students perceived a greater level of connection between the professor and other students than those enrolled in the traditional class (Sounder 1993:45-46). Wong (1990) also found that students' attitudes towards televised classes demonstrated a positive

relationship towards distance education in the overall course evaluation.

Beare (1989) also examined the concept of face-to-face versus distance education. The results of this study differed from the other studies of overall course evaluation. This study demonstrated that students had a preference for live interaction with the instructor rather than through a distance learning medium (Beare 1989:63). In this study students in the broadcast site demonstrated a dislike for distance education and a feeling of jealousy because the instructor was dividing time between the distance sites and the home site (Beare 1989:64-65).

PERCEPTIONS OF DISTANCE EDUCATION

Whiteman, et al. (1994) looked at student attitudes toward distance education before and after taking the class. The mean response towards an approval of this type of learning system was positive in nature. The time two survey showed that approximately 80 percent of the respondents preferred distance education over a traditional setting (302). These attitudes however were unaffected by the classroom experience. The authors found no significant

change in a learner's perception towards distance education as a result of participation in the class (Whiteman et al. 1994:304-305).

In disagreement, Davenport and Wormell (1997), reported that there were a number of problems which existed in the class. Student complaints were a result of problems experienced in the delivery of course information over the computer network and the technology involved (Davenport and Wormell 1997:50).

ADDITIONAL RESOURCES

Mose and Maney (1993) also examined whether students' acceptance or preference towards televised distance education was enhanced by the addition of a secondary communication source (i.e., the computer). Unlike Davenport and Wormell (1997), who found that students felt animosity towards the use of computers in distance education, Mose and Maney (1993) found that students who used the computer as an aid in class "were less tense, felt more confident about their learning, were more interested, and felt more challenged to do their best thinking than the non-computer students" (Mose and Maney 1993:14). Also researchers found

that the students with computer access had a higher level of communication between other students in the class as well as between the student and the professor (Mose and Maney 1993:11-12).

Marland, et al. (1990) also explore the issue of a secondary medium benefitting distance education. This study looked at how students integrate textural materials, provided by the faculty, into their study sessions (Marland et al. 1990:71). The material was designed to provoke specific stimuli from the respondents, the overall goal being to determine what information within the materials provoked a reaction or supplemented the overall learning process.

The results of this study demonstrated that the use of text as a secondary communication source provoked any additional learning on the part of the student (Marland et al. 1990:85-86). The authors noted that the students used the information in study form but there was "little evidence that students sought to develop a broad integrated understanding or interpretation of substantial blocks of text"(Marland et al. 1990:84). One may conclude that while

one type of distance education support can provide a higher level of learning other types do not.

McCormick (1985) focused on students' views towards studying in distance education to determine which distance education medium was most beneficial to the learning process. He found that students believed that text materials were the most beneficial and the easiest of the secondary mediums to understand. Video taped lectures also provide a student with beneficial information that could be used to clarify or supplement other materials (McCormick 1985; Holmberg 1989).

VARIABLES AND DISTANCE EDUCATION

Several factors affect students' attitudes toward their learning experience. In the case of distance education the number of variables which may hinder or benefit a student maybe greater than those in a traditional classroom. Some of these characteristics include their age, gender, the number of credit hours completed, their long term goals, their level of self motivation, the location of the student, marital status, the presence of children in the household, and the type of location where the student attends.

It is also important examine the general make up of the students who are enrolled in this type of learning program. Studies show that the majority of individuals enrolled in this type of program are female and are between the ages of 25 and 40 years (Peruniak 1983; Hiola and Moss 1990). Also individuals in distance education programs enroll for many of the same reasons as individuals in traditional institutions. For example, to gain experience for a better job, or for self improvement (Peruniak 1983; Small 1986).

It is also necessary to determine why individuals seek out a distance learning course, over a traditional one. According to the Hiola and Moss (1990), "[O]ver 92 percent of all students felt that, without [this form of education] there would be no possibility of their entering higher education" (1990:122). Also, according to Peruniak (1983:67), individuals also enroll for time considerations, in order to maintain a job and a home life while attending school.

STUDENTS IN DISTANCE EDUCATION

Dille and Menzack (1991) identify several variables which according to their research identified the profile of

a high risk student for a distance education program. They found that an individuals age, with those whose age was less than 25, divorced, in the beginning stages of their college education (less than thirty completed hours) and a grade point average less than 3.0 were more likely to develop problems with a distance education course than in a traditional one (Dille and Mezack 1991:34). Individuals in a distance learning program must be aware that certain characteristics may cause problems in the learning process, that may not arise in a traditional learning setting and could therefore effect the student's attitude toward distance education.

TRADITIONAL VS. NON-TRADITIONAL STUDENTS

One factor which may contribute to the success or failure of students in distance learning is whether or not they are what is considered to be a non-traditional student. The non-traditional student is a learner, normally over the age of 25, who has returned to college after a period of time where they were not part of the educational environment. Throughout the research the non-traditional, or adult learner, has demonstrated that due to time

constraints and other obligations, distance education is a well suited for their lifestyles (Small 1986; Collins and Murphy 1987; Seitz 1988; Hayes 1990).

Small (1986) examined the relationship between adult students (defined as those who have returned to continue education after entering the workforce after highschool) and how their study habits conjoined with instruction helped them succeed in a distance learning environment. Students in both rural and urban parts of the Australian Distance Learning Center(ADLC) participated. Researchers determine that the majority of the students (especially in the metropolitan area) had a poor perception of their secondary educational experience. Furthermore, the main reason for their return to school was to enhance their career (Small 1986:19). Small concludes that adult learners have developed study habits for distance based education which allow them to perform well (Small 1986:23-24). This in conjunction with the motivation of adult learners results in them doing better in the distance education environment than traditional learners (Small 1986:25).

Another aspect of the adult learner which must be examined, is why this type of student would favor distance

over traditional education. According to Seitz (1988), the adult learner, who is often bogged down with the responsibilities of a family and the expenses which arise as a result does not desire to leave stable employment to return to school. Distance education is therefore well suited for this type of student. They are able to fulfill their obligations to outside institutions such as the family and work while at the same time gaining a higher education (Seitz 1988:24).

SELF MOTIVATION AND DISTANCE EDUCATION

Another concept related to adult learner's success is that they are typically voluntary learners (Hayes 1990:25). Small (1986) and Seitz (1988) have alluded to the adult student more often than not returning to the educational sub-culture, be it the traditional or non-traditional institution, of their own accord (Hayes 1990:27). Furthermore, items such as life experience, development and social context are all factors which contribute to adult learners' perception of education. Hayes (1990) concludes that the adult learner may be more receptive to distance learning on the basis that it is more flexible then the

traditional learning environment, which as Seitz (1988) and Small (1986) have already stated is compatible to the responsibilities of the non-traditional learner.

Although not exclusively concerned with the non-traditional student, distance learning systems, through an increase in the availability of technology and resources, are advantageous to the adult student. Because in this form of education the learner must be highly motivated, the adult learner, more often than not a student by choice (Small 1986). Unlike a proportion of traditional college students (Small 1986:18), will be more likely to succeed in a distanced education. Because in distance education the individual must be self motivated to complete required work, the adult learner who is more self motivated will perform better in this environment (Collins and Murphy 1987:36).

An individual in a distance education must be self motivated. The "ability to work independently is a critical characteristic for students who choose such programs (distance education). They must undertake their studies with virtually no supervision and be willing to seek assistance when needed" (Manzo 1997:43). While all individuals in higher learning must be self-motivated, in

the environment of distance education, the learner must have a higher level of motivation to be successful.

AUTONOMY AND DISTANCE EDUCATION

Along with the rationale of self motivation, the student at a distance must also take an autonomous stance to the learning process. The autonomous learner is one who is motivated to "take the initiative to learn what they need to know in courses topics in their lives" (Linn 1996:826). One of the most common problems which face the current learning systems, and even more so in distance education, is that they do not take a teaching perspective which promotes autonomous learning (Linn 1996:838). For this reason, one may conclude, according to Linn, that the learners in distance education are at a disadvantage when compared to the traditional learner.

In agreement with Linn is Zvacek (1991) who concludes that the level of a student's motivation must be high in order for that person to succeed in a distance system. The distance learner is in an position where, "motivating forces active in 'traditional' classrooms such as group pressure, a familiar learning situation, and social factors are often

absent in distance education settings" (Zvacek 1991:40). The distance learner must internalize devices which will take the place of traditional classroom mechanisms in order to complete course work and to be successful in this type of program.

Also related to the study habits of learners and conversely their overall motivation is "that distance learners are isolated from fellow students and from the instructor [which] deprives them of the environmental stimuli which can contribute to and guide their learning" (Howard 1985:170). Howard (1985) stresses that one way in which this can be overcome is through an enhancement of the learner's study skills. With these skills the learner will be able to set goals which will place more responsibilities on the learner rather than the teaching institution (Howard 1985:184-185).

Another approach which can be taken in the examination of self motivation, is what motivates a student to take a course in the first place. Heinze (1983) cites two primary motivating forces, one to obtain a promotion and two to "survive against academically-qualified competitors" (Heinze 1983:55). It is for the above reasons that a student will

be motivated to return or continue their education, however, it is for employment or family obligations that individual will choose a learning system such as TELETECHNET.

RURAL LOCATIONS AND DISTANCE EDUCATION

A primary reason that students seek classes via distance education is the location of the learner. By extending the learning resources of a large institution to other areas, students or members of a community can receive information that would otherwise be unavailable unless the learner relocated.

Distance education can offer rural areas the benefit of education to individuals who do not have the ability to relocate. Individuals who would otherwise be unable to continue to develop on a professional level, with the use of distance education can do so. In fields where information is constantly changing the use of distance education allows those professionals the ability to remain current in their practice without traveling large distances to do so.

Naitao (1996: 14) states that the use of distance education in rural areas can also be beneficial to the local economy. Individuals who remain in an area to receive their

education are more likely to remain and use that information after graduation. The individual who is enrolled in a distance education course can then use their knowledge to perform their job more efficiently (for example farming) which in turn will promote a local economy through a higher production of resources.

GENDER AND DISTANCE EDUCATION

As earlier studies have stated, women often make up the majority of the individuals who participate in distance learning programs (Peruniak 1983; Hiola and Moss 1990; Koch 1998). With this in mind, it is important to examine the relationship between distance education and gender (Brunner 1991; May 1994; Koch 1998).

A study conducted by May (1994) of women enrolled in distance education courses, demonstrated several interesting things about women in distance learning. According to the self report completed by these women, the learners took the position that although distance education is beneficial to all learners, it is better suited to males (94). They concluded this on the basis that their responsibility to their education was superseded by family responsibilities

(May 1994:94-95). Although distance education may not be tailored toward women, the use of a distance based education for an individual (male or female) who has the added responsibility of a family can be used as a means to gain an education while supporting the additional responsibilities of a family.

Another issue which surrounds gender and distance education is technological expectations. Brunner (1991) states that males have a disposition toward technology and it's a women's tendency to shy away (137-139). Brunner examines the masculine design of the distribution of knowledge through distance learning mediums, which compares to the May article insomuch that the stereotypes which are present between men and women in perceptions of distance education can affect how a student will form an attitude of a course.

In disagreement with these individuals is Koch who has examined the role of women in Old Dominion University's TELETECHNET program. According to a study conducted by the University women, who make up 63 percent of this program's enrollment, have a higher grade point average than their male counterparts in their junior and senior years. Also

this study found that women have the same level of course satisfaction as men. This seems to differ from May (1994) and Brunner (1991) who take the approach that women are less likely to succeed in this type of program.

When looking at the relationship between gender and distance education what the above studies do not examine is the opinions of women in distance education as compared to those in traditional classrooms. One may find that females use a distance learning class for the same reason as males.

ADDITIONAL VARIABLES

Another variable which may result in a difference in learner attitudes toward distance education is the race of the individual. In a learning environment such as TELETECHNET with a one way video and two way audio, the learner may not easily be identified, aiding in the prevention of stereotypes which may arise (Campbell and Storo 1996: 290).

Although there is an extensive body of literature on the subject of distance education, as well as a great deal of research comparing the relationship between the attitudes of traditional and non-traditional students, there are

several areas of importance which this study will seek to incorporate that previous studies have not. One such example is the type of educational institution which a student attends. Within the Old Dominion University TELETECHNET system, there are four distinct educational institutions, the adult degree centers, the community colleges, the military/business sites, and the studio site (normally the ODU campus). One may conclude that the performance of a student may be relevant to the type of site which they attend since different areas or campuses have access to different resources which may in turn affect the learners at the site.

Although some studies briefly focus on the subject of a individuals marital status (Dille and Mezack 1991). The goal of this study will need to take the concept marital status further into consideration than just a mere demographic. For the purpose of this study, it will be necessary to look at an individual's marital status in order to determine if it influences a student's attitude toward distance education and if it was the reason for their enrollment in a distance based class.

CONCLUSIONS AND HYPOTHESIS STATEMENTS

The goal of this study is to increase knowledge of student's attitudes toward distance education. By comparing how individuals in a traditional setting (the studio site) and those in the distance learning system perceive their overall educational experience one can determine if in fact a learner's attitude of their education is a result of where they took the course. This study will address variables that have not been examined previously or have had little empirical analysis conducted on them. This study seeks to evolve beyond what previous research has accomplished and to that end will make the information gathered insightful and make a valuable statement about the emerging role of distance education in American society. This study will specifically test the following hypotheses:

1. There will be a significant difference between the studio and the non-studio sites in student attitudes toward the learning experience of the course.
2. There will be a significant difference between the studio and the non-studio sites in student connection to other students.

3. There will be a significant difference between the studio and the non-studio sites in student connection between the student and professor.

4. There will be a significant difference between the studio and the non-studio sites in student attitudes of the role of technology in the course.

5. There will be a significant difference between the studio and the non-studio sites in student attitudes toward the difficulty of work required for the course.

6. There will be a significant difference between the studio and the non-studio sites in student attitudes toward taking another TELETECHNET course.

7. There will be a significant difference between the studio and the non-studio sites in student attitudes toward the evaluation process for the course.

8. There will be a significant difference between the studio and the non-studio sites in the respondent's overall motivation to succeed in their learning endeavor.

CHAPTER III

METHODOLOGY

DATA COLLECTION

The method of data collection for this study will be a survey. The survey will be administered to students in 300, 400 and 500 level TELETECHNET classes, which have been selected from the departments participating in TELETECHNET. The survey instrument is broken down into two basic sections. Section one, is made up of demographic information such as gender, race, marital status, etc. Section two of this survey measures student attitudes toward distance education, using a Likert scale ranging from strongly disagree to strongly agree.

This survey will be distributed to distance sites via inter-campus mail and will be sent one week prior to the administration of the survey. During a specified class time, both students at the distance sites and those in the studio will fill out the survey. Students in the studio site will receive their survey from the administrator who will be present in order give instructions on camera. The administrator will wait for students to complete the survey.

Those at the distance sites will return the survey in an envelope provided to the class and returned through campus mail to the parent institution.

SAMPLE

A list of the classes offered during the Fall semester of 1998 shows 19 different departments teaching 37 TELETECHNET classes at the 300, 400, or 500 level. One class will be randomly selected from each of these departments. In departments where there is only one class offered, that class will be selected by default. However, in departments where more than one class is offered on TELETECHNET, the class included in this sample will be selected by a random number generator.

Professors of the selected classes will be sent a letter requesting permission to survey their students, at both the campus and the distance learning sites. Of the 19 instructors approached regarding this survey it is the hope of the researcher that at least 14 (or 75 percent) of those approached will approve of the survey. While sample size of this study will be dependent on class enrollments and the

number of professors who approve the survey, it is estimated that the sample will be between 1,000 and 2,000 students.

INDEPENDENT VARIABLE

The independent variable for this study will be the location of the students. The purpose of this variable will be to determine if the physical distance between students and instructors affects attitudes toward distance education. The respondents will be asked which site they attend. The site variable will be categorized in a manner that will allow for the comparison of the traditional and distance learning institution. For the purpose of this study the division will be made between the ODU campus, where the professor is present in the classroom, and other sites, where the professor is not physically present.

CONTROLLING VARIABLES

The variables for this study will include the respondent's age, gender, race (coded White, Black, Asian, Hispanic and Other), marital status (coded single, married, widowed, separated, divorced, and cohabaitating), annual income (0 to 9,999, 10,000 to 19,999, 20,000 to 29,999,

30,000 to 39,999, 40,000 to 49,999 and over 50,000) and whether they are an undergraduate or graduate student. In addition to these demographic variables this study will also look at the total number of credit hours students have completed in their current degree program and the number of credit hours they are enrolled in for the current semester.

The survey will also ask how many hours they work in a normal week (0-9hours, 10-19hours, 20-29hours, 30-39hours, 40hours and more than 40 hours). The data from the total hours worked can then be grouped into the variable of full and part time employment. Part time employment will be considered to be 19 hours or less worked in an average week and full time will be over 20 hours worked in a week.

As with the case of the work variable, age of a student will also be classified into two separate groups, traditional and non-traditional students. Students under the age of 23 years will be classified as traditional students and those 23 and over will be considered to be non-traditional student.

Another variable used for this study will ask if the student has made use of additional resources during the course such as the internet or texts. This study will also

ask if the student was required to download information from a homepage for the class.

Finally, the first section of questions will ask the student if they have previously taken a distance learning class to see if this as well will affect the learner's attitude toward the course. Likewise, the survey will ask the number of students who are in the class with them, to see if isolation is a factor in the respondent's attitudes toward distance education.

DEPENDENT VARIABLES

Through the use of a Likert scale, the dependent variables will be created. Depending on the variable, some will be created through a single statement while others will be created through the conjunction of several different statements. After the data is collected a factor analysis will be conducted to make sure that they all load in the same manner.

The first variable, connection to students will be measured by asking students if they feel a connection to students at their site. It will also ask them if they speak

to other students both at their site and others about problems with course work.

Another variable is the students' perception of their connection to their professor. This will be measured with a scale including such items as, "I feel a rapport with the professor", "The professor spends more time with others than with me during class" and "the location of the professor does not effect my ability to contact him or her regarding the class".

Attitudes toward the communication system between students and others will be measured by asking the students about their communication habits between other students and their professors. This variable will create a scale to measure communication. Related to this variable will be the role of communication in the feedback process between the student and their professor.

Students' attitude toward the course will be measured with several different questions. Included are students' rating of the overall learning experience, their preference for this style of class, the level of course work, the amount of information retained compared to other courses, and the ability to take another distance education course.

Related to attitudes the student's attitude toward the overall class is their attitude concerning how the class was conducted. By asking the respondents about the level of work required, the amount of discussion which takes place in the class and whether or not they perceived the course to be fair, one can develop a scale of student attitudes in relationship to the overall course.

Another concept related to distance education and student attitudes toward distance education is self motivation. In this form of education, as research has indicated (Small 1986; Seitz 1988; Hayes 1990), the level of motivation for a distance learning student must be higher than that of a traditional student. To measure self motivation the survey will ask if students wait until the last minute to complete required tasks, their overall level of motivation and their confidence in their class performance.

Technology is another factor which may affect a student's attitude toward his or hers distance education experience. A student's like or dislike for technology may influence his or her attitude toward this learning style. In order to measure this students are asked if they never,

rarely, sometimes or always engage in the activities mentioned in the survey. Questions used to measure student's responses toward technology include: "I am uncomfortable speaking on air", "I am normally more vocal in a non-TELETECHNET class", and "I only speak when the professor calls upon me".

Using the same categories mentioned above, students will be asked if they come late, or leave class early. They are also asked if they have a tendency to skip class to determine if students at a distance are more or less likely to engage in these types of activities regarding attendance in comparison to those in the studio site, where the professor is face-to-face with the student.

Just as attendance is a necessary requirement for a student to perform well in his or her educational endeavor, so too is the availability of resources. As a result a student's access to materials may affect their perception of distance education. To measure this, questions about the students' use of the Internet, interlibrary loan and their overall access to outside resources will be asked. This section will also ask about the students use of others notes

and video tapes to supplement their learning process to see if they make use of these additional resources as well.

The final section of the survey will be used to identify why students enroll in this form of educational environment. This will be examined by giving the respondents a list of four choices and asked them to select their choice for taking the class on the TELETECHNET. The reasons include the course was required for the major, that the class was only offered on the TELETECHNET, and that the course allowed the respondent to maintain their family or employment obligations.

STATISTICS

Data will be analyzed using a t-test of independence. The dependent variable for this study will be the type of institution which the student attends and will use the above mentioned variables to run the analysis. Also this comparison of means examine the relationship between the traditional and distance sites to determine if there is a significant difference between them and the respondent's attitudes toward TELETECHNET. Finally those t-tests which are significant will be subjected to a logistic regression

to identify variables have a significant influence on a student's attitude toward TELETECHNET.

CHAPTER IV

RESULTS

Of the 16 TELETECHNET classes originally approached about conducting a survey of students, 6 approved. These classes represented 6 different majors, from 4 different colleges at Old Dominion University.

The total sample of 238 students consisting of 200 off campus (non-studio) and 38 on campus (studio) students participated in this study. Although this sample appears to be skewed toward the non-studio students, an analysis of student enrollment in the TELETECHNET program demonstrated that both on and off campus students were equally represented. This study consisted of 36 sites (including ODU) which were representative of the all types of institutions (Community Colleges, Business sites, Hospital sites and Learning centers). Furthermore, the students surveyed in this study were from Virginia, North Carolina, Indiana and Washington, which represents all the states that Old Dominion University's TELETECHNET program currently broadcasts to.

Table 1a displays characteristics of this sample. Of

Table 1a. Sample Characteristics

Variable	N	Percentage
Site		
Studio	38	16
Non-Studio	200	84
Gender		
Male	91	38.4
Female	146	61.6
Marital Status		
Single	82	34.7
Married	112	47.5
Divorced	20	8.4
Widowed	1	.4
Separated	6	2.5
Cohabitation	15	6.4
Previous TELETECHNET		
No Previous Classes	50	21.3
At Least 1 Class	185	78.7
Work		
0 to 9 hours	40	17.2
10 to 19 hours	17	7.3
20 to 29 hours	49	21.0
30 to 39 hours	27	11.6
40 hours	52	22.3
Greater then 40 hours	48	20.2
Race		
African American	30	12.6
Asian	7	2.9
Hispanic	9	3.8
White	180	75.6
Other	10	4.2
No Response	2	0.8
Age		
Mean = 27.27		
Range = 18-65		
SD = 8.680		

the individuals surveyed, ages ranged from 18 to 65 years of age, with a mean age 27.27 years with a standard deviation of 8.680 years. In addition, Table 1a also shows the distribution of gender (38.4 percent male and 61.6 percent female). This ratio of male to female is similar to previous studies of distance education, where women make up a larger proportion of enrollment (Peruniak 1983; Hiola and Moss 1990; Koch 1998). Oddly enough, a breakdown by type of sites (studio vs. Non-studio) indicated that while off campus sites had a higher level of female attendance (67 percent) the on campus respondents were primarily male (68.4 percent) (see Table 1b). Of those surveyed, the majority of students were married (47.5 percent) with 34.7 percent single. The majority of respondents also reported that they had taken at least one TELETECHNET course (78.7 percent). Table 1 also indicates that 75.6 percent of respondents characterized their race as White.

An examination of the total number of hours that a respondent worked in a week demonstrated that most worked a 40 hour work week (22.3 percent). Furthermore, a large percentage of the respondents (20.6 percent) indicated that they were attending school and working over 40 hours in the

Table 1b. Sample Characteristics (by site)

Variable	Studio		Non-Studio	
	N	Percentage	N	Percentage
Gender				
Male	26	68.4	65	32.7
Female	12	31.6	134	67.0
Marital Status				
Single	17	44.7	65	32.5
Married	17	44.7	95	48.0
Divorced	0	0	20	10.1
Widowed	0	0	1	0.5
Separated	1	2.6	5	2.5
Cohabitation	3	7.9	12	6.1
Previous TELETECHNET				
No Previous Classes	15	39.5	35	17.5
At Least 1 Class	22	57.9	163	81.5
Work				
0 to 9 hours	5	13.2	35	17.9
10 to 19 hours	11	28.9	6	3.0
20 to 29 hours	7	18.4	42	21.0
30 to 39 hours	2	5.3	25	12.5
40 hours	6	15.8	46	23.0
GT then 40 hours	7	18.4	41	20.5
Race				
African American	7	18.4	23	11.5
Asian	1	2.6	6	3.0
Hispanic	3	7.9	6	3.0
White	27	71.1	153	76.5
Other	0	0	10	5.0
No Response	0	0	2	1.0
Age				
	Mean = 27.29		Mean = 31.09	
	Range = 20-40		Range = 18-65	
	SD = 6.514		SD = 8.927	

average work week, making 42.9 percent of the respondents full time employees that work 40 hours per week or more. When looking at sites separately, the majority of the off campus students were married (47.5 percent). On the other hand, on campus students were equally likely to be married as they were to be single (44.7 percent).

Table 2 shows that 60.9 percent of the students surveyed reported their professor's gender as female. An examination of individual sites also indicated that students on campus were as likely to have a male instructor as a female. However the majority of the off campus respondents reported that they had taken the course from a female instructor (63 percent). Furthermore, the average number of sites that the class broadcast to was 20, with the average number of students enrolled in the class at 79. Finally, the classes surveyed were both day and evening classes, with a slight majority of those surveyed being enrolled in a day class or ones which met prior to 4pm (55.9 percent). A further analysis of student class enrollment, by type of site, indicated that the majority of on campus students surveyed attended during the evening (52.6 percent). On the

Table 2. Class Information

Variable	N	Percentage
Professor Gender		
Male	93	39.1
Female	145	60.9
Time of Day		
Day	133	55.9
Evening	105	44.1
Total Sites		
Mean = 20		
Range = 9-31		
Total Enrollment		
Mean = 79		
Range = 14-142		

other hand, most off campus respondents reported attending during the evening.

STUDENT LOCATIONS AND ATTITUDES TOWARD TELETECHNET

Table 3 shows a t-test of independence of the mean difference between student attitudes toward distance education and the location of the student (studio and non-studio sites). Student attitudes was measured by combining four survey responses, asking if the respondent had learned as much in this course as in a non televised course, if the respondent preferred the TELETECHNET class over a traditional one. Respondents were also asked if they had learned a lot in the course and if they were willing to take another TELETECHNET course. Because the Levene's Test for Equality of Variance was not significant (p=.335), an assumption of equal variance was made. The results indicated the significant difference between the mean attitudes between a student's attitude and their location (p=.041). An analysis of the mean response shows that students who are at the non-studio sites have a more positive attitude toward distance education than those who are at the studio site (mean = 2.030). The results in

Table 3. Student Attitude Toward Distance Education

Student's Attitude Toward Distance Education	N	Mean	SD	SE of Mean
Studio	38	1.8026	.555	.090
Non-Studio	191	2.0340	.646	.047
t score[a]		-2.06*		

[a]t-test (d.f.=227) of difference between means.
*p<.05

Table 3 therefore indicate that there is support for hypothesis 1, or that there is a significant difference in means between the location of the student, and their attitude toward distance education. Furthermore, while the mean responses of the off campus students indicated that they had a positive attitude toward TELETECHNET. Conversely, the mean responses of the on campus students indicated that they disagreed or had a negative attitude toward distance education.

Another goal of this study was to determine if there was a significant relationship between the location of a student and their attitude toward communication with other students. By asking students if they felt a connection to other students both at their site and other sites, as well as their attempts to communicate with these students regarding course work, a measurement of the relationship between student connection and their location was made.

The results indicated in Table 4, support this Hypothesis that there was a significant difference in the mean responses of the students dependent on location. Because the Levene's Test of equal variance was greater than 5% (p=.631) it is assumed that the variances are equal

Table 4. Connection to Students

Connection to Students	N	Mean	SD	SE of Mean
Studio	33	1.3030	.464	.081
Non-Studio	171	1.4760	.449	.034
t score[a]		-2.02*		

[a]t-test (d.f.=202) of difference between means.
*p<.05

between the studio and non-studio respondents. At .045 significance level one is able to conclude that the mean response of students who attend TELETECHNET classes at the distance education sites will feel a stronger connection to other students, thereby supporting hypothesis 2. It is important to note that while there was a significant difference between the responses of the students dependent on their location, both the studio and non-studio students disagreed with the presence of a connection between students.

Table 5 shows the reported means between the location of a student and their feelings of connectedness to the course instructor. However, the mean, as indicated in Table 5, for distance education and connection to the course instructor show no statistical difference.

Table 6 also revealed no statically significant differences in the mean responces concerning the location of the respondent and the use of technology in the course.

Table 7 presents the results of the t-test of independence between the location of the respondent and their attitude toward the difficulty of work which was required in the TELETECHNET course. No significant

Table 5. Connection to Professor

Connection to professor	N	Mean	SD	SE of Mean
Studio	37	2.1441	.518	.085
Non-Studio	185	2.0216	.451	.033
t score[a]	1.47			

[a]t-test (d.f.=220) of difference between means.
*p<.05

Table 6. Technology in the Classroom

Technology in the Classroom	N	Mean	SD	SE of Mean
Studio	38	1.4934	.388	.063
Non-Studio	182	1.5893	.421	.031
t score[a]	-1.29			

[a]t-test (d.f.=218) of difference between means.
*p<.05

Table 7. Level of Difficulty

Level of Difficulty	N	Mean	SD	SE of Mean
Studio	38	1.9386	.362	.059
Non-Studio	196	1.8963	.537	.038
t score[a]	.600			

[a]t-test (d.f.=72.72) of difference between means.
*p<.05

relationship in the mean responses between where a student attends the class, and their view of the level of difficulty in the class was established.

The sixth hypothesis examined the relationship between the location of the student (studio vs. non-studio) and their attitude toward taking another class on the TELETECHNET system. Table 8 identifies that there is a significant difference in the mean attitude between where a student is located and their willingness to take another TELETECHNET classes. Because the Levene's Test for Equality of Variance was not significant at the .05 confidence level, (p=.502) an assumption of equal variance is made. At a significance level of p=.001 one can determine that students who attend in the non-studio sites will be more willing to take another TELETECHNET class over students who attend in the studio sites. Again, it is important to note that the mean responses of the both the studio and non-studio sites agreed with their willingness to take another TELETECHNET course. Even though the groups did display a significant difference in their mean response, both of these groups indicated a willingness to take another distance education course (see Table 8).

Table 8. Willingness toward taking another TELETECHNET Class

Preference toward taking a second TELETECHNET Class	N	Mean	SD	SE of Mean
Studio	38	2.0000	.771	.125
Non-Studio	198	2.4040	.628	.045
t score[a]		-3.50*		

[a]t-test (d.f.=237) of difference between means.
*p<.05

The goal of hypothesis 7 was to determine if there was a relationship between the location of the student and their attitude toward the course. In order to measure the evaluation process, students were questioned as to how the professor graded material during class. They were asked if the grading in this course was harder, in their opinion, than other classes. Students were also asked if they thought the grading in the class was fair. Table 9 shows that there was a significant relationship established between the location of the student and the grading process of the course. Because the t-test of independence demonstrated that there was a significant difference in the Equality of Variance measurement (p=.040) one can assume that the variance between the two groups is significant (p=.019). Furthermore, an analysis of means indicates that while the on campus respondents agrees that the grading process in the course was fair, the non-studio students disagreed with this position. Table 9 also indicates that students who were located in the studio, believed that the grading process was easier (mean = 2.0921) compared to those students who were in the non-studio site (mean = 1.8903).

Table 9. Grading Process of the Course

TELETECHNET Grading process	N	Mean	SD	SE of Mean
Studio	38	2.0921	.448	.073
Non-Studio	196	1.8903	.594	.042
t score[a]	2.40*			

[a]t-test (d.f.=65.12) of difference between means.
*p<.05

Table 10. Student Motivation

Student Motivation	N	Mean	SD	SE of Mean
Studio	38	1.9000	.359	.058
Non-Studio	194	2.0392	.422	.030
t score[a]	-1.90			

[a]t-test (d.f.=230) of difference between means.
*p<.05

The final hypothesis looked at the relationship between student location and their motivation for learning. Students were asked a series of questions regarding their motivation in class. This included their motivation to perform well in class, their perception of their performance in class, if the believed that they could do better in class, the completion of course assignments on time and their level of work in class. Although previous research has indicated that due to the type of student who normally attend the non-studio sites, those students will be more motivated to succeed (Small 1986; Collins and Murphy 1987; Seitz 1988; Hayes 1990) the results of this study demonstrated no significant relationship between the location of the respondent and their level of motivation.

In order to better understand distance education, after the t-test of independence were conducted, those hypothesis found to be significant were subjected to a logistic regression. Variables found to be significant, were recoded into a dichotomus variable to reflect their agreement with the statement (originally strongly agree and agree) or their disagreement with the statement (strongly disagree and disagree).

Table 11 looks at the connection between students who are enrolled in TELETECHNET courses and demographic variables, using logistic regression. The dependent variable of student motivation was examined in this table. Only two variables were significant in the model. One was previous TELETECHNET enrollment. There was .1119 increase in a students level of connection to other students for every previous TELETECHNET that they had taken. Race of the student also had a significant relationship to students connection to other students. Students who classified themselves as white, had a 1.84 increase in their level of connection to students enrolled in their class.

Logistic regression was also used to examine student's attitude toward distance education and demographic variables. Results, illustrated in Table 12, show that only one variable, whether or not the student was traditional or non-traditional (over age 25), was significantly related to attitude toward the likelihood in having a positive attitude toward distance education. Results indicated in Table 12 show that students who are classified as non-traditional had a more positive attitude toward distance education than students who were of traditional age.

Table 11. Logistic Regression of Student's Connection to Other Students

0= Disagree 1= Agree

Variable	B	S.E.	Exp(B)
AGE	-.0173	.0583	.9828
CREDIT	.0317	.0707	1.0322
DEPVAR	.7123	1.4129	2.0387
DOWNLOAD	-.2169	.5731	.8050
FVPWORK	.0837	.6960	1.0873
GENDER	.7089	.7183	2.0319
GPA	-.4774	.6113	.6204
HANDOUTS	-.3526	1.1952	.7028
PASTTELE	.1119*	.0564	1.1184
PASTTT	-.3394	.9704	.7122
PROFSEX	-.3881	.7003	.6783
SITEATT	-.0042	.0770	.9958
SVNS	.8883	.7255	2.4309
TIMEDVE	.5958	.8737	1.8144
TOTCREDI	-.0063	.0071	.9938
TOTSITES	-.0421	.2603	.9588
TOTSTUD	.0095	.0409	1.0096
TVNT	.3580	.8890	1.4305
WVNW	-1.8432*	.9172	.1583
CONSTANT	-1.7570	3.5994	

*=p<.05

Table 12. Student Attitudes Toward Distance Education

0= Disagree 1= Agree

Variable	B	S.E.	Exp(B)
AGE	-.0164	.0362	.9837
CREDIT	-.0812	.0475	.9220
DEPVAR	.9868	.6710	2.6826
DOWNLOAD	.3327	.4196	1.3947
FVPWORK	.0661	.4107	1.0684
GENDER	-.5401	.4650	.5827
GPA	-.3846	.4102	.6807
HANDOUTS	-1.3030	.7395	.2717
PASTTELE	.0376	.0456	1.0383
PASTTT	-.1304	.5392	.8777
PROFSEX	-.7282	.4991	.4282
SITEATT	.0221	.0481	1.0223
SVNS	-.1485	.4842	.8620
TIMEDVE	.4584	.5227	1.5816
TOTCREDI	-.0040	.0051	.9996
TOTSITES	.1280	.1428	1.1365
TOTSTUD	-.0206	.0229	.9796
TVNT	1.5836*	.5823	4.8723
WVNW	-.2291	.3482	.7953
CONSTANT	.8407	2.1364	

*=p<.05

Table 13 looks at students willingness to take a TELETECHNET class. No independent variables were significant in the model.

The final locistic regression analysis is presented in Table 14. When looking at the student's attitude toward the grading process, several variables demonstrated a significant relationship. Results indicate that an increase in the number of credit hours a student has taken will have a negative relationship on their attitude of the grading process of the class. Also, students at the non-studio sites are more likely to be in disagreement with the evaluation process than students at the studio site. Furthermore, results indicate that females have a more positive attitude toward the grading process than males. Table 14 also indicates that as the number of students increases at a site, the respondents will develop a negative perception of the class grading process. Finally Table 14 demonstrates that being single and classified as non-White, will decrease a student's interpretation of the grading process.

The statistically significant findings, identified in table 14, do support some previous research on this subject.

Table 13. Respondents Willingness to Take Another TELETECHNET Class.

0= Disagree 1= Agree

Variable	B	S.E.	Exp(B)
AGE	-.0208	.0825	.9794
CREDIT	-.1026	.0864	.9025
DEPVAR	1.2138	.9358	3.3662
DOWNLOAD	1.0456	.7516	2.8450
FVPWORK	-.1638	.7190	.8486
GENDER	-.8211	.8134	.4399
GPA	-.3373	.7277	.7137
HANDOUTS	7.8031	23.5159	2448.1640
PASTTELE	.0227	.0693	1.0229
PASTTT	-.6133	.8638	.5416
PROFSEX	-1.1702	1.2881	.3103
SITEATT	-.1138	.0726	.8924
SVNS	1.4921	.8387	4.4464
TIMEDVE	.9359	.9900	2.5494
TOTCREDI	.0160	.0102	1.0162
TOTSITES	1.8057	1.1522	2.7740
TOTSTUD	-.1686	.1440	.8449
TVNT	1.8057	1.1522	6.0845
WVNW	-.0464	.5475	.9547
CONSTANT	-3.9217	5.9504	

*=p<.05

Table 14. Student Attitudes Toward the Grading Process

0= Disagree 1=Agree

Variable	B	S.E.	Exp(B)
AGE	-.0349	.0411	.9657
CREDIT	-.1601*	.0561	.8520
DEPVAR	-4.2834*	1.0283	.0138
DOWNLOAD	.5735	.4605	1.7745
FVPWORK	-.2505	.4854	.7784
GENDER	1.4522*	.5380	4.2725
GPA	-.0778	.4531	.9251
HANDOUTS	.3759	.8223	1.4563
PASTTELE	-.0645	.0506	.9375
PASTTT	-.3164	.6497	.7288
PROFSEX	-.7771	.5230	.4498
SITEATT	-.2511*	.0655	.7779
SVNS	1.1124*	.5639	3.0416
TIMEDVE	-1.0819	.5988	.3390
TOTCREDI	.0158*	.0062	1.0159
TOTSITES	-.1206	.1712	.8864
TOTSTUD	.0254	.0269	1.0258
TVNT	.9943	.6906	2.7029
WVNW	-.2502	.3301	.7786
CONSTANT	7.4792	2.6773	

*=p<.05

For example, May (1994) alluded to the fact that distance education was more beneficial to females since it could be used to gain an education while taking on the additional responsibilities of a family. The ability to gain an education while staying committed to these family roles, could be a reason as to why females had a better attitude toward the grading process than males.

Overall, it does appear that the location of the respondent (studio or non-studio) can effect their attitude toward distance education. Although all findings were not statistically significant, results which were, demonstrated an interesting insight in attitudes toward distance education.

CHAPTER V

DISCUSSION

This study tested eight different hypothesis all which examined the relationship between the location of a student (studio vs. non-studio) and their attitudes toward various aspects of the TELETECHNET system. Although not all hypothesis were statically significant, those which were have several implications.

One finding of primary importance was the measure of a course's success in relationship to a student's attitude toward the grading process. Results indicated that students on the main campus (studio) had a more favorable attitude toward the grading process than students at the non-studio sites. The results of this study demonstrated that students at the studio site had a more positive attitude toward the course comparison to those at the non-studio site.

Logistic analysis of the attitude toward the grading process indicated that students who were had completed more credit hours, married, female and were taking a partial class load had a better attitude toward the grading process. These results are consistent with those of Dille and Mezack

(1991). In their study they also found that non-married students in their first years of education were more likely to do poorly in distance education than those who were married and had over 30 completed credit hours.

This study found that the students at the distance sites had a more positive attitude toward distance education than those in the studio. This agrees with Wong (1990) who also concluded that distance students had a positive attitude toward this type of learning institution.

When attempting to gauge why a student at a non-studio site will have a better attitude toward TELETECHNET, it may be due to the fact that many of the on campus students (40.5 percent) had no previous TELETECHNET experience, in comparison to only 17.7 of the off campus respondents. Therefore, if individuals who are unhappy with the course are unwilling to take another class on TELETECHNET, then the number of "first timers" in a class could have a relevant impact on the outcome.

Another element of distance education this study sought to examine, was students system interactions with each other. The results indicated that non-studio students felt a higher level of connectedness to their classmates than the

studio students, even though the mean response of the non-studio students disagreed with the level of student connection. A possible reason for this significant relationship may be due to the types of students at the distance education site. Previous research has indicated that such students are more likely to be voluntary learners, who are more motivated to succeed than studio students. (Small 1986; Seitz 1988; Hayes 1990). An increased desire to perform well in school may result in their increased communication with other students.

The logistic regression, indicated that the level of connection between students was also based on the race of the respondent, with whites feeling a stronger connection to other classmates. A possible reason for this may be due to the fact that the majority of the respondents where White and that some of the individuals of non-White ethnicity may have feel uncomfortable associating with other classmates and vise versa. Also the logistic regression indicated a positive correlation between the number of classes a student had taken on the TELETECHNET system and the level of connection they reported between students. One could conclude from this that as a student gains increased

experience with the TELETECHNET class format, they understand the importance of communication with other students in the class.

Based on the work of Beare (1989), it was anticipated that the connection to the instructor would be weaker for studio than the off campus students, on the basis that the instructor has divided their time between the studio learners resulting in a decreased level of connection (Beare 1989). However, results of this study indicated no significant difference between location and feelings of connectedness to the instructor was observed.

Another finding of this study involved the role of technology in the distance education classroom. Because distance education does not easily and economically allow the professor and the student to communicate in a live face-to-face manner, technology plays a vital role in the transfer of knowledge from the professor to the learner. As a result, it would be expected that there was a high degree of acceptance toward the use of technology. Although previous research had indicated that the use of computer technology in the classroom demonstrated a positive relationship toward a student's attitude of distance

education (Mose and Maney 1993), results of this study indicate that there was no relationship between the use of technology and the location of the student. It was originally hypothesized that such a relationship existed, on the basis that students at the non-studio sites would not have access to the same learning resources as those at the studio site and would require technology to gain this information.

Interestingly the location of a student played no significant role in the respondent's attitude toward the level of difficulty of the class. It was originally hypothesized that a relationship would exist between these two variables, on the basis that individuals at the non-studio site would believe the class was more difficult due to their isolation both from the instructor and often other students.

One way to examine a student's attitude toward distance education is to determine their willingness to repeat the experience again. Although there are other factors which must be taken into consideration when trying to determine why an individual will or will not take another course on TELETECHNET, one could assume that taking another class

would be an indication of a positive experience. Results indicate that students at the studio site will be less likely take another TELETECHNET than those at the non-studio site. One possible reason for this difference in willingness to take another TELETECHNET course maybe due to the way the system is set up. With some degrees offered at the University, students can only take the required courses on the TELETECHNET therefore willingness to take another course maybe due to an inability to gain the required courses elsewhere. On the other hand, students at the studio site have a little more freedom in regards to taking a class through this system or on campus in a non-TELETECHNET environment.

Finally this study sought to look at the relationship between the location of the respondent and their motivation. Previous studies have indicated that students in the distance education sites will be motivated, because they are non-traditional learners who are enrolled voluntary in school (Small 1986; Collins and Murphy 1987; Seitz 1988; Hiola and Moss 1990; Hayes 1990). Although previous research indicates that the students who are at distance or non-studio sites are more motivated, results of this study

does not support this position. Findings indicate that there is no significant relationship between where a student attend class and their motivation to do well in said class. A possible reason for the lack of a statical relations may be due to the fact that the average of the studio respondent was 27.29 years. As a result, the average age of both on and off campus respondents can be considered to be a non-traditional learner. Another possible reason why these results were not statically significant is because this information is based on student responses and as a result, an error in measurement may have been introduced. Since individuals are not likely to admit that they are unmotivated in their work and are not working to their fullest potential they may have overinflated their level of motivation during the course.

CONCLUSION

With the growth of distance education in recent years, and improvements in technology has made this form of education cost effective to implement, it is necessary that systems such as Old Dominion University's TELETECHNET be studied. Implications of this research show that students

attitudes toward distance education do vary in accordance to where a student is located. For the most part significant findings demonstrated that students who attended class off campus had a more positive attitude toward the TELETECHNET system, when compared to students who were at the on campus site.

Findings of this study can be used by policy and campus administrators as a means to look at and address some of the issues of TELETECHNET. Additionally, the information presented in this study may be used to develop teaching strategies for faculty, which could improve the relationship between faculty and student and in turn create a better distance learning environment at Old Dominion University.

Although there were some findings of significance in this study, nevertheless, there is still room for improvement. One of the drawbacks of this study was the sample size. Although the respondents were representative of the population not only in size, but in the type of classes offered on TELETECHNET, the overall size could have been larger.

Additionally, due to time constraint, a portion of the sample population may have been overlooked. Surveys were

conducted during the last month of classes, possibly missing a portion of the respondents with valuable insight on this subject namely those who have dropped the course. This may have resulted in an overinflation of the positive aspects of distance education since those who have dropped may not have had such an opinion.

Finally, this study could be expanded upon. The original survey collected a large amount of information that could be manipulated into new variables which may have a significant impact on the relationship between student attitude's toward distance education and their location.

As colleges begin to discover the benefits of distance education, coupled with its decreasing cost as a means to expand their learning opportunities, issues which surround this form of education must be explored to their fullest extent. This must be done so that problems associated with distance education can be addressed. By doing this the learning environment of systems such as TELETECHNET can become more closely related to that of a traditional learning environment.

REFERENCES

Baker, Keith. 1986. "Dilemmas at a Distance." *Assessment and Evaluation in Higher Education* 11(3):219-230.

Beare, Paul L. 1989. "The Comparative Effectiveness of Videotape, Audiotape and Telelecture in Delivering Continuing Teacher Education." *The American Journal of Distance Education* 3(2):57-71.

Brunner, Cornelia. 1991. "Gender and Distance Learning." *The Annals of the American Academy* 514:131-145.

Campbell, Patricia B. and Jennifer Storo. 1996 "Reducing the Distance: Equity Issues in Distance Learning in Public Education." *Journal of Science Education and Technology* 5(4):285-295.

Collins, Valerie A. C. and Peter J. Murphy. 1987. "A New Adult Student: Learning by Interactive Satellite." *Continuing Education Review: The Journal of the National University Continuing Education Association* 51(2):29-37.

Cropley, Arthur J. and Thomas N. Kahl. 1983. "Distance Education and Distance Learning: Some Psychological Considerations." *Distance Education* 4(1):27-39.

Davenport, Elisabeth and Irene Wormell. 1997. "Telework 96: An International Collaborative Learning Package for Information Entrepreneurs." *Education for Information* 15(1):43-56.

Dille, Brian and Michael Mezack. 1991. "Identifying Predictors of High Risk Among Community College Telecourse Students." *The American Journal of Distance Education* 5(1):24-35.

Guri-Rozenblit, Sarah. 1990. "The Potential Contribution of Distance Teaching Universities to Improving the Learning/Teaching Practices in Conventional Universities." *Higher Education* 19(1):73-80.

Hanson, Dan, Nancy J. Maushak, Charles A Schlosser, Mary L. Anderson, Christine Sorensen, and Michael Simonson. July 1996. *Distance Education: Review of the Literature*. 2nd ed. Ames, Iowa: Iowa State University.

Hayes, Elizabeth. 1990. "Adult Education: Context and Challenge for Distance Educators." *The American Journal of Distance Education* 4(1):25-37.

Heinze, Thomas. 1983. "The Social and Psychological Milieu of Distance Students." *Distance Education* 4(1):53-62.

Hiola, Yahya and Dennis Moss. 1990. "Characteristics of Distance Learners at the Universitas Terbuka (Open University) Indonesia." *Distance Education* 11(1):116-124.

Holmberg, Borje. 1989. "The Concept, Basic Character and Development Potentials of Distance Education." *Distance Education* 10(1):127-135.

Howard, Dawn C. 1985. "Reading and Study Skills and the Distance Learner." *Distance Education* 6(2):169-188.

Kahl, Thomas N. and Arthur J. Cropley. 1986. "Face-to-Face versus Distance Learning: Psychological Consequences and Practical Implications." *Distance Education* 7(1):38-48.

Keegan, D. 1986. *The Foundations of Distance Education* London: Croom Helm.

Koch, James V. Sept. 28, 1998. "How Women Actually perform in Distance Education" *The Courier* 28(4):4.

Linn, Marcia C. 1996. "Cognition and Distance Learning." *Journal of the American Society for Information Science* 47(11):826-842.

Manzo, Kathleen K. 1997. "Lifestyle-Friendly Education: Non-Traditional Colleges and the Off-Campus Approach." *Black Issues in Higher Education* 13(26):42-43.

Marland, Perry, William Patching, Ian Putt, and Robyn Putt. 1990. "Distance Learners' Interactions with Text while Studying." *Distance Education* 11(1):71-91.

May, Susan. 1994. "Women's Experiences as Distance Learners: Access and Technology." *Journal of Distance Education* 9(1):81-98.

McCormick, Robert. 1985. "Students' Views on Study at the Radio and Television Universities in China: an Investigation in One Local Centre." *British Journal of Educational Technology: Journal of the Council for Educational Technology* 16(2):84-101.

Mose, Douglas and Tucker Maney. 1993. "An Experiment in Distance Learning of Geology." *Journal of Computers in Mathematics and Science Teaching* 12(1):5-18.

Naitao, Wu. 1996. "The Benefits of Distance Learning." *Beijing Review (North American ed.)* 39:11-15.

Old Dominion University. 1998. Unpublished Report, Office of Distance Learning. Norfolk, VA: Old Dominion University.

Peruniak, Geoffrey. 1983. "Interactive Perspectives in Distance Education: A Case Study." *Distance Education* 4(1):63-79.

Schlosser, Nick. 1998. "Old Dominion's Distance Learning: TELETECHNET Gathers Them in from Tangier Island to the Persian Gulf- Existential Bull Sessions?" *Virginia Dynamics* 1(3):9-13.

Seitz, Victoria. 1988. "Accommodating Adult Learners: Distance Education in Home Economics." *The Journal of Home Economics* 80(2):42-44.

Small, Michael W. 1986. "Learning Strategies of Adult Distance Education Students." *Australian Journal of Adult Education* 26(1):18-26.

Smith, Edward D. 1997. "TELETECHNET: Distance Learning at Old Dominion University." Unpublished Report. Norfolk VA: Old Dominion University.

Sounder, William E. 1993. "The Effectiveness of Traditional vs. Satellite Delivery in Three Management of Technology Master's Degree Programs." *the American Journal of Distance Education* 7(1):37-52.

Walsh, John and Bob Reese. 1995. "Distance Learning's Growing Reach." *T.H.E. Journal* 58-62.

Wheatley, Betty and Edrie Greer. 1995. "Interactive Television; A New delivery System for a Traditional Reading Course." *Journal of Technology and Teacher Education* 3(4):343-350.

Whiteman, Jane, Eileen M. Scott, and James C. McElnay. 1994. "Analysis of Pharmacists' Attitudes Toward a Distance Learning Initiative on Health Screening." *American Journal of Pharmaceutical Education* 58(3):300-306.

Wilson, Jack M. 1997. "Distance Learning for Continuous Education." *Educom Review* 32(2):12-16.

Wong, Angelina T. 1990. "Extending University Courses to Rural Communities Via Satellite television." *Journal of Educational Television* 16(1):5-12.

Zavcek, Susan M. 1991. "Effective Affective design for Distance Education." *TechTrends International* 36(1):40-43.

Appendix

Survey Instructions

My name is Michael Bisciglia. I'm a graduate student working on my thesis in Applied Sociology.

I'm asking you to participate in a study of students' attitudes toward distance learning. Your participation is appreciated, but is strictly voluntary. The survey is anonymous so do not put your name or ID number on the survey. If you choose not to participate, it will not affect your grade in any way. The survey will take about 10 minutes to complete.

If you are at the distance learning site the survey will be passed out to you. After completing the survey, put it in the envelope provided to the class. If you choose not to participate, please put your blank survey in the envelope also. At the end of the class, please have one individual return the envelope to the distribution desk to be returned to the ODU Campus.

If you are in the studio, I will pass out the survey to the class. After you have completed the survey return it to me and I'll put it in this envelope. Again, if you choose not to participate please return your blank survey also.

If you have any questions regarding this survey you may contact me at:
Bisciglia@aol.com or mbiscigl@odu.edu
(757) 588-0632

Your participation in this study is greatly appreciated but it is strictly voluntary. The information gathered does not have any identification tags and is completely anonymous.

1. How many TELETECHNET courses have you previously taken?
   _____

2. How many students normally attend this class at this site? _____

3. Does this class require you to download the syllabus, or any other information, the university homepage or another web site?
   ☐ Yes ☐ No

4. Does this class require the use of additional resources such as handouts or text?
   ☐ Yes ☐ No

5. **Please respond to the following questions about your experiences with this TELETECHNET course and indicate (by marking the appropriate box) whether you Strongly Disagree (SD), Disagree (D), Agree (A), or Strongly Agree (SA).**

	SD	D	A	SA
I feel a connection with my classmates at this site.	☐	☐	☐	☐
I feel a connection with my classmates at other sites.	☐	☐	☐	☐
I talk to students at my site about course work.	☐	☐	☐	☐
I talk to students at other sites about course work.	☐	☐	☐	☐
I have a good relationship with my professor.	☐	☐	☐	☐
My professor pays more attention to students at other sites.	☐	☐	☐	☐

	SD	D	A	SA
My professor is easy to contact.	☐	☐	☐	☐
I frequently use e-mail to contact my professor.	☐	☐	☐	☐
My professor responds quickly when I ask for help.	☐	☐	☐	☐
It is difficult to contact other students about assignments.	☐	☐	☐	☐
I frequently use e-mail to talk to other students about class.	☐	☐	☐	☐
Other students respond quickly when I ask for help.	☐	☐	☐	☐
I learned as much in this class as in a non-televised class.	☐	☐	☐	☐
I prefer TELETECHNET classes over traditional classes.	☐	☐	☐	☐
I have learned a lot in this course.	☐	☐	☐	☐
I would take another TELETECHNET class if offered.	☐	☐	☐	☐
The grading in this course was harder than most classes.	☐	☐	☐	☐
Grading in this class is fair.	☐	☐	☐	☐
There was a lot of class discussion in this course.	☐	☐	☐	☐
I always complete assignments on time.	☐	☐	☐	☐
I am very motivated to do well in this class.	☐	☐	☐	☐

	SD	D	A	SA
I am confident about my performance in this class.	☐	☐	☐	☐
I could do better in this class if I tried.	☐	☐	☐	☐
I work hard in this course.	☐	☐	☐	☐
I like participating in class discussions.	☐	☐	☐	☐
I am comfortable speaking on air.	☐	☐	☐	☐
I participate more in non-TELETECHNET classes.	☐	☐	☐	☐
I only answer questions on air if I have to.	☐	☐	☐	☐

Please tell us a little about yourself by answering the following questions.

6. Age: _____

7. Race:
   - ☐ African American
   - ☐ Asian
   - ☐ Hispanic
   - ☐ White
   - ☐ Other (specify_____)

8. Gender:
   - ☐ Male
   - ☐ Female

9. Marital status:
   - ☐ Single
   - ☐ Married
   - ☐ Divorced
   - ☐ Widowed
   - ☐ Separated
   - ☐ Not married, but living with boyfriend/girlfriend

10. How many hours do you normally work in a week?

☐ 0-9 ☐ 20-29 ☐ 40 hours

☐ 10-19 ☐ 30-39 ☐ Greater than 40

11. Are you: ☐ An undergraduate student

☐ A graduate student

12. How many credit hours are you currently taking? _____

13. At the end of this semester how many total credit hours will you have completed toward your current degree program? _____

14. What is your current GPA? _____

THANK YOU!

VITA

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