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An examination of differences between online learning for Hispanic and Caucasian community college students

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ABSTRACT

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M.S., University of Southern California, 1997
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Dissertation Submitted in Partial Fulfillment
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Hispanic students are enrolling in community colleges at an increasing rate, and they do not succeed in community college online courses at a rate comparable to Caucasian students. Increasing Hispanic success in online education could potentially enhance their socioeconomic status. Drawing from the theoretical frameworks of andragogy and constructivism, the purpose of this case study was to examine differences between Hispanic and Caucasian students in online learning and identify factors that might contribute to the reported differences in success across Hispanic and Caucasian online students. Research questions contrasted the impact of course design, Internet access, learning preferences, and motivation on successful online learning across Hispanic and Caucasian students. A proportional stratified sample of 324 community college students completed a researcher-developed survey, and 20 participated in semistructured interviews. Data analyses sequentially addressed each research question by integrating tabular and frequency analyses of survey data with themes that emerged from interviews. Regarding course design, Hispanic students, more than Caucasians, preferred group work and visual design elements; whereas, both groups felt that a logical course design was a key factor in accessing information and that regular instructor contact was important. Internet-use comfort levels were similar and positively affected performance for both groups. Reported motivation to enroll in online courses was also similar across groups and included scheduling, convenience, and pace of learning. This study can contribute to social change by clarifying an understanding of specific online learning factors that are critical for academic success among Hispanic students, which can in turn provide a foundation for improved socioeconomic success and equity.

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DEDICATION

I dedicate this dissertation to my wife and best friend, Beverly.

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

In 2004, the United States Census Bureau estimated the Hispanic population in the United States to be 40 million people (Bernstein, 2005). Laden (2004) estimated that the number of Hispanics in the United States will reach 61 million by the year 2025. As of August 31, 2007, the United States Census Bureau estimated the Hispanic population of California to be approximately 13 million, and 43 million nationwide (*State and county quick facts*, 2007). Laden suggested that Latinos were not only the least educated population, but simply by their numbers were creating a significant impact in the educational system, which included community colleges (Laden, 2004). With a growing Latino population, it stands to reason that more Hispanic students will enroll in college. According to Saenz (2002), a significant number of those Latino students who were enrolling were choosing to enroll in community colleges. Saenz's observation was supported by the California Community College Chancellor's Office, which reported that enrollment from 2005-2006 to 2006-2007 has increased 4% from 726,638 students to 754,697 students (*Student Demographics By Academic Year*, 2007) Saenz contended that some of the reasons for selecting community colleges included financial affordability, transfer options to a 4-year institution, adult and remedial education, vocational training, and the opportunity to attend part-time (Saenz, 2002).

While the number of Hispanic students attending community colleges continued to increase, the graduation rate among Latinos did not reflect the rising enrollment numbers (Fry, 2002). Fry contended that Hispanic students were likely to attend college

part-time and as a consequence, prolong the time it takes to complete a college education. The longer it took a student to complete his or her degree, the greater the likelihood that he or she would not succeed in graduating (Fry, 2002). Fry even suggested that attending school part-time could be an obstacle for Hispanics as he stated in reference to high Hispanic enrollments, "The U.S. Department of Education considers part-time college enrollment to be a 'risk factor' for dropping out of postsecondary education before completion of a degree" (p. 5).

Why did it appear that Hispanic students had difficulty in completing college degrees? Some researchers suggested that a possible contributing factor may have been cultural pressures experienced by Hispanic students, such as having to work in order to support a family (Angiello, 2002; Fry, 2002; Saenz, 2002). Fry argued that young Hispanic males, especially among the low-skilled immigrant families, experienced pressure "to contribute to the family welfare as soon as they were old enough to work" (Fry, 2002, p. 5). Similarly, female Hispanics, according to Saenz, could experience social pressures as a result of cultural gender expectations (Saenz, 2002). In both cases, leaving the house to attend college courses, or traveling long distances to a campus, may not have been a viable option and could be a contributing factor in failing to complete a college degree.

Distance education programs that utilized Internet technologies could provide an innovative and alternative method of pursuing an education for Hispanic students who lived in remote areas or who had difficulty attending traditional community college

campus programs. In the state of California, distance education course offerings increased by 3,342 sessions between fiscal years 1995-1996 and 1999-2000, and Internet courses alone escalated 238% over a 2-year period from 1998-2000 (C. C. C. C. s. Office, 2001). More recent data indicates that distance education in California continues to grow at significant rates. During the period from 1999-2000 through 2005-2006, distance education course sessions increased by 361% (Nather, 2007). A factor that may be important to note is that the California Community College Chancellor's Office suggested that the current enrollment of distance education is on the leading edge of "a period of rapid expansion of DE [distance education] student headcount" (p. 11).

Researchers such as Angiello and Holahan contended that the presence of Internet technologies in Hispanic households was increasing and that the digital divide for Hispanics was decreasing (Angiello, 2002; Holahan, 2007). MacNeil (2001) and Yin (2001) also contended that the presence of Internet technology in Hispanic households was increasing. The increased presence of Internet technology in Hispanic households, as suggested by Angiello, Holahan, MacNeil, and Yin, is important to note since the Hispanic population in California continues to expand, especially in Los Angeles County. According to the United States Census Bureau, 46.8% of the Hispanics in California live in Los Angeles County (*State and county quick facts*, 2007).

The Hispanic population continues to grow (*State and county quick facts*, 2007) and Hispanic students appear more likely than other ethnic groups to enroll in community colleges (Kurlaender, 2006). The Hispanic enrollment in California community colleges,

according to the California Community College Chancellor's Office, had increased 9% statewide over a 4-year period from 2003 to 2007 (*Student Demographics By Academic Year*, 2007). Furthermore, the Hispanic enrollment at Antelope Valley College, one of the California community colleges, had increased 20% over the same period (*Student Demographics By Academic Year*, 2007). With increasing Hispanic enrollments in community colleges (Kurlaender, 2006), a narrowing of the digital divide (Angiello, 2002; Holahan, 2007) and an increase in online course offerings (Nather, 2007), it would stand to reason that more Hispanic students might also be enrolling in online courses. If more Hispanics were enrolling in online college courses, then the ability of those students to succeed online might prove to be an important factor in completing a college degree. However, it appears that Hispanic online students are not succeeding in community college online classes, at least not at a rate comparable to Caucasian online students (Nather, 2007).

Background

In 2005, Antelope Valley College (AVC), a small California community college located in Northern Los Angeles County, reported an enrollment of 25% Hispanic and 45% Caucasian for the 2003-2004 academic year (*Student Equity Plan*, 2005). In courses that utilized Internet technologies and were offered by AVC during the Fall 2003 semester, Hispanic online retention reached 78% with a success rate of 62%, and in comparison, Caucasian online retention for the same timeframe was reported as 82% with a success rate of 66% (C. C. C. C. Office, 2005). Online retention is defined as

maintaining enrollment throughout the completion of a course whether or not the student receives a passing grade. Online success is defined as having completed the course with a grade of A, B, C, or Credit. One year later, in the Fall 2004 semester, the Hispanic online retention rate rose to 83% and the Caucasian online retention rate increased to 84%. However, in a notable contrast, while the Caucasian online success rate increased from 66% to 71%, the Hispanic online success rate decreased from 62% to 54%. The retention and success gaps between Hispanic and Caucasian students that exist at Antelope Valley College are not atypical in California. According to the California Community Colleges Chancellor's Office, the gap in retention between Hispanic and Caucasian students averaged 3.5% over a 3-year period from Fall semester 2003 to Fall semester 2006, with Caucasians averaging a retention rate of 85.1% and Hispanics averaging a retention rate of 81.5%. In that same period, Caucasian success rates averaged 70.8%, while Hispanic success rates averaged 61.8% (*State and county quick facts*, 2007). It is important to note that the results from California may not necessarily be generalized to the nation as an argument may be made that California's Hispanic population, which is 35.2%, is not representative of the Hispanic population in the United States, which is 14.4% (*State and county quick facts*, 2007).

The data suggested that Hispanics appeared to be staying in online courses at a consistent rate, yet had a lower rate of success than their Caucasian counterpart. This pattern supported Fry's contention that Hispanics were enrolling at an increasing rate, but not graduating at a similar pace (Fry, 2002). Lower success rates among Hispanics in

online classes are not atypical at Antelope Valley College when compared to other community colleges. According to Angiello, even though Hispanics appeared not to enroll as often as Caucasian students, those who did enroll were not as successful (Angiello, 2002). Angiello argued that "Hispanics don't enroll in [sic] at the same rate nor do as well as Caucasians in online classes" (p. 12). The online enrollment figures for Antelope Valley College, as well as other community colleges in California (Nather, 2007), supported Angiello's contention that Hispanic students did not do as well as Caucasian students.

In his article *Colleges and Lawmakers Push Students to Graduate in 4 Years*, Selingo (2001) argued that colleges and universities wanted students to complete their degrees in 4 years. In contrast, some educators argued that college costs forced students to seek employment while they attended classes and that colleges were not offering enough classes to satisfy the needs of a student's schedule so that graduation in 4 years was an achievable goal (Selingo, 2001). Maintaining employment while attending classes may be a contributing factor in influencing a student's decision to attend college part-time. As such, providing students with an alternative for accessing education through online learning might help the student, the educational institution, and the business community. Students would have the opportunity to attend classes outside of their work schedule and not have to travel to a campus, educational institutions would increase their effectiveness, and businesses in the community would employ more educated employees without having to release workers so they might attend class. Perhaps the flexible

schedule opportunities provided by online courses would also allow students to complete their degree within the intended university timelines.

Educational institutions were embracing distance education at an increasing rate so that they might reach isolated areas and provide students with expanded opportunities for educational growth (Collins, 2001). Furthermore, online degree programs, certificates, and student enrollment increased almost 50% in a 3-year period from 1995 to 1998 (Flowers, 2001), and online course offerings increased 295% from 2002-2006 (Nather, 2007). Furthermore, student headcount during the period from 2002-2006 increased by 155% (Nather, 2007). With the increase in online learning opportunities, and a continuing increase in the Hispanic population, it is important that educational institutions develop an understanding of what contributes to the success of Hispanic students in an online learning environment.

Problem Statement

With a growing population in which Hispanic students are enrolling in community colleges at an increasing rate (Fry, 2002; Nather, 2007), and with the increase in technology available in Hispanic households (Angiello, 2002; Holahan, 2007; MacNeil, 2001; Nather, 2007; Yin, 2001), it is important to understand why Hispanic students do not succeed in online courses at rates comparable to the Caucasian population (*Program Retention/Success Rates For Enrollments By Distance Education Status*, 2007). Perhaps there are cultural pressures or barriers in online learning environments that impede Hispanic efforts to succeed (Fry, 2004; I. Sanchez, 2000). It may be that an

examination of the differences in Hispanic and Caucasian online student learning might reveal opportunities to increase Hispanic success in online distance education, which might then create positive social change through improved lifestyles for Hispanics.

Nature of the Study

This research project was a comparative case study and incorporated a survey research design approach. By using a survey research design, data was collected through an online survey developed by the researcher that explored the differences between Hispanic and Caucasian students in online learning. Along with an online survey, semi-structured interviews were used to gather new data and further expand or explore concepts which might have surfaced from the online survey. The collected data were used to examine online learning differences between Hispanic and Caucasian students in order to identify factors that could indicate why Hispanic students did not succeed in online courses at rates comparable to Caucasians. Since different cultures night respond differently to data collection methods, an online survey, a printed version of the online survey, and individual interviews were used to collect data.

An examination of differences between Hispanic and Caucasian online students would entail an exploration involving one or more individuals who have participated in online learning. Such an exploration of differences was an attempt to develop an understanding of a situation that was not well understood. As such, a case study approach to examining student differences appeared to be appropriate. A case study approach to research is one “in which the researcher explored in depth a program, an event, an

activity, a process, or one or more individuals" (Creswell, 2003). Also, according to Leedy and Ormrod, a case study is "suitable for learning more about a little known or poorly understood situation" (Leedy, 2001).

Data to support the research questions were collected through a survey and semi-structured interviews. The survey was developed by the researcher and gathered data related to the core adult learning principles proposed by Knowles, and the concept of a spiral curriculum proposed by Bruner in his theory of constructivism.

Purpose of the Study

The purpose of this study was to examine the differences between Hispanic and Caucasian students about online learning in order to identify potential factors that might indicate why Hispanic students did not succeed in online courses at rates comparable to Caucasian students. The study included a survey of Hispanic and Caucasian students who have participated in at least one online course at Antelope Valley College in California.

Research Questions

Six questions that guided this study, which investigated the differences between Hispanic and Caucasian online students, were the following:

1. How do online course features in which Hispanic students succeed differ from online course features in which Caucasian students succeed?
2. How do online course features in which Hispanic students do not succeed differ from online course features in which Caucasian students do not succeed?

3. What are the differences in the way in which Hispanic and Caucasian students utilize the Internet for learning?
4. How do the learning preferences of Hispanic and Caucasian students differ?
5. How do the motivations of Hispanic students who succeed in online courses differ from the motivations of Caucasian students who succeed in online courses?
6. How do the motivations of Hispanic students who do not succeed in online courses differ from the motivations of Caucasian students who do not succeed in online courses?

Data gathering in support of questions 1 and 2 sought to include a) how comfortable the student felt in navigating an online course, and b) what type of features were included in the course design, such as text, animation, discussions, video, synchronous and asynchronous communication.

Data collected in support of question 3 sought to include how students utilized Internet technologies in a constructivist approach to intellectual development, and if the concept of a spiral curriculum influenced the ability to succeed in online courses. Question 3 guided an examination of the student's comfort level with technology or his or her readiness to engage in online learning.

Research question 4 sought to gather data related to the learning preferences of Hispanic and Caucasian students. As "a transactional model that speaks to those characteristics of the learning situation" (Knowles, 1973/1998, p. 72), andragogy is comprised of six adult learning concepts: a) need to know, b) self-concept, c) prior

experience, d) readiness for learning, e) orientation to learning, and f) motivation to learn (Knowles, 1973/1998). A researcher-developed written questionnaire explored the principles of andragogy as they related to Hispanic and Caucasian community college online students.

Finally, research questions 5 and 6 sought to collect data that included a) the reasons/motivations for enrolling in online courses, b) how motivated is a student for learning new knowledge, and c) how far along in the degree process is a student. Data for this question was gathered through a researcher-developed written questionnaire and semi-structured in-depth interviews.

Conceptual Framework

The foundation for this study was established on a conceptual framework which included Knowles's theory of andragogy and Bruner's theory of constructivism. Knowles's theory of andragogy is comprised of six main assumptions linked to an adult learner: a) motivation, b) readiness to learn, c) self-concept, d) need to know, e) experience, and f) point of reference toward learning (Knowles, 1973/1998). Knowles contended that individuals were motivated through a strong intrinsic desire to continually improve job satisfaction and lifestyles (Knowles, 1973/1998). Similarly, Knowles suggested that an individual's readiness to learn was determined in part by a desire to manage life's challenges (Knowles, 1973/1998). Correspondingly, motivation and a readiness to learn appeared to be important factors in Hispanic students' decision to attend college (Santos, 2004). According to Santos, Hispanic students recognized that

education was a key element in improving employment opportunities and, consequently, an improved lifestyle. Such a contention by Santos also corresponded to Knowles's theory of andragogy which included an element of self-conception that suggested a desire for individuals to be independent and in charge of their lives (Knowles, 1973/1998). According to Knowles, "adults have a self-concept of being responsible for their own decisions, for their own lives" (p. 65). A Hispanic's level of self-concept, specifically as it relates to cultural validation, might also influence an individual's ability to succeed in college (Saenz, 2002).

Hispanic students favor enrollment in community colleges based partially on the availability of vocational training through programs offered by the college (Saenz, 2002). Such an observation suggested that Hispanic students were demonstrating an element of andragogy referred to as a need to know. Knowles contended that an adult learner's need to know related to the why, what, and how of education (Knowles, 1973/1998). In other words, adult learners needed to know why learning was necessary, what it was that was going to be learned, and how the learning was going to occur. Saenz suggested that Hispanic students appeared to understand why enrollment in college was important. In this case, *why* could be to obtain vocational training and potentially improve job opportunities. The *what* element might relate to the specifics of a particular trade the student is seeking to learn, and the *how* question might be answered through the act of enrolling in the college program and the expectation of attending class. However, enrolling in a college program may indicate that a student has a need to know, but may

not necessarily indicate that a student is ready to learn. Bruner suggested that a student's readiness to learn involves, in part, an individual's ability to acquire, transfer, and evaluate new knowledge (Bruner, 1960/1977). Once in the classroom, the specific methods of learning may still need to be recognized, especially perhaps, in an online classroom that might use nontraditional methods of instruction such as asynchronous communication.

Attending a community college in order to obtain specific vocational training could suggest that a student was attempting to learn new information that may be related to real-life context. Selecting a college vocational program based on a student's real-world environment, such as the family business, could be a demonstration of orienting toward education based on experience. Such an action is the basis of orientation to learning, which is one of the six assumptions in Knowles's theory of andragogy. Knowles suggested that an adult's orientation to learning involved the ability to relate the new knowledge to a real-life situation (Knowles, 1973/1998). For example, a student in an automotive repair course might be more oriented to learning if he or she were currently employed in an automotive repair shop. Such a situation might provide the student with a connection between repairs that occur in the shop and projects developed in the classroom. The orientation to learning would potentially be stronger more so than if the student were employed in an automotive repair shop and enrolled in an agriculture course.

The concept of a readiness to learn is not unique to Knowles's theory of andragogy. Adult learning theorists suggested that adults constructed learning based on individual experiences and attitudes (Bruner, 1960/1977; Knowles, 1973/1998; Semple, 2000; Skinner, 1968). Such a constructivist approach was the basis to Bruner's arguments that anyone might be taught anything at anytime (Bruner, 1960/1977). Bruner argued that an individual's readiness for learning was built on three concepts: a) intellectual development, in which an individual developed a perception of the surrounding world as he or she grew; b) the "act of learning" (p. 33), where an individual acquired, transformed, and evaluated new knowledge; and c) the concept of a "spiral curriculum" (p. 33) in which knowledge learned in earlier years of education was revisited and integrated into new learning later in the process of education (Bruner, 1960/1977).

From a cultural perspective alone, Hispanic and Caucasian students might naturally develop different life experiences and perceptions that may be carried into the classroom. It may be that a student's cultural upbringing, as he or she proceeded through the adult educational pipeline, affected the acquisition, transformation, and evaluation of new knowledge based on individual experiences. Horn and Ethington suggested that Hispanic and Caucasian students viewed college differently, along with their individual gains, based on their educational development (Horn, 2002). In this study, adult learning and constructivist theories were combined with contemporary theories related to online learning environments in an analysis of the differences between Hispanic and Caucasian students in an online learning environment.

Interactive distance education provided a positive experience for students learning at a distance (Carter, 2001). As such, an examination of differences between online learning for Hispanic and Caucasian community college students might reveal different learning preferences and may also provide an understanding of why Hispanic students do not succeed at a rate similar to Caucasian online students.

Definition of Terms

Caucasian: An individual who self-reported her or his heritage as White or White non-Hispanic.

Census date: A specific date in each semester when Antelope Valley College reported current enrollment data to the California Community College Chancellor's Office. Census is traditionally conducted on the first day of the third week during each semester.

Course retention: The ratio of credit courses completed versus the number of credit courses in which a student was enrolled on the census date for a particular semester.

Course success: The completion of a course in which a student receives a grade of A, B, C, or Credit.

Distance learning: The process of acquiring new knowledge through technologies that do not require the teacher and the student to be in the same geographical area at the same time. In this study, distance learning refers mainly to the use of Internet

technologies for the delivery of educational material. The terms distance learning and distance education may be used interchangeably.

Hispanic/Latino: The researcher recognizes that a debate surrounds the use of the term Hispanic or Latino to represent a diverse body of individuals that may or may not have descended from a Spanish speaking heritage (Fox, 1996). For the purposes of this study, the term Hispanic, which may be interchanged with the term Latino, refers to an individual who self-reported as a descendent of a Spanish-speaking heritage.

Learning preferences: Method of instruction or design elements of an online course that a student believes is the most effective technique for learning.

Online classroom: A virtual location accessed via the Internet where teachers and students may meet to exchange ideas.

Online course/class: A pedagogically designed educational itinerary that is delivered via Internet technologies. Online course and online class may be used interchangeably.

Online student: An individual who enrolls in an online course.

Assumptions

1. The Hispanic student population at California community colleges continued to increase.
2. All self-reported survey responses gathered in this study accurately represented the attitudes and characteristics of the respondents.

3. Student enrollment, student success, and student retention data reported by Antelope Valley College to the California Community College Chancellor's Office was complete and accurate.
4. The trend in success rates between Hispanic and Caucasian students continued after 2006.

Limitations/Scope

1. Focusing on the community college student, this study may not necessarily be generalized to students at other levels of higher education.
2. Focusing on the community college student, this study may not necessarily be generalized to other higher educational institutions since community college students may use the 2-year degree as a terminal degree.

Delimitations

The following were delimitations of this study:

1. This study focused on a single California community college with a high enrollment of Hispanics; therefore, the results may not necessarily be generalized to all community colleges.
2. Students in this study had taken online courses at Antelope Valley College; therefore, the results may not necessarily be generalized to other higher education institutions.

Significance of the Study

The Hispanic population in the United States is continuing to increase and will potentially reach 61 million by the year 2025 (Laden, 2004). Consequently, the increase in the Hispanic population will likely increase student enrollment at community colleges. While colleges and universities were pressing students to complete their degrees in 4 years (Collins, 2001), many Hispanic students elected to enroll in 2-year or community colleges (Fry, 2002). Even with the increase in enrollment, Fry suggested that many Hispanics do not complete their college degrees. The failure of Hispanics to complete a degree program could have negative effects on employment opportunities and improved lifestyles. Sanchez contended that Latinos who had a college degree did better in the economic world than those who did not (L. Sanchez, 2000). Sanchez stated, "Latinos with college degrees were faring well in the current economy, particularly women. But only one in ten Latinos had a college degree, compared to one in four white Americans" (p. 12).

In the business environment, Hulm suggested that working-age adults lacked the necessary skills for accessing training through Internet technologies (Hulm, 2004). Hulm contended that "90% of all working-age adults do not have the minimum-level IT skills that employers require of their staff" (para. 1). However, employees may need access to online training in order to satisfy continuing education requirements, obtain job related certifications, or even receive sensitivity training. For instance, the Lexington Insurance Company reduced claim-related costs by delivering sexual harassment training to

employees via the Internet, and using the Internet as an avenue for employees to submit practice-related complaints (Bradford, 2002). Utilizing the Internet for education also has the potential to allow employers to provide training and at the same time not lose potential productivity that may result from an employee leaving a job to attend a class (Flowers, 2001). Such training strategies would require the ability to succeed in an online learning environment.

Examining differences between Hispanic and Caucasian students toward online learning could identify factors that might influence whether Hispanic students were able to succeed or not succeed in an online educational environment, as well as potentially improving community college revenues and effectiveness. Increasing the success of Hispanics in online learning has the potential for positive social change that may benefit universities, businesses, and the community, while increasing the educational level of the Hispanic population. Consequently, Hispanics may experience increased employment opportunities and improved lifestyles.

Chapter 1 Summary

Chapter 1 contained an introduction to the notion that even though the Hispanic population continues to grow in the United States, and more Hispanic students were enrolling in college, the success of Hispanic students in college is not keeping pace with the enrollment and population growth. An argument was presented that emphasized the importance of understanding how Hispanic and Caucasian college students differed about online learning. An argument was also made that it is important to understand why

Hispanic students do not succeed in online courses at rates comparable to the Caucasian population.

The purpose of this study was to examine the differences between Hispanic and Caucasian students about online learning in order to identify factors that might indicate why a Hispanic student does not succeed in online courses at rates comparable to Caucasian students. Six research questions were identified that guided the study, and a conceptual framework was identified that was based on Knowles's theory of andragogy and Bruner's theory of constructivism. Assumptions and limitations of the study were listed. Finally, the significance of the study and how the study may affect positive social change was outlined.

Chapter 2 includes a literature review that explored Hispanic and Caucasian online course success, Hispanic and Caucasian student access to technology, as well as the motivations of Hispanic and Caucasian students in a college learning environment, along with research methodology and theory. Chapter 3 outlines and discusses the role of the researcher, the research method, sampling, and data collection and analysis. Chapter 4 presents the results of the study. Chapter 5 presents an interpretation of the findings, recommended actions, recommendations for further study, a reflection on the experiences of the researcher, and the contributions of this research to positive social change.

CHAPTER 2: LITERATURE REVIEW

Literature Review

The following literature review is comprised of four sections and explored Hispanic and Caucasian student success in online courses, the different ways in which Hispanic and Caucasian students utilized technology, the different motivations of Hispanic and Caucasian students who attended college and succeeded or who attended college and did not succeed, and research methods used in online studies. In an examination of differences between online learning for Hispanic and Caucasian community college students, areas that were investigated and assisted in developing an understanding of Hispanic and Caucasian student learning preferences, motivation, and success in an online learning environment included, but were not limited to a) a review of studies that examined the success of Hispanic and Caucasian students in online courses, along with studies that examined the lack of Hispanic and Caucasian student success in online courses, b) the differences in which Hispanic and Caucasian students utilize technology and the Internet, and c) the motivations and learning preferences of Hispanic and Caucasian students who succeed, along with the motivations and learning preferences of Hispanic and Caucasian students who do not succeed in college.

The literature gathered for review was obtained from three main sources: a) online databases available through Walden University, b) electronic journals, and c) printed journals available through subscription and college libraries. Online databases used in the search for literature included, but were not limited to a) Academic Search Premier, b)

Business Source Premiere, c) Communication & Mass Media Complete, d) Computers and Applied Science Complete, e) ERIC, f) PsycARTICLES, and g) PsycINFO.

Electronic journals used in the literature review included, but were not limited to a) Journal of Distance Education, b) Journal of Educational Technology & Society, c) Journal of IT Education, d) Journal of Technology Education, e) Journal of Hispanic Higher Education, f) The American Journal of Distance Education, and g) Educational Researcher. Printed journals used in the literature search included, but were not limited to a) New Directions for Adult and Continuing Education, b) New Directions for Community Colleges, c) The American Journal of Distance Education, d) Educational Researcher, and e) American Educational Research Journal. College libraries that were used in the literature search included California State University, Northridge, and Antelope Valley College.

Hispanic and Caucasian Success in Online Courses

A review of studies that examined the success, or lack of success, of Hispanic and Caucasian students in online courses revealed that prior academics, experience with technology, and socialization were three factors that may affect the potential success of Hispanic and Caucasian online students.

Prior Academics

In a constructivist approach to education, Bruner argued that prior academics, in the form of a spiral curriculum, plays a part in developing new learning (Bruner, 1960/1977). According to Bruner, a spiral curriculum exists through the process of

individuals revisiting prior education as he or she proceeds to integrate the new information and develop new learning (Bruner, 1960/1977).

A review of literature related to online learning revealed a suggestion by researchers that prior academic experience may increase the potential of a student to succeed in an online educational environment (Diaz, 2002; Dupin-Bryant, 2004; Gaide, 2004; Morris, 2005). The suggestion appeared to support Bruner's notion of spiral curriculum which suggested that adult learners revisited knowledge learned in earlier years and integrated that knowledge with new information to create new learning (Bruner, 1960/1977). Dupin-Bryant supported Bruner's contention when she argued that prior academic experience better prepared students to learn through online technologies, which consequently led to higher persistence rates (Dupin-Bryant, 2004). Similarly, Diaz contended that students with a high grade point average prior to enrolling in an online course were also more likely to succeed (Diaz, 2002).

Morris, Wu, and Finnegan (2005) supported Diaz's contention and concluded that high grade point averages were an indicator of success in online abilities. Specifically, Morris et al. contended that high grade point averages and the mathematic score of the Scholastic Aptitude Test were indicators of success in post secondary online courses (Morris, 2005). The observations of Morris et al. were noteworthy in relation to the contention of Hagedorn and Cepeda (2004). Hagedorn and Cepeda contended that Hispanics were less likely to take math and science classes in high school or college (Hagedorn, 2004). Bruner also contended that prior education, specifically with

mathematics and science, “has the effect of making later learning easier” (Bruner, 1960/1977, p. 47). If the observation of Morris et al. that a student’s Scholastic Aptitude Test mathematic score was a success indicator in post secondary online courses, and Hagedorn and Cepeda’s contention that Hispanics were less likely to take math and science courses in high school is accurate, then based on Bruner’s spiral curriculum, Hispanics might be setting themselves up for failure in college online classes by not taking more math and science in high school. Gaide (2004) suggested that a lack of reading and writing preparedness, which may also be construed as a lack of prior academic experience, could negatively affect performance (Gaide, 2004). According to Gaide, the lack of reading skills may contribute to a level of frustration that might cause students to fall behind in the classroom and eventually drop an online course (Gaide, 2004).

Jackman and Swan (2000) supported the contention of Morris et al. (2005) with their suggestion that remote students in a distance education program tended to have higher grade point averages than students in a campus classroom. In other words, according to Jackman and Swan, students with a higher grade point average had a greater potential for succeeding in online courses (Jackman, 2000). However, in contrast to the arguments of Morris et al. and Jackman and Swan, DeTure rejected grade point average as a success indicator in online classes (DeTure, 2004). In a study of predicting student success in online education, DeTure rejected a hypothesis “that cognitive style scores can

predict student success (in terms of GPA) in Web-based distance education courses" (p. 29).

In contrast to the notion that prior academics related to increased potential for success in online courses, Smith (1999) suggested that traditional courses had minimal effect in preparing students for learning in an online environment. Smith argued that students encountered new technologies and new learning paradigms in the online environment that may not have been present in a traditional classroom setting (Smith, 1999).

Technology Experience

The literature review also revealed that along with prior academics, experience, especially with the use of technology, was a factor that may have affected the potential of a student to succeed in an online educational environment. Knowles argued that individual experience had two elements that may impact adult learning. According to Knowles, experience acted as a resource for learners to draw upon and integrate new knowledge, much like Bruner's constructivist approach (Knowles, 1973/1998). However, Knowles also suggested that individual experience might play a role in a learner's self-identity, and if not valued appropriately, may have had negative consequences towards the learner's self-concept (Knowles, 1973/1998). A negative learner self-concept may be significant in an online educational environment based on Knowles's contention that adult learners "need to be seen by others and treated by others as being capable of self-direction" (p. 65). The assumption would be that online learning required an element of

self-direction in individuals. Such an argument would not be unreasonable in an online course where students may be physically isolated from the teacher and other students.

By nature of the online environment, the use of Internet technology is arguably necessary for any student expecting to participate and succeed in an online course. Gaide (2004) argued that not having the necessary computer skills was a factor that may led students to drop out of an online course. Gaide suggested that students should delay entry into the online educational environment until the necessary computer skills have been mastered (Gaide, 2004). In comparison, Knowles suggested that an adult learner's orientation to learning may be what motivates individuals to enroll in the first place (Knowles, 1973/1998).

Gaide's suggestion to first acquire technology skills before entering the online educational environment may appear logical; however, the suggestion also implied that classes should first be taken on campus. Attending classes on a campus is contrary to the convenience of online access to education, which, according to Roblyer, is a strong motivating factor for students enrolling in college (Roblyer, 1999). Perhaps it is the case that by enrolling in college, adult learners are seeking to improve job satisfaction as suggested by Santos (2004) and Hacker and Steiner (2002), and may not have the option or opportunity of attending classes on campus in preparation of other classes. According to Knowles, "adults were motivated to learn to the extent that they perceive that learning will help them perform tasks or deal with problems that they confront in their life situations" (Knowles, 1973/1978, p. 67). In this case, perhaps adults were enrolling in

online courses that appear to have a solution to a life situation but overlook the underlying technology requirements necessary to succeed in the course. This suggested, in light of Gaide's contentions, that students without technology skills may be setting themselves up for failure simply by enrolling in online courses.

McGee (2002) argued that possessing technology skills does not necessarily relate to success in online courses. McGee suggested that course design has more to do with learning than having technology skills (McGee, 2002). DeTure (2004) supported McGee's contention by suggesting that students with higher technology self-efficacy did not necessarily receive higher grades than students with a lower level of technology self-efficacy (DeTure, 2004). In contrast, Dupin-Bryant (2004) suggested that having technology experience did make a difference, however, Dupin-Bryant argued that the type of technology experience was more important than the number of years of experience (Dupin-Bryant, 2004).

Thompson and Lynch (2003) suggested that low Internet efficacy affected the confidence and motivations of students who take an online course and may lead some to resist or avoid taking online courses at all. The suggestion by Thompson and Lynch might be noteworthy in relation to Knowles's self-concept assumption that adult learners were concerned with a desire to be independent and in charge of their lives (Knowles, 1973/1998).

Low Internet efficacy, according to Thompson and Lynch, involved more than just using a computer to access the Internet; it also involved the behavior necessary to

navigate and utilize the data available over the Internet (Thompson, 2003). Thompson and Lynch contended that one possible reason for the development of low Internet efficacy might have been the poor quality of the equipment used to access the Internet (Thompson, 2003). The results of a study conducted by Thompson and Lynch revealed a negative correlation between the quality of equipment used to engage in online learning and the level of resistance to actually engage in an online course (Thompson, 2003). In other words, the poorer the equipment, the higher the level of resistance a student may have to taking an online class. Thompson and Lynch's observations could be a major factor for low-income families who may not be able to afford the necessary quality equipment. Perhaps it is the case that the poor quality equipment could lead to a higher technology-related anxiety which then may increase the level of resistance to accessing education online.

Hughes and Daykin (2002) contended that students initially experienced technology-related anxiety at the start of an online educational experience, but were quick to overcome any related challenges. However, according to Hughes and Daykin, the lack of technology experience may not have been as big a contributor to the anxiety as unclear goals and objectives presented in the course (M. Hughes, Daykin, N., 2002). Hughes and Daykin suggested that "scaffolding" (p. 223), which comprised the support framework of the course, would help to minimize initial anxiety if it was designed properly.

Lee and Witta (2001) suggested that having a high level of technology efficacy may even be a potential hindrance. Lee and Witta argued that high technology efficacy might be a negative indicator of success in online performance (Lee, 2001). According to Lee and Witta, "students who were not efficacious with online technologies perform[ed] better than those who were efficacious" (p. 231). What this suggested was that students who overestimate their technology self-efficacy may exert less effort, and consequently, might perform more poorly than students who needed to exert more effort in the use of online technologies. A note should be made that Lee and Witta's observation was based on a very small sample size and, as the authors stated, may not be generalized to the student population. Nevertheless, Lee and Witta's observation still appeared to contradict the concern of Gaide who argued that a lack of technology skills was a potential obstacle to success in online education (Gaide, 2004).

In contrast to Lee and Witta's contention of a high technology efficacy being a potential negative performance indicator, DeTure (2004) suggested that specific self-efficacy measurements, such as Internet self-efficacy, may be more of a performance indicator than an examination of general self-efficacy. The important element, according to DeTure, was that specific questions should be asked to gather data about specific communication technologies used in an online environment (DeTure, 2004).

Socialization

Another factor that may have affected the motivation and success of students in the online educational environment, and was revealed in the literature review, is

socialization. A literature review of success in online learning for Hispanic and Caucasian students revealed that economics, social mobility, and job satisfaction were important motivating factors for students to attend college (Hacker, 2002; Santos, 2004).

Student socioeconomics may be argued as encompassing an adult's desire to improve socially and manage life-related challenges. Knowles defined student readiness to learn as a desire for individuals to manage life's challenges, and argued that motivation and self-concept were two elements that drove individuals to continually improve socially and economically (Knowles, 1973/1998). The literature review also revealed that social interaction, or a lack of social interaction, might be an important factor that could affect the potential of students to succeed in online courses.

Bruner contended that intellectual development was affected by environmental pressures (Bruner, 1960/1977), which might have included the social interactions that could occur in a college classroom environment, whether on campus or online. Although Bruner's intellectual development discussion involved the growth of a child as a basis for making his point, an argument may be made that the same concepts of intellectual development might also apply to adult learners in a social environment such as an online college course. Similarly, Knowles suggested that the social environment is important to an adult learner's self-concept (Knowles, 1973/1998), which, arguably, might also affect a learner's level of self-efficacy. If a learner maintains a low self-image, then perhaps his or her level of confidence in completing a task might also be affected in a negative

fashion. Knowles argued that adult learners felt a need to be seen as "capable of self-direction" (p. 65) and independent (Knowles, 1973/1998).

Researchers suggested that the development of a high level of self and technology efficacy led to a higher level of confidence in completing online courses (Carswell, 2000; Stanley, 2003; Strage, 2000). Carswell, Thomas, Petre, Price, and Richards (2000) argued that fear and lack of confidence in using Internet technologies were obstacles to students in the online environment (Carswell, 2000). Carswell et al. also suggested that some students perceived the cost of Internet access to be a "barrier" (p. 40) to online education (Carswell, 2000). Similarly, Stanley (2003) argued that fear and a lack of self-efficacy were also barriers to success in an online educational environment. Stanley argued that students with little or no computer literacy often felt anxiety and intimidation when confronted with the challenge of online courses, and that preemptively addressing those feelings could increase the likeliness of success in online learning (Stanley, 2003). Stanley suggested that one contributing factor to reducing anxiety and intimidation might be related to the amount of daily exposure students had with technology. According to Stanley, if technology was out of sight, it was more likely to be out of mind, which may have negatively affected a student's level of confidence when finally confronting the use of technology (Stanley, 2003). Stanley's argument is supported by Bruner and Knowles's notions of intellectual development and self-concept.

Family, peer, and instructor support may also have been significant factors affecting student confidence and the likelihood of success in an online environment

(Griggs, 1996; Rovai, 2005; Strage, 2000; Tait, 2000). Tait (2000) argued that creating a supportive environment led to more student connectedness to the college and increased student self-confidence (Tait, 2000). Rovai, Wighting, and Liu (2005) supported Tait's notion of a supportive environment and argued that high online dropout rates were in part due to students not feeling connected to the college. Rovai et al. suggested that developing a sense of community was important in making students feel connected to the college and that failing to develop a sense of community with online students could lead to higher dropout rates (Rovai, 2005).

Strage suggested that family background, along with peer and instructor support, were all elements that could affect a student's level of confidence (Strage, 2000). According to Strage, high levels of rapport with peers "were associated with high levels of confidence" (p. 739). Perhaps the support of peers was an underlying factor for Hispanic students who preferred working in group environments. According to Griggs and Dunn (1996), Hispanic students preferred working in groups more than did Caucasian students (Griggs, 1996). Furthermore, according to Griggs and Dunn, Hispanic females were more inclined to prefer peer group work than male Hispanics (Griggs, 1996).

Hispanic and Caucasian Utilization of Technology and the Internet

Bruner argued that an individual's readiness for learning was built in part on a learning process that involved the acquisition, processing, and evaluation of new information (Bruner, 1960/1977). The "act of learning" (p. 33), as defined by Bruner,

encompasses three processes: a) “acquisition of new information” (p. 48), b) transforming the new information to fit the current environment, and c) evaluating the applicability of the newly processed information (Bruner, 1960/1977). Internet technologies may be argued as being a suitable match to facilitate the act of learning by enabling a user to gather and construct new information in an online environment. However, if access to Internet technologies was impeded, then arguably the potential for success in an online educational environment could be negatively affected.

A review of the literature related to examinations of Hispanic and Caucasian access to technology revealed that researchers believed a technology gap in both the use of, and access to, computers and the Internet, existed between Hispanic and Caucasian students and was known as the digital divide (Angiello, 2002; Becht, 1999; Carvin, 2006; Garcia, 2000; Gardyn, 2001; Hacker, 2002; Holahan, 2007; MacNeil, 2001; Slate, 2002; Trotter, 2006). The literature also revealed that most researchers suggested that a digital divide not only existed, but was widening (Becht, 1999; Carvin, 2006; Hacker, 2002; MacNeil, 2001; Slate, 2002; Trotter, 2006). However, not all researchers agreed on the width of the gap, or whether the gap was expanding or narrowing. Researchers such as Angiello (2002), Garcia (2000), and Holahan (2007) believed the gap was narrowing. Angiello suggested that the gap was not only narrowing, but Hispanics may have been surpassing Caucasians in computer ownership and Internet access (Angiello, 2002). Holahan argued that the gap was narrowing, but minorities were still missing out on the expanded capabilities of the Internet, such as user interaction (Holahan, 2007). Holahan

attributed the lack of Internet activity to the unavailability of broadband connections (Holahan, 2007).

Defining the Digital Divide

One factor that may have affected perceptions of a widening or narrowing of the digital divide was the definition of access to technology. Becht (1999) contended that there was a qualitative difference between accessing the Internet from home versus accessing the Internet from a local library or from a business, a notion that was also suggested by the National Telecommunications Information Administration in a report on how Americans were using the Internet (Commerce, 2002). Becht suggested that a more accurate representation of the digital divide might be obtained if access to technology outside the home was not counted (Becht, 1999). If Becht's suggestion of not counting Internet access outside the home were implemented in determining the width of the digital divide gap, then the access profiles reported by the National Telecommunications Information Administration in a report labeled *A Nation Online: How Americans Were Expanding Their Use of the Internet* (2002) would support the argument that the gap is widening. In the report, survey results revealed that 24.5% of all Internet access took place only outside of the home (Commerce, 2002). Spooner and Rainie (2001) reported that of the Hispanics who accessed the Internet, only 54% did so from home. The rest, according to Spooner and Rainie, accessed the Internet through the workplace, "community facilities" (p. 4), or the home of a friend (Spooner, 2001). Such an argument suggested that 46% of Hispanics who accessed the Internet did so from outside their

home; therefore, Becht's suggestion of not counting Internet access outside the house would have increased the number of Hispanics considered not to have had access to the Internet.

Social Impact of a Digital Divide

Perhaps what makes the issue of a digital divide important is the socioeconomic factors that could be associated with access to technology. America's competitiveness could be at risk because of the digital divide (Carvin, 2006). Peterson (2000) contended that politicians were concerned about the effects of digital divide on the economy. Peterson suggested that a "two-tier economy" (sec *How Wide the Gap*, para. 4) could manifest from a widening digital divide (Peterson, 2000). Slate, Manuel, and Brinson supported Peterson's contention and suggested that the digital divide could result in the establishment of socio-technological classes (Slate, 2002). Slate et al. suggested that "a two-tier economy" (p. 77) could manifest from the digital divide with a lower class being one of unskilled laborers. Slate et al. contended "that technological literacy is required to be economically successful" (p. 77).

Another social element that might manifest from the digital divide was the impedance of social improvement (Hoffman, 2004). Knowles contended that adults had a strong intrinsic desire to continually improve in social standing or life styles and job satisfaction (Knowles, 1973/1998). Hoffman, Novak, and Venkatesh argued that knowledge was key to social improvement and that the Internet had become indispensable as a tool for accessing knowledge (Hoffman, 2004). Hoffman et al.

contended that "the power knowledge bestows on individuals is translated into social capital" (p. 40). Similarly, Gardyn (2001) contended that "many Hispanics view a computer as a gateway to information and a way to fit into the American mainstream" (Gardyn, 2001, p. 16). Perhaps if Hispanics encountered obstacles accessing technology, then based on the observations of Hoffman et al. and Gardyn, Hispanics who did not succeed in the online environment might have difficulty accessing new information and thus, have difficulty achieving self improvement.

Utilizing Internet Technology

The ability to have a computer and Internet access, especially in a home, could be greatly affected by socioeconomic factors such as family income (Becht, 1999; MacNeil, 2001; Peterson, 2000; Slate, 2002). MacNeil argued that "income is another major cause of the digital divide" (MacNeil, 2001, para. 13) that affected computer penetration rates into single family homes, a notion that was also supported by Becht, Taglang, and Wilhelm (1999). Becht et al. contended that racial disparity existed in technology access at a greater rate in lower income families than it did in families with an annual income over $75,000 (Becht, 1999). Slate, Manuel, and Brinson argued that the cost of technology strongly influenced a decision to purchase computers or Internet access by families with annual incomes of $25,000 or less (Slate, 2002). Carswel (2000) and Lach (2000) supported Slate's argument that computers were perceived as too costly. Carswell argued that some students perceived the cost to access the Internet as high, which might have acted as a potential barrier to an online education (Carswell, 2000). Lach contended

that “46% of Latino households without computers say they were too expensive” (para. 2). Interestingly, Lach also suggested that 40% of Latino households without computers believed that computers were not needed.

If Hispanics perceived that computers were not a necessity, then the potential for Hispanics to succeed in online learning might have been impacted, as suggested by Knowles’s orientation to learning assumption in his theory of andragogy. Knowles contended that adult learners were motivated to learn new knowledge “to the extent that they perceive that learning will help them perform tasks or deal with problems that they confront in their life situations” (Knowles, 1973/1998, p. 67). Perhaps the perception of not needing a computer also contributed to a lack of preparation in dealing with the online learning environment. Some researchers suggested that the perception of not needing a computer manifested from a lack of consumer education on the part of technology manufacturers (Hacker, 2002; Lach, 2000).

Income may not be the only factor that affected access to technology for Hispanics. The primary language spoken in the home may have had a significant effect on the attitudes of Hispanics toward technology (Slate, 2002). According to Slate et al., when the primary language spoken in the home was Spanish, students were more likely to have accessed the Internet at school or at a friend’s house rather than in their home (Slate, 2002).

Access and Ethnicity

Bruner suggested that individuals constructed a perception of the surrounding world as he or she developed intellectually (Bruner, 1960/1977). Bruner's contention suggested that life experiences and intellectual development could be affected by the culture and social environment in which an individual existed. Such an effect was noteworthy based not only on Bruner's arguments, but the arguments of Knowles as well, who suggested that life experiences played an important role in learning new knowledge (Bruner, 1960/1977; Knowles, 1973/1998). As such, it may be that ethnic culture plays a role in how individuals access or pursue education, and whether or not the individual is likely to succeed in college.

Some researchers suggested that there was a strong connection between a person's ethnicity and access to technology, including the Internet (Hacker, 2002; Lach, 2000). Hacker and Steiner argued that intra-ethnic group communication negated the need to conduct social interactions with other individuals or social groups through the Internet (Hacker, 2002). According to Hacker and Steiner, social satisfaction was gained from within the ethnic group and so having to socialize through the Internet was viewed as a very low priority or even unnecessary (Hacker, 2002). Hacker and Steiner referred to this phenomenon as the enclave theory and suggested that it was due in part to the lack of diverse ethnic content on the Internet (Hacker, 2002). In a study conducted by Hacker and Steiner, the researchers contended "that advertising for computer technology was more prevalent for Anglos than for Hispanics and African Americans" (p. 279).

Van Camp (2004) supported Hacker's contention that the Internet environment lacked Spanish content. Van Camp argued that Hispanics appreciated what the Internet was capable of, but did not see a lot of Spanish content (Van Camp, 2004). However, Wentz (2007) suggested that the trend was reversing. Wentz contended that Hispanics were rapidly adjusting to the Internet, including some of the social networking applications (Wentz, 2007). Interestingly, according to Wentz, the rapid adoption of the Internet by Hispanics was due in part to the interest generated by the World Cup and politics (Wentz, 2007).

Lach supported the notion that advertising was focused more on Anglos than Hispanics when she suggested that high tech companies were partially to blame for not educating Hispanics "about the convenience of computers" (Lach, 2000, para. 2). Perhaps a lack of diverse ethnic content on the Internet could contribute to how an individual developed a perception of his or her surrounding environment, and ultimately contributed to a lack of preparation for online learning. If, as Bruner argued, an individual developed a perception of the surrounding world as he or she grew (Bruner, 1960/1977), then when that same individual failed to see Internet content related to his or her ethnicity, a perception might manifest that Internet technologies were not important or necessary for social development or life style improvement. Such a perception might then contribute to a lack of preparation in utilizing the technologies encountered in online education, which in turn may be setting students up for failure in an online course.

Education and Access to Technology

As mentioned earlier, Bruner's notion of a spiral curriculum suggested that prior education played an important role in an individual's ability to construct new knowledge (Bruner, 1960/1977). Knowles also supported the notion that prior experience, which may be argued as including prior education, contributed to the development of new knowledge (Knowles, 1973/1998). Some researchers also suggested that an individual's level of prior academics contributed to widening the digital divide (Hacker, 2002; Spooner, 2001).

Spooner and Rainie (2001) contended that a higher education related to more online time when they stated, "the higher a person's education level, the more likely he is to go online" (p. 6). Hacker and Steiner supported Spooner's contention with quantitative results from a study of the digital divide and Hispanic Americans. Hacker and Steiner reported that almost 71% of the people in the study who were using the Internet had a high level of education, while 76% of the study participants who did not use the Internet had a low level of education (Hacker, 2002). A point that was not argued in either direction by the researchers was whether access to the Internet was a result of having a higher education, or whether using the Internet contributed to gaining a higher education. If the Internet was a significant contributor to gaining a higher education, then arguably, examining the attitudes and motivations of Hispanic and Caucasian community college students in an online distance education program was a worthwhile study.

Motivations of Hispanic and Caucasian Students in Online Courses

Knowles contended that adults developed a readiness to learn based on a desire to control or manage life situations, orient their readiness to learn toward new knowledge related to real-life situations, and were intrinsically motivated to improve job satisfaction and life styles (Knowles, 1973/1998). Interestingly, Hispanic orientation to learning appeared to include a tendency to choose community colleges as a starting point for social or economic improvement, more so than Caucasians (Fry, 2002; Kurlaender, 2006).

Researchers suggested that Hispanic students were more likely to attend or begin a college career at 2-year or community colleges than at 4-year institutions (Fry, 2002; Horn, 2002; Kurlaender, 2006; Laden, 2004; Martinez, 2004; Swail, 2004). Some Hispanics were still more likely to attend an open-door institution, such as a 2-year community college, even though they might have been academically prepared to enter educational institutions that had stricter selective policies (Fry, 2004; Swail, 2004). Perhaps the preference to attend community college, even though an individual might have been academically qualified to attend a 4-year institution, had to do with the labor market. Fry suggested that Latino teens opted out of college in favor of employment (Fry, 2003), which may be an illustration of Knowles's notion that adults had a need to know why learning was necessary. Knowles contended that adult learners had a need to know why, what, and how education is relative or important (Knowles, 1973/1998). Perhaps Hispanic teens believed that employment was more relative or important than

education. If, as Kurlaender (2006) suggested, the educational system prepared students for destinations other than 4-year institutions (Kurlaender, 2006), then perhaps Hispanic youth developed a stronger understanding of the need for employment rather than having developed a strong understanding of the importance and benefits of an education. Such a notion might also be relative to Bruner's arguments about the importance of prior academics. If an individual lacked prior academics, or those prior academics prepared him or her for destinations other than 4-year schools, as Kurlaender suggested, then the individual might not have seen or appreciated the importance of education.

Unfortunately, the literature revealed that Hispanics who do enroll in college were more likely to be part-time students and not complete a degree or transfer to a 4-year institution (Fry, 2002; Martinez, 2004). Martinez and Fernandez (2004) suggested that socioeconomics and academic levels were major contributors to a higher attrition rate (Martinez, 2004). Martinez and Fernandez contended that "even after controlling for background, ability, and aspirations, [Latino] students at community colleges were 10 to 18% more likely to drop out of college during the first two years" (p.53) compared to students at 4-year institutions (Martinez, 2004). Here again, this may have been an indication that Hispanics placed greater importance on employment rather than education.

Convenience of Online Courses

Even prior to the proliferation of the Internet, Knowles (1975) argued that part of adult education and lifelong learning must include opportunities for learners that were

convenient and easily accessible (Knowles, 1975). Researchers suggested that convenience was one of the main motivations for taking an online class (Butler, 2005-2006; M. Hughes, Hagie, C., Smith, S., 2005). The results of a study published by the Distance Education Report contended that most American students, approximately 75%, would consider enrolling in an online class and that convenience was one of the main motivators (*Study finds over 75 percent of American students interested in online courses*, 2005). A report from the California Community Colleges Chancellor's Office supported the notion of continued interest in distance learning as online enrollment in California community college online courses continued to rise (Nather, 2007)

Given the observations of Fry, Martinez, and Roblyer, and the suggestion by Santos (2004), understanding the importance of Hispanic motivations for succeeding in college may be an important research undertaking. However, in contrast to any notion that Hispanics did not understand the value of education, Santos suggested that Hispanic students desired a college education but were often faced with obstacles such as family loyalties and employment opportunities that made attending college difficult (Santos, 2004). Santos's observation may have been an indication that Hispanics did have an appreciation of educational benefits, and, as Knowles suggested, were trying to satisfy an intrinsic desire to improve socially and economically.

Roblyer contended that convenience of online education was one of the most significant factors in student selection of online courses and that the time of learning was also an important consideration (Roblyer, 1999). Roblyer's contention encompassed the

notion by Knowles that adults developed a reference toward learning. Although Knowles's theory of andragogy included an assumption that adult learners developed a point of reference toward learning related to life situations, perhaps online learning opportunities could be viewed as a process version of orienting toward learning. Rather than orienting toward the specific knowledge, adult learners may have oriented themselves toward a process that allowed access to the knowledge, in this case, online learning. In other words, Hispanics may have oriented themselves toward online learning as a potential means of gaining access to the desired knowledge that would have allowed for the management of life situations. Such an orientation could allow a student to attend college, and, as Santos suggested, manage obstacles such as family loyalties and employment opportunities.

Pace and Timing of Learning

Students who elected to enroll in online courses also considered pace and timing issues as motivating factors in the selection of the online educational environment (Butler, 2005-2006; M. Hughes, Hagie, C., Smith, S., 2005; Roblyer, 1999). In a study of high school and community college students, Roblyer identified convenience as the most important factor that online students perceived as a benefit of online courses. Students who elected to complete online courses, according to Roblyer, indicated that controlling the pace of learning and determining when instruction occurred, were the two most important motivations for enrolling in an online course (Roblyer, 1999). Butler and Pinto-Zipp (2005-2006) supported Roblyer's contention and suggested that time management

and interactivity were also important motivators. In contrast, Roblyer reported that the students who preferred the traditional campus version of a course indicated that face-to-face interaction with the instructor and other students was more important (Roblyer, 1999). Interaction in a course appeared to be a significant concern and may have been directly related to the level of course satisfaction reported by students (Butler, 2005-2006). Butler and Pinto-Zipp contended that "student satisfaction with their online courses was directly related to the amount of interaction." (217).

Interestingly, in what appears to contradict Knowles's and Bruner's notion of the importance of experience and prior academics, Roblyer found that age, gender, grade point average, and prior technology experience were not considered important factors in deciding to enroll in an online course. As discussed earlier, and in contrast to Roblyer's suggestion that prior technology experience was not an important factor in succeeding online, Dupin-Bryant argued that prior experience was important, but that the type of experience was more important than the amount of experience (Dupin-Bryant, 2004).

Self Improvement

In his theory of andragogy, Knowles contended that adult learners wished to appear in control of life situations and be capable of self direction (Knowles, 1973/1998). Knowles also contended that adult learners were intrinsically motivated to improve socially and economically (Knowles, 1973/1998). A review of literature that examined the motivations of community college students revealed that economics, social mobility,

and job satisfaction were motivating factors that lead Hispanics to attend college and successfully complete a degree (Hacker, 2002; Santos, 2004).

Santos suggested that freshmen students enrolled in college as a way to potentially increase income, social interaction, and employment satisfaction (Santos, 2004). However, Santos suggested that socioeconomics, family obligations, and the need for employment may have also acted as barriers that prevented students from completing a college degree (Santos, 2004). Hacker and Steiner (2002) supported Santos's notion on barriers to a college degree when they suggested that personal development through information access, and social development through collaboration online, were two motivating factors for Hispanics to use Internet technologies (Hacker, 2002).

Hispanic Learning Preferences

A review of literature related to Hispanic learning preferences revealed that culture may have played a significant role in a Hispanic student's ability to perform (Saenz, 2002; I. Sanchez, 2000). However, other researchers suggested that the high level of Hispanic enrollment in community college might have been predestined (Kurlaender, 2006), or simply just the aspirations of Hispanics (Swail, 2004).

Cultural Validation

Hispanic students responded well to educational environments where cultural experiences were acknowledged and supported (Saenz, 2002). Saenz argued that "cultural validation was crucial to increasing the persistence and transfer rates among all Hispanic students in community colleges" (p. 3). Sanchez supported Saenz's notion that culture

makes a difference when he argued that culture, course design, and teacher projection affected a student's ability to succeed (I. Sanchez, 2000).

A Preference Toward Community Colleges

Perhaps Hispanics were simply predestined to attend community colleges. Kurlaender (2006) proposed the notion that race might have been a factor in students enrolling in a community college (Kurlaender, 2006). Kurlaender conducted a study of Latino student college choice decisions in which four factors were controlled: a) socioeconomic background, b) academic preparation, c) degree intention, and d) state differences (Kurlaender, 2006). After controlling for each of the four factors, Kurlaender reported that Hispanic students were still more likely to select a community college to begin their educational career. The results of the study, according to Kurlaender, suggested that based on race, Latinos might have been predestined to prefer community college as a choice for higher education. Kurlaender stated, "if these four factors combined do not fully explain why Latinos were so highly concentrated in community colleges, then we can surmise that race may affect the type of postsecondary institution a student chooses to enter" (p. 10).

In contrast to Kurlaender controlling for degree intention as a factor in selecting a college, Swail, Cabrera, and Lee (2004) suggested that Latinos were more likely to simply aspire to a 2-year degree rather than completing a 4-year degree (Swail, 2004). In a study of Latino achievement on a pathway through to a postsecondary degree, Swail, Cabrera, and Lee reported that from the cohort of students in the study, 22% of the

Latinos enrolled in 4-year institutions while 40% of the Latinos elected to enroll in a 2-year college (Swail, 2004).

The College Experience

Bruner argued that a learner's readiness to learn was built in part by his or her intellectual development (Bruner, 1960/1977). According to Bruner, an individual's intellectual development occured through a perception manifesting from the surrounding world as he or she grew (Bruner, 1960/1977). A review of the literature which examined learning preferences of college students revealed that once enrolled in college, culture, course design, and teacher support affected a student's self-perception and level of self-confidence, which in turn may then have affected a student's ability to successfully complete a college course (Gross, 2004; I. Sanchez, 2000).

Sanchez argued that three elements affected a student's level of self-confidence and self-perception: culture, course design, and teacher support (I. Sanchez, 2000). Consequently, those elements could impact the ability to succeed (I. Sanchez, 2000). The importance of self-perception was also supported by Gross (2004) who argued that self-perception affected a student's motivation for future goals, and that barriers derived from a "lack of economic, educational, and political opportunities" (p. 64) contributed to a lack of ambition (Gross, 2004).

In contrast to self-perception, an individual's perception of the surrounding college environment could also affect his or her intellectual development (Bruner, 1960/1977). Bruner suggested in his theory of constructivism that intellectual

development was influenced by the way in which an individual perceived his or her surrounding (Bruner, 1960/1977). Horn and Ethington suggested that Hispanics, as well as other minorities, perceived the college experience differently than Caucasians, which, consequently, may also have affected motivation and performance (Horn, 2002). Furthermore, Horn and Ethington argued that student participation in college life affected "their perceived gains in growth and development and the attainment of their educational goals" (p. 404). Based on the arguments of Horn and Ethington, an argument might also be made that part-time attendance at community colleges could potentially include a lesser role in student college life and might be considered an obstacle rather than a convenience on the pathway to obtaining a degree; a similar notion was also suggested by Fry (Fry, 2002).

Sanchez's notion that confidence and self-perception affected student performance was supported by Hagedorn and Cepeda (2004), who argued that Hispanic faculty support helped to increase Latino student success (Hagedorn, 2004). Hagedorn and Cepeda examined the positive effects of the Puente Project, which was designed to assist students in obtaining a college degree and become active leaders in the community. Through a positive social experience, the Puente Project increased the motivation and ability of Hispanic students to succeed in education and in the community (Hagedorn, 2004; Martinez, 2004). Similar to the positive social aspects of the Puente Project, according to Martinez and Fernandez, community colleges could also provide a social and cultural opportunity for Latino students (Martinez, 2004). According to Martinez and

Fernandez, community colleges were “sites for mining the social and cultural capital needed for upward social and economic mobility in the United States” (p. 52).

Research Methods

This study used a survey research design as part of a comparative case study. A survey research design, according to Leedy and Ormrod (2001), would allow for the examination of a phenomenon through a snapshot in time (Leedy, 2001). Researchers suggested that a case study research method would be an appropriate strategy for studying a specific phenomenon (Babbie, 1995; Creswell, 2003; Leedy, 2001). Furthermore, Merriam contended that a case study was useful for examining a bounded system (Merriam, 1998) such as an online distance education program at a community college. This case study approach was facilitated through an online survey and semi-structured interviews, and supported a research strategy which examined the success, or lack of success, of Hispanic and Caucasian community college students in an online program. For these reasons, the case study strategy was selected for this research project.

A Grounded Theory approach to an examination of differences between Hispanic and Caucasian community college students might also have been an appropriate method for conducting the study. A review of the literature revealed that case studies and Grounded Theory research had been used to examine online students and distance education technologies. This section includes a brief review of literature related to case studies and Grounded Theory studies that have been used to examine online educational environments.

Case Studies

A review of literature that examined the use of technology for distance education, and of college students who had participated in online education programs, revealed that a case study method was a valid research strategy (Auyeung, 2004; Cappel, 2004; Dickey, 2005; Zhang, 1998).

Dickey (2005) utilized a "qualitative exploratory case study" (p. 441) approach for research in an examination of 3-dimensional virtual worlds used in online education (Dickey, 2005). Dickey's study was based on a theoretical framework of constructivism and utilized data collection techniques that included observations along with formal and informal interviews. As contended by Leedy and Ormrod (2001), observations and interviews were appropriate data collection tools that could be used in a case study (Leedy, 2001). Dickey's study also suggested that potential methods for data gathering involving online community college students were formal or informal interviews, or small focus groups (Dickey, 2005).

In a case study on the use of technology in distance learning, Zhang (1998) utilized questionnaires, server logs, emails, and listserv posts as data sources (Zhang, 1998). A similar approach could be effective in a study of online student differences between Hispanics and Caucasians since, according to Leedy and Ormrod, a written questionnaire would provide a snapshot of the phenomenon under examination. Furthermore, the examination of documents such as emails and transcripts was also identified as a valid data collection tool in a case study (Leedy, 2001).

Cappel and Hayden (2004) conducted a case study in which surveys were used to evaluate student experiences in online self-paced courses (Cappel, 2004). The surveys used by Cappel and Hayden included both closed and open-ended questions. Interestingly, and perhaps something that should be taken into consideration when analyzing the results of Cappel and Hayden's survey, is that the anonymous surveys were given to students in a classroom setting prior to the students "receiving any grades on their group papers or presentations" (p. 51). Also, since the survey was anonymous, no follow-up could occur to probe into any responses from the open-ended questions. In a survey of Hispanic and Caucasian students in an online community college program, follow-up interviews should have been considered important since they may have led to a further understanding of why students succeeded or did not succeed in an online educational environment.

In an examination of student attitudes about collaborative learning in an online environment, Auyeung (2004) utilized an online survey to gather data (Auyeung, 2004). Since the survey was online, Auyeung also used email as a tool to announce the forthcoming survey. Students were invited to participate in the survey by accessing a specific Web page. The author did point out that the survey included self-selected participants, and that process could have introduced a bias to the study. As such, the results of the study might not be representative of the entire population. Perhaps in a study of student online success, the use of Web surveys might have proven problematic if

one of the reasons why students did not succeed was because of low technology efficacy or a lack of comfort using technology.

The research methods conducted by Dickey, Zhang, Cappel and Hayden, and Auyeung clearly supported an argument that a case study was an appropriate research strategy for an examination of online community college students. The researchers demonstrated that the use of questionnaires, interviews, observations, and document examinations were all useful data gathering tools in a case study involving online education.

Grounded Theory

Researchers suggested that a grounded theory approach did not begin with the researcher stating a theory explaining the phenomenon; rather, the approach allowed the researcher to develop a theory as the data was collected and analyzed (Babbie, 1995; Creswell, 2003; Leedy, 2001). In other words, rather than starting a research project with a theory that attempted to explain why Hispanic students succeeded or did not succeed in online learning environments, a Grounded Theory approach meant that a theoretical model could be developed as the study progressed and student success data was collected. A literature review of studies related to online education revealed that a Grounded Theory approach was not unique in its application as a research method and might have been an appropriate strategy for a study of online community college students (Carnwell, 2000; Lyall, 2000; Molinari, 2004; Zafeiriou, 2001).

A Grounded Theory approach was used by Carnwell to examine educational elements such as learning preferences and study habits, as they related to support requirements in online learning (Carnwell, 2000). Carnwell utilized a questionnaire and examined interview transcripts using a Grounded Theory method that examined the relationship between student study habits, learning preferences, learning strategies, and how those elements affected the need for support (Carnwell, 2000). Similarly, questionnaires and interviews could have been used to examine Hispanic and Caucasian community college student attitudes about online learning and any available online support services.

Knowles suggested that adult learners possessed an orientation to learning based on their environment (Knowles, 1973/1998). Lyall and McNamara (2000) examined student orientation to learning in distance education and utilized a Grounded Theory approach to examine factors that affected a learner's orientation. The researchers used "in-depth interviews, supported by data from a questionnaire" (p. 108) to collect data. Interestingly, in what appears to have supported Knowles, Lyall and McNamara found that online students tended to be intrinsically motivated (Lyall, 2000).

Molinari (2004) utilized a Grounded Theory approach in an examination of social communications in an online class. Molinari contended that "Grounded Theory was designed to meet the needs of social topics in a fast-changing environment…and suits the nature of online problem solving groups" (p.90). Molinari examined electronic messages as a means of data collection. Unfortunately, Molinari did not specify what was meant by

electronic messages, but an argument could be made that electronic messages might have included email and online discussion forum postings. As Molinari collected data, a constant comparative method was used to analyze the data and develop categories and themes (Molinari, 2004).

Zafeiriou, Nunes, and Ford (2001) utilized a Grounded Theory approach in a study which examined the perceptions of fifty students with experience in computer-mediated communications and online group participation. The researchers conducted semi-structured interviews as the primary data collection tool, and argued that a semi-structured interview was appropriate as it provided "more flexibility and spontaneity" (p. 86) in the data collection process (Zafeiriou, 2001).

The research methods conducted by Carnwell, Lyall and McNamara, Molinari, and Zafeiriou et al. clearly supported an argument that a Grounded Theory approach was an appropriate research strategy for an examination of online community college student attitudes and differences. The researchers demonstrated that the use of questionnaires and interviews were useful data gathering tools in a Grounded Theory approach to study aspects of online education such as the success, or lack of success, of Hispanic and Caucasian community college online students.

Survey Questionnaires and Interviews

The research methods discussed so far included the use of survey questionnaires and interviews. Questionnaires, according to Leedy and Ormrod, generally incorporated a rating scale or checklists, and were useful for gathering data on individual attitudes or

perspectives (Leedy, 2001). With the inclusion of the Internet as a communication tool, some researchers believed that the written survey was replaceable with an electronic version. Madge and O'Conner argued that online data collection was a valid and appropriate method of collecting data (Madge, 2004). The researchers argued that Web-based questionnaires "provide fast and cheap alternatives to postal, face-to-face and telephone surveys" (p. 144), and that online interviews using synchronous and asynchronous modes of communication were also valid (Madge, 2004). The benefit to asynchronous online interviews, according to Madge and O'Conner, was that the interviewer and the interviewee did not need to worry about coordinating a time to meet online and chat (Madge, 2004). Perhaps an argument could be made that asynchronous surveys or interviews are not too different from a written survey where the person completing the questionnaire could have done so at his or her leisure. However, an argument might also be made that the online version included an element of self-selection by those who were already comfortable with technology. In a study of Hispanic and Caucasian online students, comfort with technology should not have been assumed in any Web survey since technology efficacy and comfort could potentially have been a factor in online student success. Using both a written and an online survey could prove useful.

Chapter 2 Summary

The previous review of literature was comprised of four sections and, through a conceptual framework of Bruner's theory of constructivism and Knowles's theory of andragogy, explored studies related to student success in online courses, Hispanic and

Caucasian access to technology, the motivations of Hispanic and Caucasian students who attended college, and what methods existing studies have used to gather and analyze data. In the first section, the literature revealed that prior academics, technology experience, and socialization were important factors that impacted a student's potential or opportunity to succeed in college. The second section of the literature review explored definitions of the digital divide, the social impact of the digital divide, how technology was being accessed, and the role of ethnicity and education with regard to accessing technology.

The third section explored the motivations of Hispanic and Caucasian students who attended online classes. The exploration revealed that the convenience of online courses, along with the ability to control the pace and timing of learning, were motivating factors for students who enrolled in online courses. Other motivating factors identified that affected the motivation of students to enroll in an online course included personal and social development, college experience, and technology efficacy.

The last section contained a review of literature related to the methods used in studies which examined different elements of online learning. The exploration revealed that a survey research design utilizing case studies and a Grounded Theory approach would have been an appropriate strategy for the examination of Hispanic and Caucasian students in an online college environment. The literature also revealed that the use of questionnaires, document examination, and interviews were useful methods of collecting data.

In the next chapter, the methodology used for a study of the differences in Hispanic and Caucasian student attitudes in online learning is described and justified. The role of the researcher, as well as data collection techniques, is identified along with the criteria for selecting participants. Procedures for gaining access to the participants are also described and include any safeguards necessary to protect the participants.

CHAPTER 3: METHODOLOGY

Introduction

With a growing population in which Hispanic students were enrolling in community colleges at an increasing rate (Fry, 2002; Kurlaender, 2006), and with the increase in technology that was becoming available in Hispanic households (Angiello, 2002; Holahan, 2007; MacNeil, 2001; Yin, 2001), it is important to understand why Hispanic students do not succeed in online courses at rates comparable to the Caucasian online student population (Nather, 2007). It may be that an examination of the differences between Hispanic and Caucasian online students might reveal opportunities to increase Hispanic success in online distance education. Such an examination could provide opportunities to create positive social change through an understanding of how the success rate of Hispanics in an online educational environment could be improved, which may then lead to improved social lifestyles for Hispanics.

The problem addressed in this study was one in which Hispanic students did not succeed in online courses at a rate comparable to Caucasian students, even though a growing population of Hispanic students were enrolling in community colleges (Fry, 2002; Kurlaender, 2006), and there was an increase in technology available in Hispanic households (Angiello, 2002; Holahan, 2007; MacNeil, 2001; Yin, 2001). The purpose of this study was to examine the differences between Hispanic and Caucasian students about online learning in order to identify potential factors that might indicate why Hispanic students did not succeed in online courses at rates comparable to Caucasian students. A

comparative case study was used to examine differences between online learning for Hispanic and Caucasian community college online students, and included a survey of Hispanic and Caucasian students who had participated in online courses at Antelope Valley College. This chapter includes the role of the researcher, a description of the research method, sample population, ethical concerns, data collection and analysis, and reliability and validity issues.

Role of the Researcher

There was evidence that California community college Hispanic students did not succeed in online courses at a rate comparable to Caucasian students (Nather, 2007). Antelope Valley College was one of the California community colleges that experienced such a phenomenon and also qualified as a Hispanic Serving Institution. Antelope Valley College had a Hispanic enrollment of 28.8% and a Caucasian enrollment of 39% (*Antelope Valley College Fact Book 2006*, 2007). Notably, the Hispanic enrollment at Antelope Valley College had increased 20% over a 4-year period from 2003 to 2007, while the statewide Hispanic enrollment in community colleges had increased only 9% during the same period (*Student Demographics By Academic Year*, 2007). The researcher who conducted this study was a Caucasian male and a professor of Computer Applications at Antelope Valley College where he has taught both campus and online computer application courses. Included in his responsibilities at Antelope Valley College was filling the role of co-chair for the college's Distance Education Committee, a

committee that was charged with making policy and procedural recommendations related to distance education at the college.

Ten years of teaching in an online environment, as well as the sharing of online teaching experiences with a Hispanic professor, posed a potential bias in the study. As such, every effort was made to ensure that objectivity was maintained throughout the study. In an effort to ensure objectivity existed in the researcher's interpretation of the data, a colleague was asked to review the data for similar outputs.

Research Method

This research involved a comparative case study that included an examination of differences in Hispanic and Caucasian students in a community college online program. Merriam (1998) suggested that a grounded theory approach might also have been an appropriate strategy for conducting a qualitative study (Merriam, 1998). However, in this examination of differences between Hispanic and Caucasian community college students in an online program, there existed two compelling reasons for selecting a case study strategy rather than a grounded theory approach: a) case studies are useful for examining a bounded system, in this case, the bounded system was comprised of the online distance education program at a single community college, and b) a case study is useful for developing an understanding of a situation. Both reasons were argued by Merriam as being appropriate to justify a case study method for research (Merriam, 1998).

Case Study

One reason for examining the differences between Hispanic and Caucasian community college online students was to gain an understanding of factors that may influence a student's ability to succeed in online courses that were part of a distance education program. According to Merriam, a case study method may be "employed to gain an understanding of [a] situation" (Merriam, 1998, p. 19). As such, a case study approach was an appropriate strategy for examining differences between Hispanic and Caucasian students in an online environment, especially since the intent of the study was to develop an understanding of any differences. Creswell (2003) supported Merriam's contention that a case study method was an appropriate strategy. According to Creswell, a case study approach to research is one "in which the researcher explored in depth a program, an event, an activity, a process, or one or more individuals" (Creswell, 2003, p.15). Furthermore, according to Leedy and Ormrod (2001), a case study is "suitable for learning more about a little known or poorly understood situation" (Leedy, 2001, p. 149). An examination of differences between Hispanic and Caucasian online students contained an exploration of attitudes involving one or more individuals who had participated in online learning. Such an exploration of differences sought to develop an understanding of a situation that was not well understood.

A potential weakness of using a case study approach was that the result of the study may not necessarily be generalized to a larger population (Leedy, 2001). In this case, the results of a study conducted at one specific community college calls into

question the level of external validity and would not necessarily be generalized to all community colleges. However, it may be that this study might serve as a model for conducting repeated studies at other educational institutions.

Grounded Theory

A grounded theory research method was also considered as an approach to examine Hispanic and Caucasian students in an online setting since the strategy would have allowed a researcher to begin a study without a theory of why one set of students might have succeeded more than another (Leedy, 2001). However, according to Leedy and Ormrod, a grounded theory "is typically used to examine people's actions and interactions" (p. 154). The examination of Hispanic and Caucasian student differences in online learning in this study was not specifically about the interactions of students; rather, it was more about developing an understanding of student differences in an online educational environment. Furthermore, Grounded Theory is a strategy used to develop theories through processes such as constantly comparing collected data to identify patterns and possibly guide further data collection. Such an approach might lead researchers to areas beyond an identified bounded system such as a community college online distance education program limited to two cultural groups.

Ethnography Study

An ethnographic study could be considered for studying students in a cultural setting (Creswell, 2003). According to Creswell, an ethnographic study would be appropriate for observing participants in a culturally "natural setting over a prolonged

period of time" (p. 14). This study, while not ruling out culture as a potential factor, was not a study about the Hispanic or Caucasian cultures. Furthermore, Creswell also pointed out that ethnographic studies were based primarily on observation, which arguably would have been difficult in an online educational environment where students were separated by distance and time (Creswell, 2003).

Phenomenological Study

Although this study sought to develop an understanding of student attitudes in an online environment, a phenomenological study would be based on experiencing what it might be like to experience the environment from the study participant's perspective (Leedy, 2001). A phenomenological study, according to Leedy and Ormrod, is a research strategy that "attempts to understand people's perceptions, perspectives, and understandings of a particular situation" (p. 153). Although individual experience could have been a factor, this study did not seek to experience the participant's involvement; rather, it sought to understand any relevant factors that might affect the participant's experience, and consequently, the participant's level of success in an online educational environment.

Sampling

In research, there are two forms of sampling used in a study: a) probability sampling, and b) nonprobability sampling (Merriam, 1998). Probability sampling "allows the investigator to generalize results of the study from the sample to the population from which it was drawn" (p. 60). The generalization would be possible, in part, due to the

random selection of data sources (Merriam, 1998). Although this was a comparative case study and qualitative in nature, and may not necessarily have been generalized to other community colleges, the survey instrument used to collect data was a quantitative measurement. As such, utilizing probability sampling in determining a target sample size could have allowed the results to be generalized to the entire population under study, but not necessarily similar populations at other community colleges. Furthermore, Leedy and Ormrod contended that a difference in the population sizes, such as the Hispanic and Caucasian students at Antelope Valley College, suggested that a proportional stratified sampling method be incorporated to determine survey sample sizes (Leedy, 2001).

Merriam contended that nonprobability sampling was most often chosen for qualitative studies and allowed questions to be asked such as what is the relationship, what is happening, or why is something happening, rather than how many, how much, or how often (Merriam, 1998). A study of the differences between Hispanic and Caucasian community college online students was not a study of how many or how much; rather, it was more of a question of what were the differences, what were the relationships, if any, of the differences, and why do they exist.

Sample

The intent of this study was to develop an understanding of student differences in a specific environment. As suggested by Creswell (2003), "the idea behind qualitative research is to *purposefully* select participants or sites (or documents or visual materials) that will best help understand the problem and the research question" (Creswell, 2003, p.

185). In other words, purposeful nonprobability sampling allowed for selection of information-rich data sources to help develop an understanding of the situation. Merriam suggested that in order to accomplish an effective selection of information-rich participants, a set of criteria should be established to help identify potential participants (Merriam, 1998). There were two criteria for the selection of participants in this study: a) the participant claimed to be Hispanic or Caucasian, and b) the participant had completed at least one online college course.

Participants in this study were selected from a population of Hispanic and Caucasian students who had completed at least one online course and were currently attending Antelope Valley College (AVC), whether online or on campus. Antelope Valley College is a small California community college located in Northern Los Angeles County. Antelope Valley College, as of Fall 2006, served 19 communities and 12,834 students, of which 61% were female and 38% were male, with 1% reported as unknown (*Antelope Valley College Fact Book 2006*, 2007). The student population consisted of 68.5% part-time and 31.5% full-time students with an ethnic distribution of 39% White non-Hispanic, 28.8% Hispanic, 18.6% African-American, 2.9% Asian, 2.4% Filipino, 1.7% other non-White, 1% American Indian/Alaskan Native, .4% Pacific Islander, and 5.2% unknown. The ages of AVC students were reported as 33.3% aged 19 or younger, 27.9% were 20 to 24 years old, 32.7% were 25 to 49 years old, and 6% were 50 years old or older (*Antelope Valley College Fact Book 2006*, 2007). Students who reported their

ethnicity as Caucasian or Hispanic, and who had previously completed at least one online class, were considered eligible for this study.

Cooperation with Antelope Valley College was required in order to identify, in advance of the actual study, Hispanic and Caucasian students who had completed at least one online course. A letter of cooperation (Appendix A) was obtained from Antelope Valley College prior to data collection. Antelope Valley College incorporates an online portal system which provided the ability to communicate with students through electronic campus announcements and a student email list. Once the list of eligible participants was identified and their email addresses were obtained, the campus announcement function and student email list were used to distribute a Web link for students to participate in an online survey hosted through SurveyMonkey.com. Permission to access and utilize the college student email list and the electronic campus-wide announcement function of the college's Web portal was included in the letter of cooperation.

An email and an electronic campus announcement were sent to the identified population of students at Antelope Valley College. Since the study sought information related to the technology comfort level of a respondent, the case may have existed where a respondent was not comfortable taking the survey online, but was interested in participating if the survey were in a written form. Therefore, a written survey was made available to any respondent who wished to participate in the survey, but preferred to complete a printed survey rather than an electronic version. To maintain anonymity of the respondent who preferred the written survey, a paper copy of the survey was made

available at the college's front desk along with a pre-addressed envelope. The respondent was instructed to drop the survey off at the college's mail room for delivery. Since the college mailroom was used as the drop point, there was no cost obligation to the student for postage. A note explaining the written survey option was included in all emails and announcements used to invite students to participate in the study.

The first two questions of the survey were used to determine eligibility of the respondent and inquired as to which ethnicity the student reported on his or her college application, and whether or not he or she had completed at least one online course. Students who had not completed at least one online class, or who indicated an ethnicity other than Caucasian or Hispanic, were considered ineligible for this study. Ineligible participants were redirected to a page containing a thank-you message for considering the survey, and an explanation of why he or she was not eligible for participation. Eligible respondents were allowed to continue with the survey. Data used to calculate a target survey sample size were drawn from Antelope Valley College's enrollment data covering the four semesters in the period from Spring 2005 to Fall 2006.

Over the four semesters, Antelope Valley College reported to the California Community College Chancellor's Office that a total of 535 Hispanic and 1,587 Caucasian students were enrolled in online courses. The total enrollment data provided to the state was the amount of enrollment calculated at the college's census date, which was typically the third week of the semester, and was the official data used to determine funding received from the state. The total enrollment data consisted of a duplicated headcount of

students enrolled, and not the actual number of students enrolled. In other words, a student who had enrolled in two online courses would have been counted twice. Since the actual headcount of students enrolled in online courses could not be determined until data was acquired after the study began, the total enrollment figure was used to determine a target sample size for the survey. When the actual data was retrieved, a revised and more accurate sample size was calculated.

Since the number of Hispanic students differed from the number of Caucasian students by approximately one third, Leedy and Ormrod (2001) suggested that a proportional stratified sampling method was appropriate. In a proportional stratified sampling method, a sample is drawn proportionally from each population (Leedy, 2001). Utilizing the total enrollment data of 535 Hispanics and 1,587 Caucasians, a confidence interval of 5, and a confidence level of 95%, the target sample size for Hispanics was 224 surveys returned and the target sample size for Caucasians was 309 surveys returned. It should be noted that any surveys received above the targeted sample would have served to decrease the confidence interval and potentially strengthen the results of the study.

To reach the sample target, follow-up reminders needed to be sent to the identified population. Since the college agreed to provide the email addresses of eligible students, the respondents could be tracked as to whether or not they had completed the survey. In this case, follow-up reminders were directed specifically to those students who had not completed the survey. The survey was available for 3 weeks following the initial invitation to participate. One week after the initial invitation, a second invitation was sent

as a reminder to those students who had not yet completed the survey. Two weeks after the initial invitation was sent, a final reminder was sent out to the individuals who had not yet participated. At the end of the third week after the initial invitation, the survey was closed. The target sample size was not reached prior to the termination of the survey, so surveys that had been received were used to continue the study and the impact on the study was examined.

At the end of the survey, respondents were asked if they wished to participate in a follow-up interview. Respondents who agreed to be interviewed were asked to provide their preferred method of contact, such as email or cell phone. Merriam (1998) suggested that a sample size for a case study should be one that is sufficient to answer the question under study. However, Merriam also pointed out that any sample number specified for a case study may need to "be adjusted in the course of the investigation" (p. 64). From the respondents who indicated a willingness to be interviewed, an initial target of 10-12 Hispanic students and 10-12 Caucasian students were selected for interviews.

More than 12 respondents in each ethnic group indicated a willingness to be interviewed. Interviewees were selected based on the number of online courses that they had completed. Potential interview candidates were sorted by ethnicity and listed in descending order by the number of online classes that each person completed, as indicated by question 2 in the survey listed in Appendix B. For each ethnicity, 10-12 participants were selected with preference given to respondents who had both succeeded

and not succeeded in an online course. Success, or lack of success, in an online course was identified through questions 17 and 22 of the online survey.

Researcher and Participant Relationship

The identified population for the study at Antelope Valley College was sent an email and campus announcement containing a link to the online survey, a description of the option for completing a written version of the survey, and a brief description of the study. Respondents who elected to participate in the survey, and who met the study criteria, were asked at the end of the survey if they wished to participate in a follow-up interview.

Prior to the interview, respondents were emailed a welcome letter and a copy of the consent form for review. Scheduling of interviews occurred through email, and through a telephone conversation, depending on the respondent's preference. For the respondents who preferred the initial contact through a telephone conversation, the welcome message was presented verbally, and a review of the informed consent took place before the actual interview. At the time of the interview, the researcher reviewed the informed consent form with each participant and a signature on the consent form was obtained prior to the interview.

Ethical Issues

All data collected were treated as confidential data and were not redistributed or disclosed to outside sources without prior permission of any individual associated with the data. When reporting on interviews, actual participant names were replaced with an

alias that allowed for a discussion of the data, but did not provide any connection to the individual who provided the data. All interview recordings were transcribed by a commercial transcription service. Prior to sending any recordings for transcription, all information that could be used to identify the interviewee was removed, except the aliases used for analysis and discussion purposes. Sanitizing the interview recordings prior to transcription negated the necessity for the commercial company to sign a confidentiality agreement. Similarly, any transcripts shared with a colleague for review were also sanitized.

Approval for conducting a survey or interviews associated with this study was obtained from Walden University's Institutional Review Board prior to the start of data collection. Before any survey was conducted or data was collected, official consent was obtained from Antelope Valley College administration through a letter of cooperation shown in Appendix A. Prior to the start of the survey, participants were informed as to the reason for the study and that at the conclusion of the study, a copy of the research report would be provided upon request. Furthermore, prior to conducting interviews, informed consent was obtained from each participant through a signed consent form shown in Appendix C. Each individual was informed that participation in the study was strictly voluntary and that he or she may withdraw from the study or terminate the interview at any time.

Data Collection and Analysis

This data collection and analysis section describes what data were gathered in support of each research question and how data were collected and analyzed. The primary methods of data collection were through a researcher-developed online survey instrument (Appendix B) and through semi-structured interviews (Appendix D).

The Attitudes Toward Online Learning Survey (ATOLS), which was developed specifically for this study, consisted of 41 questions and explored five areas: a) technology literacy, b) enrollment motivations, c) online classroom design, d) learning preferences, and e) student demographics.

An invitation to participate in the survey for this study was sent to students at Antelope Valley College through two electronic methods. The first method was a campus-wide announcement function available through the college Web portal software system. The second method was an all-student email list in place at the college and used to send student-related messages through email. The survey also acted as an instrument to recruit participants for interviews by asking respondents if they wished to participate in follow-up interviews. At the conclusion of the survey, students were asked if they wished to participate in a follow-up interview. Willing respondents were asked to identify a preferred method of contact and to provide the appropriate contact information.

The semi-structured interviews consisted of five questions and are listed in Appendix D. For each of the main questions listed in Appendix D, probing questions were also listed in order to encourage the interviewee to discuss areas relevant to this

study. Data collected through interviews were used to identify themes about student attitudes toward online learning and to support the survey results.

Creswell suggested a 6-step data analysis approach that included organizing, reading, coding, describing, representing, and interpreting the data (Creswell, 2003). Organizing involved the transcription of the interviews, which were then read in order "to obtain a general sense of the information" (p. 191). The data was then coded or categorized into groups or "chunks" (p. 192) of data that had similar concepts or themes. From the categorized data, themes were identified and described. The fifth general step in analyzing the qualitative interview data, according to Creswell, was to represent the data in a qualitative narrative which may include visual aids that will help articulate the theme. After representing the data, the final step was to interpret the results and develop a discussion of its meaning (Creswell, 2003).

Analysis of Data

Table 1 lists the research questions and the corresponding survey or interview questions that were used to collect data.

Table 1

Research Question Data Collection

Research Question	Survey Question(s)	Interview Question(s)
1. How do online course features in which Hispanic students succeed differ from online course features in which Caucasian students succeed?	16 thru 21	3 thru 5
2. How do online course features in which Hispanic students do not succeed differ from online course features in which Caucasian students do not succeed?	22 thru 26	3 thru 5
3. What were the differences in the way in which Hispanic and Caucasian students utilize the Internet for learning?	3 thru 9, 37	2
4. How do the learning preferences of Hispanic and Caucasian students differ?	27 thru 30	3 thru 5
5. How do the motivations of Hispanic students who succeed in online courses differ from the motivations of Caucasian students who succeed in online courses?	10 thru 15, 32	1 and 2
6. How do the motivations of Hispanic students who do not succeed in online courses differ from the motivations of Caucasian students who do not succeed in online courses?	10 thru 15, 32	1 and 2
7. Participant eligibility and demographics	1, 2, 31 thru 39	

Research Question One

How do online course features in which Hispanic students succeed differ from online course features in which Caucasian students succeed?

Data for research question 1 was collected by questions 16 through 21 in the Attitudes Toward Online Learning Survey (ATOLS) listed in Appendix B, and from questions 3 through 5 in the interview questions listed in Appendix D.

Question 16 of the survey gathered data on what online course elements or activities students would have liked to see in an online course. For this question, frequency distributions and cross-tabulations were created and used to examine relationships and identify themes related to student views of online course design. Interview question 5 also explored a student's preference for online course design elements. Transcripts of the interviews were examined for themes and were compared to the results of the survey for purposes of validating student preferences for online course designs. Question 17 was used to determine if a student succeeded in an online course.

Diaz, along with Morris, Wu, and Finnegan, suggested that high grade point averages may be an indicator of success in online courses (Diaz, 2002; Morris, 2005). Question 17 asked each respondent to identify his or her grade in an online class in which he or she succeeded by receiving one of the four grades that constituted success in an online course. Frequency distributions of the grades A, B, C, and Credit were tabulated for each ethnic group. The grades A, B, and C were used to calculate the mean and the standard deviation for the grade point average of each ethnicity, and were further

separated into gender and age categories. Cross-tabulation tables were used to identify any themes that manifested from the data. One weakness of this question was that the surveyed grade point average, which referred only to a single course, might not accurately represent the actual grade point average of the respondent. However, question 32 did ask each respondent for his or her grade point average and was used as a comparison for this question, as well as for question 22, which was used to determine if a student did not succeed in an online course.

Carswell suggested that a lack of confidence in using Internet technologies might be a barrier to students in an online environment (Carswell, 2000). Question 18 in the ATOLS explored the ease with which online students found information in different parts of an online class. Question 18 was based on a 5-step Likert-type scale that ranged from very easy to very difficult. The mean and standard deviation were calculated for both ethnic groups and cross-tabulation tables were created to examine gender and age as they related to each ethnicity, and to identify possible themes related to student comfort levels with technology for students who succeeded in online courses. Interview question 2 also provided insight into what challenges to achieving comfort with technology students faced when they took an online course.

Unclear goals and objectives can be a hindrance to students in an online course (M. Hughes, Daykin, N., 2002). Question 19 asked respondents how clear the teacher's explanation was of the course objectives. A 5-step Likert-type scale was used to measure how clearly students understood the course objectives as explained by the teacher. The

scale ranged from very clear to very confusing. A sixth step was added that indicated the teacher did not explain the objectives at all. The mean and standard deviation were calculated for each ethnic group. Similar to questions 17 and 18, the results of question 19 were also sorted into gender and age categories which allowed cross-tabulation tables to be used in identifying any themes related to student confusion in online courses.

Bruner and Knowles suggested that a social environment was an important aspect of a learner's self-concept and could affect a learner's level of self-efficacy (Bruner, 1960/1977; Knowles, 1973/1998). Researchers also suggested that a high self-efficacy could lead to a higher level of confidence in completing online classes (Carswell, 2000; Stanley, 2003; Strage, 2000), which in turn might lead to higher success rates. Question 20 in the ATOLS explored whether or not students who successfully completed an online course felt isolated or part of a community while in the online classroom. Using a 5-step Likert-type scale that ranged from strongly agree to strongly disagree, respondents were asked how strongly they felt about the statement, "I felt like I was isolated or alone in the online class." The mean and standard deviation were calculated for each ethnic group. Cross-tabulation tables were used to examine the relationship between ethnicity, gender, and age groups as they related to a student's feeling of inclusion in an online community. Interview questions 3 and 4 also explored how students felt in an online class.

Interview questions 3, 4, and 5 in Appendix B were also used to explore student perceptions and attitudes about the design of online courses. The transcripts from the

interviews were examined to identify general themes related to online course designs, and were used to validate the online survey results of questions 13 through seventeen.

Research Question Two

How do online course features in which Hispanic students do not succeed differ from online course features in which Caucasian students do not succeed?

Data for research question 2 was collected by questions 22 through 26 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 3 through 5 in the interview questions listed in Appendix D.

Research question 2 paralleled the data collection in research question 1; however, rather than focusing on students who had succeeded in an online course, questions 22 through 26 focused on experiences in a course where a student had not succeeded. Transcripts of interview questions 3, 4, and 5 were also used to gather data related to students who did not succeed in an online course. Not having succeeded in an online course was defined as having received a D, F, W, or No-Credit for the course. Question 22 asked each student to identify what grade was received in an online course where he or she did not succeed. Students who had never received an unsuccessful grade in an online course were instructed to skip directly to question 27.

Frequency distributions of the grades D, F, W, and No-Credit were tabulated for each ethnic, gender, and age group. The grades D and F were used to calculate the mean and the standard deviation for the grade point average of each ethnicity. Cross-tabulation tables were used to potentially identify any themes that manifested related to grade point

averages and students who did not succeed in an online course. Similar to research question 1, a weakness of this question was that the surveyed grade point average, which referred only to a single course, might not accurately represent the actual grade point average of the respondent. As such, question 32 was also used in the examination of data for this question.

Survey questions 23, 24, and 25 were similar to questions 18, 19, and 20 respectively, but focused on a student's perception of a class in which he or she did not succeed. Survey question 23 gathered data related to how easily students found information in different parts of an online class for a class in which they did not succeed. Question 23 was based on a 5-step Likert-type scale ranging from very easy to very difficult. The mean and standard deviation were calculated for both ethnic groups, and sorted into age and gender categories. Cross-tabulation tables were created to examine possible themes related to student comfort levels with technology for students who did not succeed in online courses. Interview questions 3, 4, and 5 explored student perceptions of online course design and sough to provide some insight into what challenges to achieving comfort with technology students may have faced when they took an online course.

Question 24 gathered data on the how students viewed the clarity of a teacher's explanation of course goals in a course where they did not succeed. Question 24 utilized a 5-step Likert-type scale to measure how clearly students understood the course objectives as explained by the teacher. The scale ranged from very clear to very confusing. A sixth

step was added that indicated the teacher did not explain the objectives at all. The mean and standard deviation were calculated for each ethnic group, and further sorted into age and gender categories. Cross-tabulation tables were used to identify any potential themes related to student confusion in online courses. The transcripts from interview questions 3, 4, and 5, which explored a student's perception of online course designs, were examined for themes that related to how teachers explained the goals of the course, and were also used to validate the results of survey question 24.

Question 25 in the survey gathered data as to whether or not students who did not succeed in an online course felt isolated, or felt part of a community while in an online classroom. Using a 5-step Likert-type scale that ranged from strongly agree to strongly disagree, respondents were asked how strongly they agreed or disagreed with the statement, "I felt like I was isolated or alone in the online class." The mean and standard deviation were calculated for each ethnic group and categorized into age and gender. Cross-tabulation tables were used to examine the relationship between ethnicity, gender, and age groups as they related to student feelings of inclusion in an online community. Interview questions 3 and 4 also explored how students felt in an online class. Transcripts from interview questions 3 and 4 were examined for themes that related to students who did not succeed and experienced a feeling of isolation in an online class, or experienced a sense of community in the online class.

Interview questions 3, 4, and 5 in Appendix D were used to explore student perceptions and attitudes about the design of online courses in which they did not

succeed. The transcripts from interview questions 3, 4, and 5 were examined to identify general themes related to online course designs, and were used to validate the online survey results of questions 22 through 26.

Research Question Three

What were the differences in the way in which Hispanic and Caucasian students utilize the Internet for learning?

Data for research question 3 was collected by questions 3 through 9 and question 33 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from question 2 in the interview questions listed in Appendix D.

Survey question 3 gathered data related to a student's technology self-efficacy and explored how students perceived their level of computer skills. The question used a scale from 1 to 10, with 1 indicating that their computer skills were not good at all and 10 indicating an expert level. The mean and standard deviation were calculated for both ethnicities and were further categorized by age and gender. Cross-tabulation tables were constructed using question 3 along with questions 17, 22, and 32 to identify any potential themes related to a user's technology self-efficacy, grade point average, and success in online classes.

Question 4 explored the comfort level of a student in his or her ability to find specific Web sites. Question 4 was designed as a 5-step Likert-type scale that ranged from very comfortable to very uncomfortable. The mean and standard deviation were calculated for each ethnic, gender, and age group. Cross-tabulation tables were developed

to examine any themes that manifested related to how comfortable students felt in navigating the Internet. Interview question 2 also explored student comfort levels with technology by exploring why students chose to enroll in an online course. The exploration also provided some insight into the comfort level of students when they accessed the Internet. Transcripts from interview question 2 were examined to identify themes related to student comfort levels and were used to validate the survey results of question 4.

Survey question 5 gathered data related to the comfort level of students in creating a word processing document. The question was based on a 5-step Likert-type scale that ranged from very comfortable to very uncomfortable. The mean and standard deviation were calculated for each ethnicity, as well as gender and age. Cross-tabulation tables were developed using questions 3, 4, and 5 and examined for any themes that related to a user's level of comfort using a computer to create a document versus using a computer to access the Internet. Transcripts from interview question 2 were also examined for themes related to a user's comfort level using a computer.

Question 6 of the Attitudes Toward Online Learning Survey explored a student's perception of email as a communication technology by asking for the participant's comfort level sending and receiving email. The question was based on a 5-step Likert-type scale that ranged from very comfortable to very uncomfortable. The mean and standard deviation were calculated and separated into ethnicity, gender, and age. Cross-tabulation tables were developed to identify potential themes related to student access to

Internet communication technology. Similar to the analysis of questions 3 through 5, the transcripts of interview question 2 were examined for themes related to user comfort levels using email as a communication tool.

Question 7 in the survey explored student access to online social environments such as My Space, Facebook, or Second life. Frequency distributions were tabulated for each ethnic, gender, and age group. Cross-tabulation tables were used to identify any themes that manifested related to the way in which Hispanic and Caucasian students utilized the Internet for learning. The transcripts from interview question 2, which also explored how students utilized the Internet for learning, were used to support data collected from survey question 7 and examined for any themes related to how students used Internet technologies for learning.

Question 8 in the survey explored student comfort levels using technology to communicate with friends and relatives. The question asked students if they used a cell phone to text message a friend or relative. Frequency distributions were tabulated for each ethnic, gender, and age group. Cross-tabulation tables were used to identify themes that manifested related to a user's technology efficacy and to the way in which Hispanic and Caucasian students utilized technology.

Question 9 in the survey explored a student's comfort level using technology to integrate with his or her surrounding environment. The question asked students if they used a cell phone to take photos or record small videos. Frequency distributions were tabulated for each ethnic, gender, and age group. Similar to question 8, cross-tabulation

tables were used to identify themes that manifested related to a user's technology efficacy and the way in which Hispanic and Caucasian students utilized technology.

Survey question 33 explored how often and where students generally accessed the Internet. The question listed five areas from where the Internet might be accessed and asked each participant to indicate how often each location was used to access the Internet. Participants indicated access from a specific location on a 5-step scale ranging from most of the time to never. Frequency tables were developed for each ethnicity, age, and gender categories. Cross-tabulation tables were developed to explore themes that manifested related to how and where students accessed the Internet. Interview question 2 also explored where students accessed the Internet and an examination of the transcripts were used to validate the results of the survey.

The transcripts from interview question 2 were examined for themes related to user comfort levels with technology and how students utilized the Internet for learning. An examination of the transcripts was also used to validate questions 3 through 9 of the survey.

Research Question Four

How do the learning preferences of Hispanic and Caucasian students differ?

Data for research question 4 was collected by questions 27 through 30 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 3, 4, and 5 of the interview questions listed in Appendix D.

Question 27 of the survey identified 11 activities and design elements that could be found in an online classroom. For each of the 11 items, participants were asked to rate how well they liked or disliked each activity or course design element based on a 6-level scale that ranged from liked a lot to extremely disliked, with a sixth level that indicated not applicable in case the participant had never experienced the particular item or activity. The mean and standard deviation were calculated for each item and categorized into ethnic groups, age, and gender. Cross-tabulation tables were constructed to examine themes related to student inclinations for different learning preferences. Interview questions 3, 4, and 5 also explored student preferences related to the design of an online course. The interview transcripts for questions 3, 4, and 5 were examined for themes related to online course design preferences and used to validate survey question 27.

Question 28 explored a student's preference for working alone or in online groups, and asked each participant to indicate his or her preference on a 5-step Likert-type scale that ranged from always alone to always in groups. The mean and standard deviation were calculated for each ethnic group and also separated into age and gender categories. Cross-tabulation tables were developed to examine any themes that existed related to how students preferred to participate in online courses. The transcripts from interview questions 3, 4, and 5 were also examined for themes related to student participation preferences and used to validate the results of survey question 28.

Question 29 gathered data related to student perceptions of how much a teacher paid attention to students in an online class. Survey participants were asked how strongly

they agreed or disagreed with a statement about the teacher paying attention to them in an online class. The question was based on a 5-step Likert-type scale and ranged from strongly agree to strongly disagree. The mean and standard deviation were calculated for each ethnic group and further categorized into age and gender. Cross-tabulations were developed to identify any themes related to a student's perception of how the teacher paid attention to him or her in an online course. Interview questions 3 and 4 explored how students felt in a class that they enjoyed and one that they did not enjoy. The transcripts were examined for themes related to how students perceived a teacher's level of concern for individuals in an online class and were also used to validate the results of question 29 of the survey.

Question 30 gathered data that were used to explore how important participants felt it was to have a computer in the home and connected to the Internet. Participants were asked to rate the level of importance on a 5-step Likert-type scale that ranged from very important to very unimportant. The mean and standard deviation were determined for each ethnic group and further sorted into age and gender categories. Cross-tabulation tables were developed with question 3 to identify themes related to student preferences for utilizing online technologies for education.

Interview questions 3, 4, and 5 explored the attitudes of students toward online course design features and online pedagogical activities. The transcripts from the interview questions were examined for themes related to student preferences for different

design elements in an online classroom. The transcripts were also used to validate the results form survey questions 27 through 30.

Research Question Five

How do the motivations of Hispanic students who succeed in online courses differ from the motivations of Caucasian students who succeed in online courses?

Data for research question 5 was collected by questions 10 through 15 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 1 and 2 of the interview questions listed in Appendix D.

Question 10 in the survey explored the reason why students enrolled in their first online course. Five general reasons were listed for the student to choose from, along with another option where the participant could have entered a reason not provided on the list. Frequency tables were constructed for each ethnic group, and further categorized into gender and age. Cross-tabulation tables were constructed and examined for themes related to the motivation of students who succeeded and why they enrolled in their first online course. Question 1 in the interview also explored why students elected to enroll in online courses at Antelope Valley College. The transcripts from question 1 were examined for themes related to student motivations for enrolling in online courses, and used to validate the survey results of question 8.

Question 11 was an open-ended question asking each respondent why he or she was motivated to enroll in an online course. The results of question 11 were examined for themes that manifested related to the motivating factors that led students to enroll in an

online course. Interview question 1 also explored the motivation of students who enrolled in an online course.

Question 12 in the survey was used to determine whether a student was successful in his or her first online course. The question asked each student what grade was received for the first online course in which he or she enrolled. Frequency tables for grades A, B, C, and Credit were developed for each ethnic group, as well as gender and age, and examined for themes that manifested from the data. The results of question 12 were also used in cross-tabulation with questions 13 through 15 and examined for themes that related to motivations of students who enrolled in online courses. It should be noted that similar to a single grade not accurately representing a student's grade point average, success in the first online course might not be an accurate representation of a student's success with other online courses.

Question 13 in the survey gathered data related to a student's preference for online courses versus on-campus courses. Participants were queried on their likeliness for enrolling in an online course versus a campus course. The question was based on a 5-step Likert-type scale that ranged from very likely to very unlikely. The mean and standard deviation were calculated and categorized into ethnic, gender, and age categories, and examined for themes related to course delivery preferences. For students who had succeeded in online courses, cross-tabulation tables were constructed to identify themes that related to student preferences for online or campus classes. Interview question 2 also explored student perceptions of the differences between online and campus courses. The

transcripts from question 2 were examined for themes related to student preferences for online courses versus campus courses, with the results also used to validate question 13 of the survey.

Question 14 of the survey gathered data on how participants perceived cultural support from teachers and other students when they were in an online class or an on campus class. The question asked participants to agree or disagree with a statement that they believed teachers and other students respected their cultural background. The question was based on a 5-step Likert-type scale that ranged from strongly agree to strongly disagree. The mean and standard deviation were calculated for each ethnic group. The results were sorted into age and gender categories, and cross-tabulation tables were developed to examine the data for themes related to how cultures were respected and supported in the classroom or on campus for those students who were successful in online courses. Interview question 2 also explored student perceptions of culture in the classroom. Transcripts of question 2 were examined for themes related to a student's perception of culture in the classroom and were also used to validate question 14.

Question 15 was used to gather data on how students perceived the importance of going to school versus the importance of seeking employment. Question 15 queried each participant about the importance of going to school first or getting a job first. The question was based on three responses indicating either of two options as being the most important, attending school or seeking employment, and a third option indicating neutrality on the issue. Frequency tables were developed based on ethnicity, age, and

gender, and cross-tabulation tables were constructed to examine themes related to how students perceived the importance of seeking employment versus obtaining a college education.

Interview questions 1 and 2 explored student motivations for attending college and enrolling in online courses. The transcripts for the interview questions were examined for themes related to student motivations for enrolling in college and were used to validate the results of survey questions 10 through 15 for students who succeeded in online courses.

Research Question Six

How do the motivations of Hispanic students who do not succeed in online courses differ from the motivations of Caucasian students who do not succeed in online courses?

Data for research question 6 was collected by questions 10 through 15, along with question 32 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 1 and 2 of the interview questions listed in Appendix D.

Question 10 in the survey explored the reason why students enrolled in their first online course. Since this question was independent of whether or not a student was successful, the same frequency tables developed for research question 5 were used in the data examination of research question 6. Cross-tabulation tables were constructed and examined for any themes related to the motivation of students who did not succeed and why they enrolled in their first online course. The transcripts from interview question 1

were examined for themes related to student motivations for enrolling in online courses, and used to validate the survey results of question 10.

Question 11 was an open-ended question asking each respondent why he or she was motivated to enroll in an online course. The results of question 11 were examined for themes that manifested related to motivating factors that led students to enroll in an online course. Interview question 1 also explored the motivation of students who decided to enroll in an online course.

Survey question 12 was used to determine if a student did not succeed in his or her first online course. Frequency tables for grades D, F, W, and No-Credit were developed for each grade and each ethnic group, and were further categorized by gender and age. Cross-tabulations were used to examine the data for themes that manifested related to motivations of students who did not succeed in online courses. The results of question 12 were also cross-tabulated with questions 13 through 15 and examined for themes that related to motivations of students who did not succeed in online courses. Here too it should be noted that similar to a single grade not accurately representing a student's grade point average, not succeeding in the first online course might not be an accurate representation of a student's success, or lack of, with other online courses.

Question 13 in the survey gathered data related to student preferences for online courses versus campus courses. Participants were asked how likely they would be to enroll in an online course versus a campus course. The question was based on a 5-step Likert-type scale that ranged from very likely to very unlikely. The mean and standard

deviation were calculated and categorized into ethnic, gender, and age categories, and examined for themes related to which course delivery method a student preferred. Cross-tabulation tables were developed to identify themes that related to a student's preference for online versus campus classes, for students who had not succeeded in online courses. Interview question 2 also explored student perceptions on the differences between online and on campus courses. The transcripts from question 2 were examined for themes related to student preferences for online courses versus campus courses, with the results also being used to validate survey question 13.

Question 14 of the survey gathered data on how participants perceived cultural support from teachers and other students when they were in class or on campus. The question asked participants to agree or disagree with a statement that they believed teachers and other students respected their cultural background. The question was based on a 5-step Likert-type scale that ranged from strongly agree to strongly disagree. The mean and standard deviation were calculated for each ethnic group. The results were sorted into age and gender categories, and cross-tabulation tables were developed to examine the data for themes related to how cultures were respected and supported in the classroom or on campus for those students who did not succeed in online courses. Interview question 2 also explored how a student perceived culture in the classroom. Transcripts of question 2 were examined for themes related to a student's perception of culture in the classroom and were also used to validate question 14.

Question 15 was used to gather data on how students perceived the importance of going to school versus seeking employment. Question 15 queried each participant about the importance of going to school first or getting a job first. The question was based on three responses indicating either of two options as being the most important, attending school or seeking employment, and a third option indicating neutrality on the issue. Since the data for research question 6 was the same as the data for research question 5, the same frequency tables based on ethnicity, age, and gender developed for research question 5 were used to identify themes related to how students who did not succeed perceived the importance of getting a job versus the importance of getting a college education. Cross-tabulation tables were constructed to examine themes related to how students who did not succeed perceived the importance of seeking employment or obtaining a degree.

Interview questions 1 and 2 explored student motivations for attending college and enrolling in online courses. The transcripts for interview questions 1 and 2 were examined for themes related to student motivations for enrolling in college and were used to validate the results of survey questions 10 through 15 for students who did not succeed in online courses.

Reliability

A researcher-developed online questionnaire was used to gather data and information related to participant demographics and background. Researchers suggested that an important element of data collection was the reliability of the measurement instrument (Leedy, 2001; Merriam, 1998). Merriam defined reliability as “the extent to

which research findings can be replicated" (Merriam, 1998, p. 205). In other words, reliability may be present if the application of the measurement instrument was repeated, and the results appeared to be the same.

To increase the reliability of the researcher-developed survey used in this study, a test and retest strategy was implemented with a convenience sample of 44 students. Of the 44 students, approximately half were Hispanic and half were Caucasian. One week after the first test was administered, a retest was conducted. The test and retest data was then compared and analyzed for similarities in the results. Similar results of the two tests would indicate a higher level of reliability, but would not ensure validity.

To enhance the reliability of the interviews, the transcripts of the interviews were shared with a colleague who was asked to identify general themes. If the results of the interview were to be considered reliable, the themes identified by the colleague should be similar to those identified by the researcher.

Validity

Research studies might have a high level of reliability; however, if the data that is collected is not valid, then the study might not be worth the time and effort it took to conduct the research (Leedy, 2001). Validity, according to Leedy and Ormrod, refers to "the accuracy, meaningfulness, and credibility -- of the research project as a whole" (p. 103). There are two types of validity in qualitative research: a) internal validity, where accurate conclusions may be drawn on the data collected, and b) external validity, where

the results of a study may be generalized to a larger population or situation outside the study (Leedy, 2001; Merriam, 1998).

Internal Validity

Validity is not a discrete attribute of a study; rather, it is a level that could vary with different studies (Banerjee, 2000). Banerjee contended that "validity is a property of the context in which the test is used" (p. 658). Banerjee also suggested that validity in a study could be viewed in multiple ways, two of which were face validity and content validity (Banerjee, 2000). According to Banerjee, face validity referrred to the perception of the test's acceptability, and content validity was how well the data collection instrument collects relevant data (Banerjee, 2000). One method of establishing face validity, according to Banerjee, was to distribute the collection instrument to "test users (e.g. students, parents, admissions officers at educational institutions) to find out about their attitudes and reactions to, and feelings about, a test they have just taken or looked at" (p. 658). To establish face validity of the survey instrument in this study, the survey was distributed to a small group to measure clarity, attitudes, and reactions. The results were used to clarify any ambiguity found in the presentation of the survey questions.

To increase the content validity of the study, Banerjee suggested that the data collection instruments be reviewed by an expert panel (Banerjee, 2000). The data collection instruments should be reviewed, according to Banerjee, for "how representative the items were of the content the test is expected to include" (p. 658). For this study, the survey questions and the interview questions were submitted to an expert

panel which consisted of three professionals from the fields of institutional research and distance education. The panel included an institutional researcher, a community college distance education colleague, and a distance education director from a community college other than Antelope Valley College. The panel was asked to review the survey and interview questions for content relevancy as it related to data collection for the research questions.

Triangulation and member checks are two strategies that might also increase the internal validity of a research project (Merriam, 1998). According to Merriam, triangulation is the process of collecting and correlating data from multiple sources, and member checks is the process of asking the participants to verify that the data collected, and interpretations of the data, were accurate (Merriam, 1998). Triangulation in this study was accomplished by having collected data through online surveys and semi-structured interviews. The interviews were recorded and transcribed, and themes that manifested from the transcripts were compared to the results of the survey.

Summaries of the interview transcripts were returned to each interviewee for verification of accuracy. Dearnley (2005) suggested that semi-structured interviews that had been recorded and transcribed should be summarized before presenting the results to an interviewee for verification (Dearnley, 2005). Dearnly argued that a summary should be presented to the interviewee for verification rather than a verbatim copy of the transcript. According to Dearnly, participants were often unprepared to read verbatim transcripts of an interview and often experienced a sensation of “did I really say that?” (p.

24). The sensation Dearnly suggested might cause the interviewee to change original responses in order not to appear foolish (Dearnley, 2005).

To further enhance the validity of the transcribed data, two colleagues reviewed the data for themes that manifested related to the research questions. The results were compared to the results of the study conducted by the researcher and examined for similarities.

External Validity

Since this study was based on a very narrow population, external validity was difficult to demonstrate. One method of establishing external validity would be to replicate the study with other populations (Leedy, 2001). According to Leedy and Ormrod, if a study was conducted "in a very different context" (p. 106) and the results were the same, the study might have external validity. Although this study was not conducted in multiple and different contexts, and as such might not be generalized to the larger population of community college online students, perhaps it may still serve as a model for other researchers who might conduct similar studies at their institutions.

Chapter 3 Summary

This chapter presented a description and rationalization of a comparative case study, using nonprobability sampling, which examined the differences between online learning for Caucasian and Hispanic community college students. Chapter 4 presents the results of the study. Chapter 5 presents an interpretation of the findings, recommended

actions, recommendations for further study, a reflection on the experiences of the researcher, and the contributions of this research to positive social change.

CHAPTER 4: DATA COLLECTION AND ANALYSIS

The purpose of this study was to examine the differences between online learning for Hispanic and Caucasian community college students. Data collection for this study consisted of a researcher-developed Attitudes Toward Online Learning Survey (ATOLS) and semi-structured interviews. The survey instrument is listed in Appendix B and the interview questions are listed in Appendix D.

Survey Development

Although this study was a comparative case study, a researcher-developed quantitative survey instrument was used to gather participant demographics and background information. Forty-two questions were developed for the Attitudes Toward Online Learning Survey.

Survey Validity

To increase the content validity of the study, the survey and interview questions were submitted to a panel that consisted of three professionals from the fields of institutional research and distance education. The panel included an institutional researcher, a community college distance education colleague, and a distance education director from a community college other than Antelope Valley College. The panel was asked to review the survey and interview questions for content relevancy as they related to data collection for the research questions.

The panel agreed that the questions were useful in collecting data that would support the research questions. The distance education director suggested adding an

option to question 10, which asked students why they enrolled in an online course, stating that a counselor recommended taking the online class. The institutional researcher admitted to not having online course design experience enough to add questions, but did indicate that overall the questions appeared to be appropriate in support of the research questions. Finally, the distance education colleague mainly had suggestions related to the clarity and flow of how questions might be read or understood, grammar, and punctuation. For example, the distance education colleague suggested reversing the order of the options for question 3 so that the flow of positive to negative was similar to the other survey questions. Changes were made to the online survey and a test survey was placed online.

Test and Retest

As discussed in chapter three, researchers suggested that an important element of data collection was the reliability of the survey instrument used to collect the data (Leedy, 2001; Merriam, 1998). According to Merriam, reliability of the instrument may be present if use of the measurement instrument was repeated and the measured results were similar (Merriam, 1998). Face validity of the survey instrument in this study was established using a test and retest strategy. The survey was distributed to a small group, determined by a convenience sample, to measure clarity, attitudes, and reactions. The results were used to clarify ambiguities found in the presentation of the survey questions.

Seven online instructors at Antelope Valley College were asked permission to solicit volunteers from their 2008 Winter Intersession courses. Of the seven instructors,

five responded that it was permissible to post a message in their online class, one instructor preferred to email the message directly to the students, and one instructor did not respond to the request. Since some instructors taught multiple sections of the same course, a message was posted in a total of 11 classes and an additional three classes had the message emailed directly to the students by the instructor. The message described the study, the researcher, the voluntary nature of the study, and instructions for contacting the researcher if an individual was interested in participating. From the 14 classes, 57 students contacted the researcher and indicated a willingness to complete the test and retest survey.

A link to the online survey was sent to each of the 57 volunteers. One week after the first survey link was emailed, a reminder email was sent to those who had not yet completed the survey. One week after the reminder email was sent, a final reminder was emailed to those who had not completed the survey. Finally, one week after the final announcement, the test survey was closed. Based on feedback from the volunteer participants, one additional online social application called Live Journal was added to the list in question 7. One week after the initial test survey was closed, a link for a retest was sent to the participants who completed the first test. Of the 57 participants who completed the first survey, 41 completed the retest. Reminder emails were sent to the retest participants on a similar schedule as the first test survey.

The results of the two surveys were compared, and with the exception of two questions, every question had similar responses and only varied slightly in the percentage

of the participants who had answered the questions. The two exceptions were questions 16 and 33. Question 16 asked students to indicate which activities or course elements students would have liked to see in an online class. In the first test, 67% (n = 37) indicated that the most desirable element was instant messaging and 47% (n = 26) indicated that the second highest rated element was audio. However, in the retest, instant messaging was ranked fourth at 46% (n = 19) while audio was rated the highest at 63% (n = 26), even though the number of responses for audio stayed the same. One possible explanation might be that students confused instant messaging online with text messaging using a cell phone. Since all of the other elements listed in the question were similar in the number of responses, and since the placement of instant messaging was still rated as one of the top 4 elements out of 12, the decision was made to leave the option list unchanged.

The other question that had a varied response between the two test surveys was question 33, which was less drastic in its differences between the two tests and might be justified by the difference in the number of students who completed the surveys. In the first survey, 53 students answered the question, and in the second survey, 39 students answered the question. Question 33 asked, in part, how often students accessed the Internet from work. Results from the first survey indicated that 30% (n = 12) of students accessed the Internet from work most of the time, and 33% (n = 13) never accessed it from work. In the retest, 36% (n = 19) indicated that they accessed the Internet from work most of the time, while only 26% (n = 13) never accessed the Internet from work. Again,

it should be noted that the same number of students who responded that they never accessed the Internet from work (n = 13) remained the same as in the first survey. Since the changes in numbers were not significant and could be justified by the difference in the number of students who responded to each survey, the decision was made to leave the question unchanged.

Final Survey

During the period from the Spring 2003 semester to the Fall 2007 semester, a total of 3,774 students (1,185 Hispanic and 2,589 Caucasian) enrolled in at least one online course at Antelope Valley College. Through a letter of cooperation from the Antelope Valley College administration, permission was granted to obtain a list of college-assigned email addresses for each of the 3,774 students. The list of email addresses, along with the Web-based campus-wide announcement function of the college Web portal, was used to distribute a Web link for students to participate in the online survey hosted through SurveyMonkey.com.

Since this study sought information related to an individual's technology efficacy, it may have been the case where a student was not comfortable taking an online survey over the Internet. To offset the possibility, a written version of the survey was made available at the college's main switchboard for any student not wanting to take the online version, but still wanting to participate in the study. The written option was described in each invitation sent via directed emails and the campus-wide announcement function. When the survey was closed, all surveys at the switchboard were retrieved and no student

had elected to complete the written version of the survey. It should be noted that a student who was adverse to technology may not have logged in to the campus Web portal and would not have received the announcement regarding the availability of a written survey.

Since the number of Hispanic students in the identified population differed from the number of Caucasian students by approximately one third, Leedy and Ormrod suggested that a proportional stratified sampling was appropriate for identifying the target return. In a proportional stratified sampling method, a sample is drawn proportionally from each population (Leedy, 2001). Utilizing the total enrollment data of 1,185 Hispanic students and 2589 Caucasian students, based on the online enrollment from the Spring 2003 semester to the Fall 2007 semester, a confidence interval of 5, and a confidence level of 95%, the target sample size for Hispanics was determined to be 108 surveys and the target sample size for Caucasian students was 241 surveys.

Of the 3,774 email invitations sent out, 173 emails were rejected as bad addresses, 29 recipients chose to opt out of receiving any survey invitations, and 202 addressees elected to take the survey. From the campus-wide announcement, 122 additional students elected to take the survey, for a total of 324 survey respondents. It should be noted that the survey was designed to disallow a participant from taking the survey more than once from any given computer. However, if the participant utilized multiple computers, it is possible that a single participant could have responded multiple times to the survey.

The first two questions of the survey were used to test and verify a respondent's eligibility for taking the survey. The first question asked which ethnicity the student

reported on his or her college application. The three options in the survey were Caucasian, Hispanic/Latino, and Other. The survey included a note acknowledging the diverse interpretation of the Hispanic/Latino label and defining the use of the term for purposes of the survey. The note can be found at the top of the survey listed in Appendix B.

If a respondent selected the option Other, he or she was redirected to a page which thanked the respondent for considering the survey and explaining that he or she did not meet the minimum guidelines for the study. Of the 324 respondents, 186 identified as Caucasian and 120 identified as Hispanic/Latino. Based on the responses, the Hispanic sample target was reached; however, the Caucasian sample target was not reached. Therefore, the results of this study may not necessarily be generalized to the larger population, but may still serve as a guide for future research.

Interviews

Question 40 of the survey asked respondents if they wished to participate in a follow-up interview. Of the 214 respondents who answered the question, 152 indicated that they would or might be willing to be interviewed. Questions 41 and 42 were used to gather contact information. As discussed in chapter 3, Merriam (1998) suggested that a sample size for a case study should be one that is sufficient to answer the question under study, but that any sample number specified for a case study may need to "be adjusted in the course of the investigation" (p. 64). The initial target number of interviews was set at 10-12 Hispanic students and 10-12 Caucasian students.

Participant Selection

The list of 152 individuals who expressed a willingness to participate in an interview was compiled in a password-protected Microsoft Excel spreadsheet. The list was sorted by ethnicity and then by the total number of online courses taken in a descending order. The first 12 students listed for each group were contacted via email to set up an interview. Of the 12 Caucasian students contacted, five responded and an appointment was made. Of the 12 Hispanic students contacted, five also responded and made an appointment. One Hispanic student failed to show up for the initial appointment, and two follow-on appointments, and was finally removed from the list. A second and third email request was sent to the remaining names on each of the lists. One Caucasian and one Hispanic student on the lists were not able to reach the campus for an interview. Since a signed letter of consent was necessary for the interviews, the two names were removed from the list. No further responses were received and no further contact was attempted for the remaining names on each of the initial lists.

The next eight names on the Hispanic list were emailed and five students responded and set up interview appointments. One of the five students was a no-show three times and was removed from the list. Six more Hispanics were contacted from the list, with three responding and setting up appointments. One of the three failed to show after three attempts and was removed from the list of interviewees. Since the target level of 10 Hispanics was achieved, no further attempts were made to schedule more Hispanic interviews.

A second set of 10 Caucasian students were contacted for an interview. Three of the 10 responded and set up an interview. Second and third attempts were made to reach the remaining seven students. No responses were received and no further contact was attempted. A third set of 10 Caucasian students were contacted and three responded to set up interview appointments. One of the three students was a no-show twice and was removed from the list. Since the target number of interviews was reached, and it was equal to the number of Hispanic interviews, no further Caucasian students were contacted with requests for interviews.

Conducting the Interviews

Prior to the interviews, each respondent was emailed a copy of the consent form and a list of the main interview questions for review. The consent form was again reviewed and signed prior to conducting each actual interview. All interviews were conducted on campus and recorded using an Olympus WS-300M Digital Voice Recorder. The digital voice recorder allowed recorded interviews to be directly transferred into a computer for de-identifying prior to being transcribed.

After the interviews were completed, each recorded interview was reviewed and all information that could potentially identify a student was removed or replaced with a note indicating that an item was removed. For example, if an interviewee used a teacher's name, the name was removed and replaced with a message saying that the teacher's name was removed. Similar strategies were used for specific class names, city names, and other identifying data. The de-identified recorded interviews were then submitted to a

commercial transcription service for transcription. The name of the file submitted was changed to the unique numerical identifier assigned from the online survey. The files were then transcribed by Escriptionist.com.

Data Triangulation

According to Merriam, member checks may increase the internal validity of a research project (Merriam, 1998). To achieve a member check, a summary transcript was returned to each interviewee for verification of accuracy. Of the twenty interviewees, six responded and indicated that the summary was accurate. One of the six also wanted to add something to the interview based on her first week in an online course that she started after the interview.

To further enhance the validity of the transcribed data, the transcripts were submitted to two colleagues for review. The two colleagues who agreed to review the transcripts included the Dean of the Social and Behavioral Sciences division, and a distance education colleague. The dean and the colleague reviewed the transcripts and agreed that the themes identified were appropriate.

Transcript Review and Theme Identification

In analyzing qualitative data, Creswell suggested a 6-step approach that included organizing, reading, coding, describing, representing, and interpreting the data (Creswell, 2003). Organizing involved the transcription of the interviews, which were then read in order "to obtain a general sense of the information" (p. 191). The data was then coded and categorized into groups or "chunks" (p. 192) of data that had similar concepts or

themes. From the categorized data, themes were then identified and described. The fifth general step in the analysis of the qualitative interview data, according to Creswell, was to represent the data in a qualitative narrative. After the data was represented in a narrative form, the final step was to interpret the results and develop a discussion of its meaning (Creswell, 2003).

The transcripts were reviewed and divided into 12 general groups: a) scheduling and flexibility, b) course design, c) feedback issues, d) instructor contact, e) frustration, f) community connectedness, g) isolation, h) motivation, i) family, j) confusion, k) culture, and l) financial impact. Table 3 lists the number of references made to each of the 12 general themes. A case referred to an individual interviewee.

Table 3

Themes Referenced by Cases

Theme	Number of Caucasian Cases	Number of Hispanic Cases
Scheduling and Flexibility	10	8
Course Design	8	6
Feedback Issues	5	8
Instructor Contact	4	7
Frustration	6	5
Community/Connectedness	5	4
Isolation	4	4
Motivation	5	3
Family	2	5
Confusion	2	2
Culture	1	2
Financial Impact	1	2

The general groups were then reviewed for similar content and categorized into six groups. Scheduling and flexibility were combined with family and included in a group called flexibility. Community and connectedness were combined with isolation and labeled connectedness. Instructor contact and feedback issues were combined into feedback. Frustration, confusion, and culture were combined into an attitude group. Although financial impact was one of the initial groups, after further review, the topic did not necessarily fit with any of the other 11 areas. Considering the small number of references made to financial impact, a decision was made not to include the topic as one of the final groups.

The final six groups include a) attitude, b) connectedness, c) course design, d) feedback, e) flexibility, and f) motivation. Each group was then reviewed again to identify any themes. With the exception of the connectedness group, which only manifested three themes, each group manifested four themes.

The attitude group contained four themes: a) confidence, b) culture, c) expectations, and d) motivation. It should be noted that motivation as a theme in the attitude group reflected on the attitude of students after having enrolled in online courses. The group defined as motivation differed in that it refered to motivational issues related to having entered or attended school, rather than having participated in class.

The connectedness group contained three themes: a) community, b) isolation, and c) groups. Four themes were identified in the course design group: a) clarity, b) cognition, c) multimedia, and d) navigation. The feedback group was categorized into

four themes: a) communication, b) immediacy, c) instructor clarity, and d) instructor contact. The flexibility group was categorized into four themes: a) campus access, b) class access, c) family, and d) pace. Finally, the motivation group was categorized into four themes: a) family, b) online convenience, c) self-discipline, and d) skills improvement.

To facilitate a discussion of the themes and the students interviewed, and in order to maintain anonymity for each interviewee, aliases were used in place of each student's actual name. To further facilitate identifying cases by ethnicity while discussing the interviews, the Caucasian aliases were derived using the first 10 letters of the alphabet as the first letter in the alias, and the Hispanic aliases were derived using letters in the second half of the alphabet. Table 4 lists the aliases used in the study.

Table 4

Aliases by Ethnicity, Gender, and Age Group

Caucasian Alias	Gender	Age Group	Hispanic Alias	Gender	Age Group
Alice	F	25-49	Margarita	F	25-49
Barbara	F	20-24	Nina	F	25-49
Carl	M	20-24	Orlando	M	25-49
Dorothy	F	50 or Older	Priscilla	F	19 or Younger
Ellen	F	25-49	Rosa	F	25-49
Fiona	F	50 or Older	Sophia	F	25-49
Gerard	M	50 or Older	Theresa	F	25-49
Haley	F	25-49	Ursula	F	25-49
Iris	F	25-49	Veronica	F	20-24
Julie	F	20-24	Yolanda	F	25-49

Research Question One

How do online course features in which Hispanic students succeed differ from online course features in which Caucasian students succeed?

Data for research question 1 was collected by questions 16 through 21 in the Attitudes Toward Online Learning Survey (ATOLS) listed in Appendix B, and from questions 3 through 5 in the interview questions listed in Appendix D.

For the purposes of research question 1, question 17 was used to determine the success of a student in an online course, and asked each student to think of a course that he or she took online and received a grade of A, B, C, or Credit. Table E1 in Appendix E lists the results of question 17 by ethnicity and revealed that 97.2% (n = 141) of the 145 Caucasian students and 92.2% (n = 71) of the Hispanic students had passed at least one online class.

Question 16 of the survey gathered data on what online course elements or activities students would have liked to see in an online course. Table E2 in Appendix E lists, in descending order of popularity, and by ethnicity, the results for students who had passed at least one online class. The list included audio, discussion forums, and instant messaging as the top three.

Of the 100 students who identified audio as desirable, 64.0% (n = 64) were Caucasian and 36.0% (n = 36) were Hispanic. Of the 95 students who indicated discussion forums as desirable, 65.3% (n = 62) were Caucasian and 34.7% (n = 33) were

Hispanic, and of the 89 students who identified instant messaging as desirable, 70.8% (n = 63) were Caucasian students and 29.2% (n = 26) were Hispanic students.

Question 35 asked students to indicate the highest level of English they had completed. Table E3 in Appendix E shows the level of English completed, categorized by ethnicity. Of the 140 Caucasians who responded to the question, 7.9% (n = 11) had not yet achieved a transfer level of English. Of the 72 Hispanics who responded to the question, 18.1% (n = 15) had not yet achieved a transfer level of English. A transfer level English course is defined as the minimum course level required to transfer to a 4-year institution or to graduate with an associate degree. The transfer level course for Antelope Valley College at the time of this study was Freshman Composition.

Students who were interviewed indicated more of a desire for videos than any other online technology. Caucasian students who were interviewed suggested that multimedia played, or should play, a significant role in the design of an online course, and that some form of visual feedback would be beneficial. Fiona, when asked to describe a perfect online class commented, “I think it would help if it had video clips.” Ellen also recognized the interactive possibilities. When asked about a perfect online class, Ellen replied, “I believe in this day and age, the perfect online class would have a webcam associated because of the facial recognition sort of thing.” Julie appreciated the visual aspect of webcams but was concerned with the privacy aspect as she stated, “it’s [webcam] almost a little too intrusive, depending on where their computer is and what else is going on their house…there’s that - that level of privacy or that wall, I think.”

Gerard enjoyed the multimedia aspect of animations and simulations and noted their interactive value. Whether it was webcams or interactive animations, Gerard summed up the general feeling about visual and interactive course elements in an online class when he stated, “I would like the lectures to be more than just reading the lectures.”

Hispanic students who were interviewed also indicated that multimedia was an important part of an online class. Nina, when asked to describe the perfect online class, commented, “I like a lot of graphics and video clips.” Theresa liked the idea of webcams and suggested “having a webcam…so you are able to see that person and kind of like interact.” Veronica suggested that webcams could be used to create a personal touch when she stated, “If you had access to a webcam, I’d use that. That way it’s more personal.”

Rosa supported the use of interaction and suggested that more is better when she commented about the perfect online class, “But I do think that they should have more interactivity, not just data on a screen, you know, not just the online textbook.” Similarly, when asked about what she would have included in a perfect online class, Priscilla suggested, “A lot of the lectures, it was text, it was videos, it would have sound included, pictures that go with the text.”

On a 5-step Likert-type scale that ranged from very easy (one) to very difficult 5, question 18 asked students how easy it was to find information in parts of the course in which they succeeded. Table E4 lists the mean and standard deviation for question 18 (Caucasian M = 1.62, SD =.88, and Hispanic M = 1.74, SD = .92). Table E5 in Appendix

E lists the response distribution. The data revealed that none of the respondents thought that finding information in an online classroom was very difficult. Table E5, when categorized by ethnicity, revealed that proportionally both groups appeared equal in those who believed that finding information was somewhat difficult. Of the 141 Caucasians that responded to the question, 7.1% (n = 10) indicated that finding information was somewhat difficult. Of the 69 Hispanics who responded to the same question, 7.2% (n = 5) responded that finding information was somewhat difficult. In contrast, of the 141 Caucasian students, 87.2% (n = 123) believed finding information was very easy or somewhat easy, and 82.6% (n = 57) of the 69 Hispanic students thought that finding information was easy or somewhat easy.

Table E6 in Appendix E lists the results of Question 18 sorted by gender and ethnicity. The data revealed that of the 29 male Caucasians, 10.3% (n = 3) indicated that finding information was somewhat difficult, and of the 11 male Hispanics, 9.1% (n = 1) indicated the same. Of the 108 female Caucasians, 6.5% (n = 7) indicated finding information was somewhat difficult, and of the 54 female Hispanics, 7.4% (n = 4) indicated the same. No students from either ethnic group indicated that information was difficult to find. When the results were categorized by age groups and ethnicity, as shown in Table E7 in Appendix E, the data revealed that for both ethnic groups, the highest percentage of students who indicated somewhat difficult were in the 25-49 age group. Of the 10 Caucasian students who indicated somewhat difficult, 8.5% (n =5) were in the 25-

49 age group, and of the five Hispanic students, 8.6% (n = 3) were in the 25-49 age group.

Students who were interviewed and had succeeded in an online class did not specifically indicate that finding information was problematic; rather, they indicated that the only navigational problem encountered in online classes was not having the ability to control where and how data or information was accessed. Caucasian students who indicated that course navigation control was an important element in an online class appeared to want control of displaying information and did not indicate that finding the information was problematic. Dorothy's desire to control access and open areas of the course in a modular fashion was evident in her statement, "If it was - maybe more like windows and I could have things open." Haley believed that being able to manipulate the replay or rewind controls of a lesson was preferable. Haley's frustration at not being able to control the lesson timeline was evident when she stated, "There is one frustrating thing I can tell you, the lectures. I forgot about that. You can advance to the next slide but you can't fast-forward or rewind."

Of the Hispanic students who were interviewed, Orlando was the only one who indicated that controlling the flow of information was significant. Orlando expressed some frustration when he stated, "I like the PowerPoint, but I hate having to go back to the beginning of the slide, you know, when I just want to go back a couple of seconds."

On a 5-step Likert-type scale that ranged from very clear (one) to very confusing 5, question 19 asked students how clear the teacher's explanation was of the course

objectives. Table E8 in Appendix E lists the mean and standard deviation for question 19 sorted by ethnicity (Caucasian M = 1.52, SD = .89, and Hispanic M = 1.54, SD = .92). Table E9 in Appendix E lists the response distribution for question 19. The data revealed that no students indicated that the clarity of the teacher's course objective explanation was very confusing, and only 7.2% (n = 10) of the Caucasian students and 8.7% (n = 6) of the Hispanic students thought the explanation was somewhat confusing.

Table E10 in Appendix E displays the response distribution of question 19 sorted by gender and ethnicity. The data revealed that no student from either ethnic group found the explanation of course objectives to be very confusing. Of the 27 male Caucasians, 14.8% (n =4) indicated that the course explanation was somewhat confusing, and of the 108 female Caucasians, 5.6% (n = 6) indicated the same. Of the 11 male Hispanics, 9.1% (n = 1) found the explanation somewhat confusing, and of the 54 female Hispanics, 9.3% (n = 5) indicated the same. When the results were categorized by age group and ethnicity, the data revealed that for both ethnic groups, the highest percentage of students indicating somewhat confusing were in the 25-49 age group. Of the 10 Caucasians indicating somewhat confusing, 50.0% (n = 5) were in the 25-49 age group, and of the six Hispanics, 66.7% (n = 4) were in the 25-49 age group.

Caucasian students who were interviewed indicated that a course was more enjoyable when the instructor was clear about any objectives or expectations. When talking about a course that was enjoyable, Julie admitted that "the teacher was very workable and easy going, and I knew what I was - was expected of me and it wasn't -

didn't take too much stress." From a contrasting perspective, Gerard suggested that a lack of clear communication could contribute to not enjoying a class. When asked to describe a class that he did not enjoy, Gerard's main concern was poor feedback or communication from the teacher that may not have occurred in a campus class. Gerard stated, "So like I say, maybe there was a lack of communication online that may not have happened in the classroom."

Hispanic students who were interviewed expressed similar notions related to objectives or expectations. Yolanda, when asked what should be included in a perfect online class suggested, "I think that perhaps like an outline as to what is exactly requested of you or like an objectives page to where you can know that this is what this curriculum is trying to get across." When Nina was asked about an online course that she did not enjoy, professor interaction was part of the reason. Nina stated, "I think probably the reason I didn't enjoy it was because I probably needed more professor help in that course."

On a 5-step Likert-type scale that ranged from strongly agree (one) to strongly disagree 5, question 20 asked students how strongly they agreed with the statement, "I felt as if I was isolated or alone in the online class." Table E12 in Appendix E lists the mean and standard deviation for question 20 (Caucasian M = 3.8, SD = 1.2, and Hispanic M = 3.6, SD = 1.3), and Table E13 in Appendix E lists the response distribution for question 20. The data in Tables F12 and F13 revealed that there is very little difference between the ethnicities of the students who strongly agreed or somewhat agreed about the

feelings of isolation. Of the 141 Caucasians, 19.1% (n = 27) strongly agreed or somewhat agreed with the statement that they felt isolated or alone in the class, and of the 69 Hispanics, 18.8% (n = 13) strongly agreed or somewhat agreed.

Table E14 in Appendix E displays the results of question 20 sorted by gender and ethnicity. Of the 11 Hispanic males, 54.5% (n = 6) somewhat disagreed or strongly disagreed, and of the 54 Hispanic females, 50.0% (n = 27) somewhat disagreed or strongly disagreed. In contrast, of the 28 Caucasian males, 35.7% (n = 10) somewhat disagreed or strongly disagreed, while of the 109 Caucasian female students, 62.4% (n = 68) somewhat disagreed or strongly disagreed.

When question 20 was categorized by age group and ethnicity, as shown in Table E15 in Appendix E, the data revealed that of the 26 Caucasian students in the 50-or-older group, 61.5% (n = 16) somewhat disagreed or strongly disagreed, while of the 4 Hispanic students in the 50-or-older group, 25% (n = 1) somewhat disagreed or strongly disagreed with the statement that they felt isolated in an online class.

Students who were interviewed indicated an awareness of the potential for feeling isolated, and in some cases, isolation in the class was welcomed. For some of the students, the isolation appeared to be a privacy issue or simply a preference, for others, the feeling of isolation manifested through a lack of feedback. Of the Caucasian students who were interviewed, Alice appeared to prefer the isolation because “People don’t judge you, they don’t see you, so it’s sort of – it’s only your work instead of you.” Students such as Haley appeared to simply accept isolation as part of today’s lifestyle. When

talking about an online class that she enjoyed, Haley stated, “I have enough social skills and I deal enough socially with other people that I don't feel I have to be in a classroom structure.” Haley suggested that online classes provided an opportunity to just complete the work and move on to the next challenge. Haley stated, “I haven't really found a lot of people in there that have content that I really even need to reply to. So I do my work and I'm getting that knocked out.”

For other students, a lack of feedback from the instructor, other students, or even the communication technology appeared to cause a sense of isolation. Ellen noted the use of technology that students needed in order to raise a hand to ask a question. Ellen stated, “it cracked me up that you actually like clicked the button to say, raise your hand.” Fiona perceived a lack of camaraderie due to the absence of a physical classroom. Fiona stated, “You don’t have the physical classroom, so you don’t have the camaraderie with the students. You don’t have that relationship with the instructor – that same kind of relationship,” while Gerard noted the lack of socializing. When asked about the differences between online and campus classes, Gerard stated, “Well, I think what stands out the most is just the interaction.”

Hispanic students who were interviewed expressed similar attitudes about isolation in online classes. Similar to Haley’s perspective, Ursula also felt that online classes provided an opportunity to just complete the work and move on to the next assignment. When asked if she had any feelings of isolation in a class she enjoyed, Ursula replied, “No, I felt like I was doing independent study. So no sense of community

but no sense of isolation either because that's what I wanted. I mean I just wanted to get it done."

In contrast, Rosa saw communal conference calls as an opportunity to make friends. When asked to describe a perfect online class, Rosa spoke about including conference calls and stated,

> And I think one of the things I really enjoyed in the class was the fact that we had conference calls, just once a week, can you make it, great, if you can't make it no problem. And that gave everyone an opportunity to hear, so you could associate voices at least with names, and it allowed everyone to answer questions and it allowed everyone to have kind of like a buddy, just like a study person, you know.

However, Rosa also admitted to feeling isolated when there was a lack of feedback from the instructor. When asked about a class she did not enjoy, Rosa replied, "I felt really isolated and I felt like I wasn't learning anything because I wasn't getting any feedback, so I didn't know what I was doing."

Research Question Two

How do online course features in which Hispanic students do not succeed differ from online course features in which Caucasian students do not succeed?

Data for research question 2 was collected by questions 22 through 26 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 3 through 5 in the interview questions listed in Appendix D. Question 22 of the survey was used to determine if a student did not succeed in an online course. Not having succeeded in an online course was defined as having received a D, F, W, or No-Credit for the course. Table E16 in Appendix E lists the mean and standard deviation for the grades D

and F (Caucasian M = 1.47, SD = .52 and Hispanic M = 1.55, SD = .52), and Table E17 in Appendix E categorized the response distribution of question 22 by ethnicity. Of the 146 Caucasians, 17.1% (n = 25) indicated that they had not succeeded in at least one online course. Of the 74 Hispanics who responded, 21.6% (n = 16) indicated that they had not succeeded in at least one online class.

Table E18 in Appendix E lists the results of question 22 by ethnicity and gender, and the data revealed an imbalance between males and females who did not succeed in online classes. Of the 24 Caucasians, 87.5% (n = 21) were female and of the 16 Hispanic students, 75.0% (n = 12) were female. When sorted by age group and ethnicity, as shown in Table E19 in Appendix E, the data revealed that the Caucasian 25-49 age group represented 50.0% (n = 12) of the 24 Caucasian students, and the Hispanic 25-49 age group represented 56.3% (n = 9) of the 16 Hispanic students who had not succeeded in an online class.

On a 5-step Likert-type scale that ranged from very easy (one) to very difficult 5, question 23 asked students how easy it was to find information in parts of the course in which they did not succeed. Table E20 in Appendix E lists the mean and standard deviation for question 23 (Caucasian M = 2.88, SD = 1.50 and Hispanic M = 1.88, SD = .62). Table E21 in Appendix E lists the response distribution for question 23 by ethnicity and the data revealed that the 10 respondents who indicated that finding information was somewhat difficult or very difficult were all Caucasian students. No Hispanic students indicated that finding information was somewhat difficult or very difficult. Table E22 in

Appendix E categorized question 23 by gender and ethnicity, and revealed that of the 10 Caucasian students who indicated finding information was somewhat difficult or very difficult, eight were female, one was male, and one did not indicate his or her gender. Table E23 in Appendix E further categorized question 23 into age groups and ethnicity, and revealed that of the nine Caucasian students who indicated finding information was somewhat difficult or very difficult, 77.8% (n = 7) were in the 25-49 age group.

Students from both ethnic groups who were interviewed and had not succeeded in at least one online class did not indicate that finding information in the class was a problem, although Iris, a Caucasian student, did suggest that course design could be somewhat of a challenge. When asked about a course she did not enjoy, Iris commented on the way in which the information was presented. Iris stated, “It has a lot to do with the manner in which it’s presented. It’s just like slammed at you, here it is, do it.” Haley, who had not succeeded in at least one online class, suggested that having control of how information was presented was desirable. When asked what should be in a perfect online class, Haley suggested, “You'd be able to go into your lectures and you'd be able to go to - jump to one particular slide if you wanted instead of having to click through every single one.”

On a 5-step Likert-type scale that ranged from very clear (one) to very confusing (five), question 24 asked students how clear the teacher’s explanation was of the online course objectives. Table E24 in Appendix E lists the mean and standard deviation for question 24 and was categorized by ethnicity (Caucasian M = 2.74, SD = 1.45 and

Hispanic M = 1.67, SD = .90). There were three students who indicated that the teacher did not explain the course objectives and those three responses were excluded from the mean calculation.

Table E25 in Appendix E lists the response distribution for question 24 categorized by ethnicity. The data revealed that of the 10 students who found the teacher's explanation somewhat confusing or very confusing, 90% (n = 9) were Caucasian students. Table E26 in Appendix E displays the result of question 24 categorized by gender and ethnicity. The data revealed that all 10 of the respondents who indicated that the teacher's explanation of course objectives was somewhat confusing or very confusing were female. When question 24 was further categorized into age groups and ethnicity, as shown in Table E27 in Appendix E, the data revealed that of the nine Caucasian students who found the explanation somewhat confusing or very confusing, 77.8% (n = 7) were in the 25-49 age group. The one Hispanic student who found the explanation somewhat confusing was in the 20-24 age group.

Students from both ethnic groups who were interviewed, and had not succeeded in at least one online course, did not express concern about the clarity of the teacher's explanation of course objectives, but did suggest that instructor clarity, feedback, and course design ambiguity were factors that might have contributed to their lack of success. Barbara, a Caucasian student, who indicated that she had not passed any online courses, suggested that the accuracy of the course design was a problem, and noted that

inaccuracies on the part of the instructor were an impediment to a positive outlook for the course. Barbara stated,

> That was one thing that I didn't enjoy, as things went on, is that you would see a lot of typos and misspellings and unclear directions. And so that was - it kinda - like I said, it kinda turned me off to the class right away.

However, Barbara admitted to liking communication in online classes for viewing what other people did, or for getting feedback from other students, but was concerned about communicating to avoid confusion. Barbara's suggestion for a perfect online class included, "definitely keep[ing] the communication open as much as possible so that no one was confused."

Several students found that the lack of immediate feedback was a challenge. When asked about the challenges of online courses, Haley pointed out that "the teacher's not right there readily available." Margarita, a Hispanic student, saw the lack of immediate feedback as a negative factor on being able to continue with her work. Margarita stated, "Sometimes it takes a day or two for the teacher to get back to me so I get stuck and I have to either stop all together or move on to something else." Sophia also wanted immediate feedback. When talking about animated tutors used in applications such as MathZone, Sophia wanted to be able "To stop it and have a - three questions like did you get it, did you not get it or can we move on, you know." And finally, Ursula reflected on the immediate feedback aspect of a Hypertext Markup Language (HTML) course she enjoyed, and stated, "I think - like I said, there was the one I really liked because it was like you saw right away if you got it right or wrong."

Students who were interviewed and had not succeeded in at least one online class also suggested that instructor clarity was a concern. Barbara did not enjoy a class because "The thing I didn't like was that - and I won't name names, but my instructor was very vague." Furthermore, Barbara, when asked about designing a perfect online course, indicated that as the teacher, she "would pretty much try to take out all the guesswork in my, you know, instructions or in my assignments." Sophia found ambiguity in the content of study material versus the exams. Sophia, when asked about a class she did not enjoy, pointed out that "the questions he asked were nothing how the tests were."

On a 5-step Likert-type scale that ranged from strongly agree (one) to strongly disagree (five), question 25 asked students how strongly they agreed with the statement, "I felt as if I was isolated or alone in the online class." Table E28 in Appendix E lists the mean response for question 25 (Caucasian M = 2.52, SD = 1.5 and Hispanic M = 2.31, SD = 1.19), and Table E29 in Appendix E lists the response distribution sorted by ethnicity. The data revealed that 56.0% (n = 14) of the 25 Caucasian students who responded either strongly agreed or somewhat agreed with the statement that they felt isolated in an online class. Similarly, of the 16 Hispanic students who responded, 56.3% (n = 9) also strongly agreed or somewhat agreed. However, when the results were categorized by gender and ethnicity, as shown in Table E30 in Appendix E, a large imbalance appeared between females and males who strongly agreed or somewhat agreed. Of the 13 Caucasian students who strongly agreed or somewhat agreed, 92.3% (n

= 12) were female, and of the nine Hispanic students who strongly agreed or somewhat agreed, 100% (n = 9) were female.

Further categorizing the results of question 25 by age group and ethnicity, as shown in Table E31 in Appendix E, revealed that the 25-49 age group represented the largest group of students for both ethnicities who strongly agreed or somewhat agreed with the statement that they felt isolated in an online class. Of the 13 Caucasian students, 61.5% (n = 8) were in the 25-49 age group, and of the nine Hispanic students, 55.6% (n = 5) were in the 25-49 age group.

During interviews, Caucasian students suggested that isolation due to poor communication between teachers and students was a frustrating experience, and that the feelings of frustration manifested from not knowing and not having interaction with the instructor or other students. When discussing the difference between on-campus classes and online classes, Iris stated, “I think that every one of the online courses should be a little bit of a hybrid, not just for test taking, but I think there should probably be sort of a mandatory, maybe once every 2 weeks, type thing.” Barbara experienced feelings of isolation even though she was part of an online group. Barbara stated, “I mean we did have groups but it felt like we were still, you know, single.”

During Hispanic student interviews, when discussing online challenges, Rosa suggested that community was important as she stated, “So for me that's a real challenge for online, you don't have the level of communication or closeness or availability” Rosa further explained the lack of community in online courses as she stated, “Even though

you do have different ways of getting to know each other and all that stuff online, you don't have that communal feeling, which is very important to me as a Hispanic person."

Margarita, who indicated that she had not passed any online classes, appeared not to like online communication technologies and preferred either in person or telephone discussions. Margarita stated, "I don't like webcams, I don't like microphones…If I want to see you, I'd prefer just to come in and see you. If I had to speak to you I'd pick up the phone."

Research Question Three

What are the differences in the way in which Hispanic and Caucasian students utilize the Internet for learning?

Data for research question 3 was collected by questions 3 through 9 and question 33 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from question 2 in the interview questions listed in Appendix D.

Question 3 in the survey gathered data related to student technology self-efficacy and explored how students perceived their level of computer skills. The question used a scale from 1 to 10, with 1 indicating that their computer skills were not good at all, 4 indicating a beginner level, 7 indicating an experienced level, and 10 indicating an expert level. Table E32 in Appendix E lists the mean responses (Caucasian M = 7.52, SD = 1.47 and Hispanic M = 7.44, SD = 1.50) and Table E33 in Appendix E lists the response distribution categorized by ethnicity. The data revealed that of the 78 Hispanic students,

87.2% (n = 68) self-reported a level from experienced to expert, while 80.5% (n = 120) of the 149 Caucasian students self-reported the same.

The intent of question 32 in the survey was to gather grade point average data in order to create cross-tabulation tables with question 3 and examine any potential themes that might have manifested related to technology self-efficacy and a student's grade point average. Unfortunately, the format in which the grade point average data was collected did not lend itself to cross tabulation, and the formatting error was not identified until after the survey was completed. Question 32 asked each student for an estimation of his or her current grade point average. Table E34 in Appendix E lists the mean grade point average sorted by ethnicity (Caucasian M = 3.37, SD = .47 and Hispanic M = 3.16, SD = .56).

Question 17 in the survey was used to determine if a student succeeded in an online course and asked each student to indicate the grade received in a course that he or she took online and received an A, B, C, or Credit. When the results of question 3 (computer skills) were categorized by ethnicity and whether a student succeeded in an online course, as shown in Table E35 in Appendix E, the data revealed that of the 142 Caucasian students, 80.3% (n = 114) rated their skills from 7 (experienced) to 10 (expert), and of the 71 Hispanic students, 87.3% (n = 62) rated their skills from 7 (experienced) to 10 (expert).

Question 22 in the survey was used to determine if a student did not succeed in an online course and asked each student to indicate the grade received in an online class in

which he or she received a D, F, W, or No-Credit. Table E36 in Appendix E revealed that of the 25 Caucasian students, 80.0% (n = 20) rated their skills from 7 (experienced) to 10 (expert), and of the 16 Hispanic students, 87.5% (n = 14) rated their skills from 7 (experienced) to 10 (expert).

Caucasian students who were interviewed indicated that their level of confidence in managing technologies and the online environment affected their online experience. Ellen reflected the notion that an enjoyable online experience increased levels of confidence when she spoke about furthering her education. Ellen stated, "I'm more apt to do that now after taking online classes within this system and within another educational system, because of the good experiences I had the first time took an online course."

In contrast, when asked about an online course that she did not enjoy, Iris revealed that frustration affected her confidence level, as well as her motivation to participate in the class as she stated, "Oh, I was very frustrated. I was extremely frustrated. Not only did it make me know the limits of my incompetency, but it was just - I wanted nothing to do with it." Fiona appeared to lack confidence based on a perception of fellow classmates which was reflected in her statement that, "other persons who were in [the online class] would have liked a discussion board that we all had to participate in, and most of them were above my level of experience, so I felt like a Dodo at times."

Hispanic students who were interviewed had similar feelings about the effects of confidence in online classes. Margarita suggested that her level of confidence with online technologies had a direct influence on her willingness to take an online course. Margarita

stated, “So if I'm familiar with computers then I will do online but instructional classes like math, English, computers, biology, I would never do online.” It was interesting to note that Margarita included computers in her list of classes. In contrast, Theresa’s lack of confidence appeared to manifest from a lack of knowing whether or not material was correctly submitted. When asked about the challenges of online courses, Theresa stated, “Most challenging was if I didn't know - if I submitted right, if I put it in the right way.”

Question 4 asked students how comfortable they felt using the Internet to find a specific Web site, and was designed as a 5-step Likert-type scale ranging from very comfortable (one) to very uncomfortable (five). Table E37 in Appendix E lists the mean and standard deviation (Caucasian M = 1.29, SD = .75 and Hispanic M = 1.36, SD = .66), and Table E38 in Appendix E lists the response distribution categorized by ethnicity. Of the 149 Caucasian students, 93.9% (n = 140) indicated feeling very comfortable or somewhat comfortable, while of the 78 Hispanics, 94.8% (n = 74) indicated similarly.

When the mean comfort levels were categorized by ethnicity and gender, as shown in Table E39 in Appendix E, the data revealed that males in both ethnic groups had a lower mean response (Caucasian male M = 1.03, SD = .19 and Hispanic male M = 1.17, SD = .39) than did females (Caucasian female M = 1.35, SD = .82 and Hispanic female M = 1.43, SD .72).

When the results were categorized by age groups and ethnicity, as listed in Table E40 in Appendix E, Caucasian students had a comparatively even level of comfort across all age groups with the 25-49 age group having had the lowest mean (M = 1.18, SD =

.54) and the 20-24 age group having had the highest mean (M = 1.38, SD = 1.11). In contrast, Hispanic students had a greater range between the highest level of comfort and the lowest level of comfort with the 19-or-younger group having had the lowest mean response (M = 1.00, SD = .00) and the 50-or-older group having had the highest mean (M = 1.75, SD = .50).

None of the students who were interviewed from either ethnic group indicated that they were concerned about using technology to find information such as a specific Web site. However, as discussed earlier, students who suggested that navigation was a challenge were less concerned about finding information and more concerned about being able to manipulate the flow and retrieval of information.

Question 5 was based on a 5-step Likert-type scale that ranged from very comfortable (one) to very uncomfortable (five), and asked each student how comfortable he or she felt using word processing software such as Word or WordPerfect to create documents. Table E41 in Appendix E lists the mean and standard deviation values by ethnicity (Caucasian M = 1.41, SD = .82 and Hispanic M = 1.35, SD = .60), and Table E42 in Appendix E lists the response distribution categorized by ethnicity. The data revealed that of the 148 Caucasian students, 91.9% (n = 136) felt very comfortable or somewhat comfortable using word processing software, while of the 78 Hispanic students, 96.2% (n = 75) felt the same.

Table E43 in Appendix E lists the mean responses of question 5 categorized by gender and ethnicity and the data revealed that both Caucasian males (M = 1.31, SD =

.54) and Hispanic males (M = 1.17, SD = .39) were lower than the Caucasian females (M = 1.46, SD = .90) and the Hispanic females (M = 1.40, SD = .64). When the results of question 5 were further categorized by age group and ethnicity, as shown in Table E44 in Appendix E, students in the 19-or-younger groups from both ethnicities indicated that they felt the most comfortable using word processing software.

None of the students interviewed from either ethnic group indicated that they were concerned about having to use word processing software to create documents.

Question 6 was based on a 5-step Likert-type scale that ranged from very comfortable (one) to very uncomfortable (five), and asked each participant how comfortable he or she felt using a computer to send or receive email. Table E45 in Appendix E lists the mean and standard deviation for each ethnicity (Caucasian M = 1.10, SD = .47 and Hispanic M = 1.12, SD = .44), and Table E46 in Appendix E lists the response distribution categorized by ethnicity. The data revealed that almost all students who responded, regardless of ethnicity, were comfortable using a computer to send and receive email. Of the 149 Caucasian students, 98.7% (n = 147) felt very comfortable or somewhat comfortable using a computer to send email, and of the 78 Hispanic students, 98.7 (n = 77) felt the same. Only one respondent, a Caucasian student, reported having felt very uncomfortable.

When the mean response was categorized by gender and ethnicity, as shown in Table E47 in Appendix E, there was very little difference between Caucasian males (M = 1.03, SD = .19) and Hispanic males (M = 1.08, SD = .29), or between Caucasian females

(M = 1.12, SD .52) and Hispanic females (M = 1.15, SD = .48). When the mean responses of question 6 were categorized by age group and ethnicity, as shown in Table E48 in Appendix E, the data revealed that there was very little difference between Caucasian students and Hispanic students with one exception. Caucasian students in the 50-or-older group had a mean comfort level of 1.18 (M = 1.1.8, SD = .62), while the Hispanic students in the 50-or-older age group had a mean comfort level of 1.75 (M = 1.75, SD = .50).

None of the students who were interviewed from either ethnic group indicated that they felt uncomfortable using a computer to send or receive email in an online class, although two students did suggest that feeling comfortable was actually a factor in classes that they enjoyed. Theresa, a Hispanic student, was asked how she felt in an online class that she enjoyed. Theresa stated, “Comfortable, comfortable. I don't have any problems.” Similarly, Julie, a Caucasian student, when asked how she felt as far as being part of an online class that she enjoyed, responded, “Fine. It wasn’t difficult, like I said, so it was just you gotta take the time to read it and take whatever tests and I felt comfortable - very comfortable.” As for using a computer to send or receive email, when students referenced using email, it was generally stated in a fashion that suggested email was just another way to communicate. During interviews with the Caucasian students, Barbara expressed the notion that email was just another tool when she discussed how assignments were handled in class. Barbara stated, “okay, I can do that but then what do I do with it, you know, do I email it to you, do I put it over here, you know, group discussion or do I put it

in the everyone discussion board." Carl saw email as a way to ask questions and balanced the importance of asking a question with the time it took to develop and send an email to the teacher. Carl explained,

> Question-asking, actually, is kind of difficult online because there's a lot more steps - it's not just raise your hand, you ask a question, there's a lot more steps; you have to click on the email thing, you have to type the email, and then as you're typing you're like, oh, this isn't worth sending an email for, or, you know, you think something like that. And so you end up asking a lot less questions and therefore getting less feedback, so, that's a little bit of a problem, too.

Dorothy viewed email as "a big plus" because of the ability to send or receive email anytime. Dorothy, when discussing instructor access stated, "I felt like I - my instructor was always accessible and would answer me promptly."

Hispanic students who were interviewed also appeared to take email communication for granted. Priscilla liked email because the teacher was more available. Priscilla explained, "The teachers were more willing to help you out, it seems like, because they know you're doing it on your own so they're more available by email and phone to answer questions and help you along the way." In contrast, Rosa appeared frustrated when teachers were not responsive to emails. Rosa's frustration was evident when she stated, "I mean I would send him an email and get it back, you know, a week, 10 days later. I could find out my own information by then. So I think the lack of availability really frustrated me." Finally, Theresa liked email as a way to get clarification when she was confused. Theresa explained, "because sometimes when I'm reading I don't understand it, but then after - like my instructor were accessible and I can email and say, oh, you know, I got confused with this so can you help me out."

Question 7 in the survey explored student use of the online social environments: Facebook, Live Journal, My Space, and Second Life. Table E49 in Appendix E categorized the responses by ethnicity and revealed that Caucasian students favored Facebook first, then My Space, followed by Live Journal, and finally Second Life. Hispanic students favored Live Journal, then My Space, followed by Facebook, and then Second Life. When the results were categorized by gender and ethnicity, as shown in Table E50 in Appendix E, the data revealed that the order of online social application preferences for each gender was reversed. Male students favored Second Life, Facebook, My Space, and then Live Journal. Female students preferred the exact opposite in that they favored Live Journal, My Space, Facebook, and then Second Life. There was one notable exception; no Hispanic student indicated that he or she had used Second Life.

Students who were interviewed indicated that online socializing was a factor that contributed to a feeling of community and connectedness in an online class that they perceived as enjoyable. As part of the community, students enjoyed the feedback opportunities from other students, as well as having engaged and interacted with their peers and the teacher. Of the Caucasian students interviewed, Barbara enjoyed the community feedback as she stated,

> I liked it a lot because it was really it was kind of nice to discuss like, you know, literary pieces of work and being able to, you know, kind of copy and paste and put it up there and talk about exactly what you wanted and to get other people's opinions.

Julie believed that student profiles similar to MySpace were a valuable addition to an online class. When asked what should be included in a perfect online class, Julie stated,

"Oh, student profiles is the other thing that I was thinking of. Kinda like the MySpace or FaceBook profile, just so that you could see a picture of who your classmates were."

Of the Hispanic students interviewed, Veronica also enjoyed using the dialogue opportunities to create a sense of participation in a campus classroom. When asked about an online course she enjoyed, Veronica stated, "I liked that I was able to kind of have like a - not exactly a dialogue, but somewhat like that, with the teacher and also the students." Rosa saw conference calls as an opportunity to communicate and make new friends. Rosa suggested that with conference calls, "you had an ability to make friends differently than you would online."

Question 8 asked students if they used a cell phone to text message a friend or relative. Table E51 in Appendix E categorized the responses by ethnicity and revealed that of the 148 Caucasian respondents, 78.4% (n = 116) had used a cell phone to send a text message, and of the 77 Hispanics, 81.8% (n = 63) had sent a text message to a friend or relative. When the results were sorted by ethnicity and gender, as shown in Table E52 in Appendix E, the data revealed that of the 29 Caucasian males, 72.4% (n = 21) had sent a text message, and of the 112 Caucasian females, 79.5% (n = 89) had sent a text message. In comparison, of the 12 Hispanic males, 58.3% (n = 7) had sent a text message, and of the 59 female Hispanic students, 84.7% (n = 50) had sent a text message.

When the results of question 8 were further categorized into age groups and ethnicity, as shown in Table E53 in Appendix E, the data revealed that of the 37 Caucasian students in the 20-24 age group, 97.3% (n = 36) had sent a text message, while

83.3% (n = 15) of the 18 Hispanic students in the 20-24 age group had sent a text message. In the 50-or-older age group, 51.9% (n = 14) of the 27 Caucasian students had sent a text message, and 75% (n = 3) of the four Hispanic respondents had sent a text message.

Although text messaging was not specifically identified by students who were interviewed, asynchronous discussions were mentioned as being both positive and negative aspects of an online course. Participating in asynchronous discussions in a structured format appeared to be an unpopular aspect of online courses for some students. Of the Caucasian students who were interviewed, Julie stressed about having to login to asynchronous discussion boards at certain times to post discussion items. When talking about an online course that she did not enjoy, Julie stated,

> There were just so many requirements, and so many things that - things that were specific; logging in at a certain, when you have to post, what's due, it's just - for an online class it's - it's really stressful.

In contrast, Julie liked using chat rooms for synchronous discussions. When asked about what she would have included in the perfect online class, Julie stated, "I would have more chat features that - usually the discussion boards were utilized but not the chatting, which, I think, helps in real time - using real time." Barbara was uncertain about the use of chat rooms. When asked if chat rooms were part of a perfect online class, Barbara stated, "And I know like chat rooms can be really great, but they can also be very hectic, you know, like everyone's talking and typing, and so who do you respond to, you know."

Of the Hispanic students who were interviewed, several students admitted to enjoying the asynchronous discussion forums, and some students, like Ursula, did not care for them. Ursula did not favor too many asynchronous posting requirements, and when asked about things she would not have wanted in a perfect online class, Ursula stated,

> Too many required, I guess, postings. I mean a certain number, I mean, obviously to make sure they're - but not too excessive, like maybe one for each lesson or I don't know, just that you aren't required to post too much. Because I didn't really care for posting.

However, not all students disliked the discussion forums. When talking about an enjoyable online course, Yolanda stated, "I liked the forum where the students interacted," and Nina simply stated, "I like the discussion boards." Priscilla also enjoyed discussion boards and felt that they contributed to her learning. Priscilla, when describing a course she enjoyed, stated, "The discussion boards, it just - it was amazing like how much information they crammed into one course. I probably learned more in that one course than I had through other entire semesters." And finally, Theresa enjoyed the interaction of asynchronous discussion forums, as she stated, "I can interact with other people and talk and we can exchange ideas, when - like when we have to post our discussion board - the discussion board."

Question 9 asked students if they used a cell phone to take photos or record small videos. Table E54, in Appendix E, lists the results of question 9 categorized by ethnicity. The data revealed that of the 148 Caucasian respondents, 75.0% (n = 111) had used a cell phone to take a picture or short video, 20.3% (n = 30) had not, and 4.8% (n = 7) indicated

that they did not have a cell phone. In comparison, of the 77 Hispanics, 77.9% (n = 60) had used a cell phone to take a picture or record a short video, 14.3% (n = 11) had not, and 7.8% (n = 6) indicated that they did not have a cell phone.

Table E55 in Appendix E lists the results of question 9 categorized by gender and ethnicity. The data revealed that 65.5% (n = 19) of the 29 Caucasian male students had used a cell phone to take a picture or record a short video, and 76.8% (n = 86) of the 112 Caucasian female students had done the same. Of the Hispanics, 50.0% (n = 6) of the 12 male students, and 83.1% (n = 49) of the 59 female students had used a cell phone to take a picture or record a short video.

When the results of question 9 were examined with regard to age groups and ethnicity, an interesting contrast manifested between Caucasian and Hispanic students in the 50-or-older age groups. As shown in Table E56 in Appendix E, of the 27 Caucasian students in the 50-or-older age group, 44.4% (n = 12) had taken a picture or recorded a short video using a cell phone. In contrast, 100% (n = 3) of the Hispanics in the 50-or-older age group had used a cell phone to take a picture or record a short video.

Students who were interviewed from both ethnic groups did not indicate or suggest that using technology such as cell phones was a challenge. In some cases, the use of technology appeared to be a motivating factor for taking an online class. During interviews with the Caucasian students, Dorothy suggested that the online environment is a way to keep up with technology. When asked what made her think about taking an online class, Dorothy stated, “I wanted to expand my options and I've always been taking

a class. I enjoy the environment and I wanted to be up more on technology, and there was a lot of enthusiasm on campus for it." Carl believed the technology made doing some of the work easier. When asked about elements of a class he enjoyed, Carl stated, "It is a lot easier to do the homework over the computer and just, you know, type in the blank, or whatever, than to actually be physically writing it out."

Question 33 lists five areas from where the Internet might be accessed and asked each participant to indicate how often he or she used each location to access the Internet. Participants were able to indicate access from a specific location on a 5-step scale that ranged from most of the time (one) to never (five). Tables F57 through F61 in Appendix E lists the results for each of the five access points categorized by ethnicity. As shown in Table E57, of the 140 Caucasian students who responded, 96.4% (n = 135) accessed the Internet from home most of the time or a lot, and of the 72 Hispanic students who responded, 88.9% (n = 64) accessed the Internet most of the time or a lot from home.

The second most popular place for accessing the Internet was from the workplace. Table E58, in Appendix E, revealed that of the 137 Caucasian students who responded to the question, 46.7% (n = 64) accessed the Internet most of the time or a lot from work, while 40.9% (n = 56) rarely or never accessed the Internet from work. Of the 68 Hispanic students, 39.7% (n = 27) accessed the Internet most of the time or a lot from work, while 50.0% (n = 34) rarely or never accessed the Internet from work. When the results of question 33 were categorized into gender and age groups, as shown in Table E62 through

F71 in Appendix E, no significant patterns or themes emerged related to differences between Caucasians and Hispanics and how they accessed the Internet.

Students who were interviewed supported the results of the survey in that all but one student interviewed indicated that he or she preferred to access the Internet from home, or indicated that being home and still being able to go to school was desirable. The only student who did not specifically identify home as a factor was Iris, a Caucasian student, who took online classes for the convenience of being able to attend classes at the same time as her dependent child. Otherwise, Veronica's statement reflected the general sentiment expressed in the interviews. Veronica, when asked what motivated her to take an online class replied, "Convenience. It was just more convenient being able to stay at home with the kids and still do school." Barbara's response to the question of what motivated her to take an online class was also representative of the group who was interviewed. Barbara stated, "I thought it'd be easier, you know, just to be able to be at home and not have to come to class, you know, because I do have a busy schedule."

The popularity of using computers at work to access an online class was also evident in several students who were interviewed. Theresa's statement was representative of others when she stated, "So I do it at work, I do it at home, and sometimes when I'm everywhere, I go online." Priscilla simply liked being able to access the class from home or work, and Haley, when asked what motivated her to take an online course, felt that the ease of access was important. Haley stated, "And just the ease of it, I work full-time. I'm

a full-time student, so it's really stressful, so, being able to work from work on my lunch."

Research Question Four

How do the learning preferences of Hispanic and Caucasian students differ?

Data for research question 4 was collected by questions 27 through 30 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 3, 4, and 5 of the interview questions listed in Appendix D.

Question 27 of the survey identified 11 activities and design elements that could be found in an online classroom. For each of the 11 items, participants were asked to rate how well they liked or disliked each activity or course design element based on a 5-step Likert-type scale that ranged from like a lot (one) to extremely dislike (five). A sixth option, not applicable, was included in case the participant had never experienced the particular item or activity. Table E72 in Appendix E, lists the mean and standard deviation for each element categorized by ethnicity. The data revealed that Caucasian students identified the top four elements, in descending order, as graphics (M = 1.63, SD = .77), discussion forums (M = 1.91, SD = 1.02), audio (M = 2.01, SD = 1.09), and animations (M = 2.06, SD = .98). For Hispanic students, the top four included graphics (M = 1.46, SD = .70), audio (M = 1.56, SD = .74), animations (M = 1.58, SD .78), and electronic whiteboards (M = 1.73, SD = .72).

Table E73 in Appendix E lists the means categorized by ethnicity and gender. The data revealed that Hispanic males were the only group who did not list graphics as the top

course element, and was the only group to list chat rooms and electronic whiteboards in the top four. When the means were categorized by age group and ethnicity, as shown in Table E74 in Appendix E, no major patterns or themes emerged from the data.

Caucasian students and Hispanic students who were interviewed suggested that videos or interactive graphics were desirable in an online class. Of the Caucasian students interviewed, Fiona, when asked about a perfect online class replied, “I think it would help if it had video clips, if that – that subject, you know, that would help that particular subject.” Gerard enjoyed the use of videos and interactive graphics, especially simulations. Gerard explained, “I enjoyed the multimedia aspect and I've learned to appreciate sims,” and added, ”and it's kind of a nice little semi-interactive type way of learning.”

However, when it came to video webcams, Julie was concerned with the privacy aspect of webcams as she stated, “It’s almost a little too intrusive, depending on where their computer is and what else is going on their house, and, I don’t know, just - there’s that - that level of privacy or that wall, I think.”

Hispanic students who were interviewed also expressed a desire for videos in the online class. Nina, when talking about an online course she enjoyed, stated, “I enjoyed that it was - there were a lot of videos that taught the subjects, the lessons.” Ursula also liked videos but suggested they be short in duration. When asked about designing a perfect online class, Ursula replied, “And depending on, like I said, the class may be - but I mean if they can be little teaching videos, like little snapshot videos and then maybe

actual chat rooms." Similarly, when asked about a perfect online class, Priscilla suggested, "A lot of the lectures, it was text, it was videos, it would have sound included, pictures that go with the text."

Gerard best summed up the visual and interactive sentiments in online courses for both Hispanic and Caucasian students when he stated, "Let's see, well, I would like the lectures to be more than just reading the lectures."

Question 28 explored student preferences for working alone or in online groups and asked each student to indicate his or her preference on a 5-step Likert-type scale that ranged from always alone (one) to always in groups (five). Table E75 in Appendix E lists the mean and standard deviation for question 28 categorized by ethnicity (Caucasian M = 1.83, SD = .82 and Hispanic M = 2.33, SD = 1.01). Table E76 in Appendix E lists the frequency distribution of question 28 categorized by ethnicity. The data revealed that of the 143 Caucasian respondents to the question, 83.2% (n = 119) indicated they would prefer to work always alone or mostly alone, while 4.9% (n = 7) indicated that they would prefer to work mostly in groups. No Caucasian students indicated that they would prefer always in groups. Of the 73 Hispanics who responded, 64.4% (n = 47) indicated they would prefer to work always alone or mostly alone, while 16.4% (n = 12) indicated that they would prefer to work mostly in groups or always in groups. When the results were categorized by gender and ethnicity, as shown in Table E77 in Appendix E, the data revealed that the 12 Hispanic students who preferred to work mostly in groups or always

in groups were all female. Categorizing the data by age group and ethnicity, as shown in Table E78 in Appendix E, did not reveal any significant patterns or themes.

Hispanic female students who were interviewed indicated that working in groups was not always desirable. Priscilla, when asked about designing a perfect online class simply stated, “It wouldn’t include groups.” Priscilla then added, “No groups. I like when there's a lot of information. I like the discussion boards because it's a way to get information from everyone but, you're not having to work directly with people.” Sophia found group work challenging because of scheduling as she explained, “The group part, where you have to participate in groups. In cyberspace that's kinda hard, especially like everybody's times different and sometimes we have deadlines and some kids don't.” However, Sophia also admitted that she did have an enjoyable experience with groups. When asked to describe a class she enjoyed online, Sophia explained how she participated in her first group,

> They asked you like what kind of things were you scared about being in a group and do you like being in a group. And I put I don't think people turn in their homework on time all the time or people don't put their information in there and then you got to wait for it and - you know or you end up doing all the work. So I always think I'm gonna do all the work, but this class was actually I didn't do all the work, which was really great.

However, Dorothy, a Caucasian student, was sure she did not want groups in her online classes. Dorothy explained that she had, “Bad experiences in the past with group work, having a common grade regardless of the amount of effort people put in and people that were never available didn't pull their share of the load.”

Question 29 asked each student how strongly he or she agreed or disagreed with the statement, "I feel as if my teachers pay attention to me in an online class." A 5-step Likert-type scale was used and ranged from strongly agree (one) to strongly disagree (five). Table E79 in Appendix E lists the mean and standard deviation for question 29 categorized by ethnicity (Caucasian M = 1.88, SD = 1.09 and Hispanic M = 1.87, SD = 1.01). When the response distribution was categorized by ethnicity, as shown in Table E80 in Appendix E, the data revealed that of the 73 Hispanic students, 78.1% (n = 57) strongly agreed or somewhat agreed that their teachers paid attention to them in the online class, while only 5.5% (n = 3) somewhat disagreed or strongly disagreed. In comparison, of the 143 Caucasian students, 71.3% (n = 102) strongly agreed or somewhat agreed, while 9.8% (n = 14) somewhat disagreed or strongly disagreed.

When the results of question 29 were further categorized by gender and ethnicity, as shown in Table E81 in Appendix E, the data revealed that Caucasian male students reflected the largest percentage within each group of those students who somewhat disagreed or strongly disagreed that teachers paid attention to them in an online class. Of the 29 Caucasian male students, 20.7% (n = 6) somewhat disagreed or strongly disagreed. Hispanic male students represented the second largest percentage with 8.3% (n = 1) of the 12 Hispanic male students who responded. Hispanic female students represented the smallest percentage with 5.0% (n = 3) of the 60 Hispanic female respondents, followed by 7.1% (n = 8) of the 112 Caucasian female students. Categorizing the results of question 29 by age group and ethnicity, as shown in Table E82 in Appendix E, revealed

that none of the students in the 19-or-younger group for either ethnicity, or any students in the Hispanic 50-or-older group, somewhat disagreed or strongly disagreed that the teacher paid attention to them in an online class.

During interviews with Caucasian students, when asked about the challenges of online courses, Fiona expressed concern at "not being able to ask a question immediately and getting and answer," while Haley pointed out that "the teacher's not right there readily available." Alice's concern with immediate feedback from an instructor was evident when she explained, " I don't know, I think the flexibility of online is good, but sometimes it's not flexible as far as getting feedback." However, Dorothy disagreed when she stated, "I felt like I - my instructor was always accessible and would answer me promptly. That was a, you know, a really good thing." Ellen also appreciated an accessible teacher, but preferred a hybrid approach. Ellen stated, "the good thing was that the teachers that taught online – that I took, anyways – were also on campus for campus classes, too. So you could always have that interaction with them." Iris did not enjoy a course in part because of the lack of teacher interaction. Iris stated, "I mean, so there isn't any real teacher interaction at all. There's no opportunity for questioning; situations were very limited where the teacher was available."

Hispanic students who were interviewed expressed similar concerns about instructor feedback and availability, but also suggested that immediate feedback should have been available without the instructor. Margarita saw the lack of immediate feedback as a negative factor on being able to continue with her work. Margarita stated,

“Sometimes it takes a day or two for the teacher to get back to me so I get stuck and I have to either stop all together or move on to something else.”

Nina suggested that taking a particular course on campus might have been a better option because of the immediate availability of the instructor. When asked to talk about an online course she did not enjoy, Nina admitted, “So it was definitely something I should've done on campus, where I could be face-to-face with a professor, three times a week, asking questions, raising my hand, because that's what I needed.”

Not all of the feedback issues were related strictly to human contact. Some students preferred to have the technology provide feedback on demand. Nina enjoyed an online course in part because of the quizzes that provided immediate feedback. Nina stated, “After each one there's also quizzes to take and you could just apply what you had learned right away. So you knew if you got it or not so that's what I liked about it.” Orlando liked technology used as a reminder of tasks completed or due. Orlando suggested, “Maybe a little reminder on your homepage of tasks you haven't completed yet for that week.”

Rosa would like a perfect online class to have included some form of knowledge checking technology with interaction. When asked about designing a perfect online class, Rosa suggested, “But I do think that they should have more interactivity, not just data on a screen.” As mentioned earlier, Ursula also enjoyed the immediate feedback aspect of a Hypertext Markup Language (HTML) course. Ursula stated, “There was the one [course] I really liked because it was like you saw right away if you got it right or wrong.” Nina

suggested that constant messages from a teacher would suffice as she stated, “What I like about the online class I'm taking right now is that there's weekly messages from the professor, just more messages from the professor. I like that.” And finally, Sophia enjoyed a class in part because of the teacher’s quick responses. Sophia stated, “So I really enjoyed that class. It was one of the best ones I've had. And the teacher always responded back really quick.”

The effects of instructor feedback also appeared from a contrasting perspective suggested by students such as Rosa, who stated, “And the other thing that I find really challenging and it might be because I'm an older student and an older learner is that there's not a lot of feedback from the instructor.” Rosa’s statement about the challenges of online courses was in contrast to her view of a course she enjoyed where she explained that the reason she enjoyed the course was “the fact that the teacher was available.”

Using a 5-step Likert-type scale that ranged from very important (one) to very unimportant (five), question 30 asked students how important they felt it was to have a computer connected to the Internet in their home. Table E83 in Appendix E lists the mean and standard deviation for question 30 categorized by ethnicity (Caucasian M = 1.07, SD = .38 and Hispanic M = 1.09, SD .34). Table E84 in Appendix E lists the response distribution by ethnicity. The data revealed that of the 143 Caucasians, 99.3% (n = 142) felt that having a computer in the home connected to the Internet was very important or somewhat important, with only one student indicating that it was very unimportant. Similarly, of the 73 Hispanics responders, 98.6% (n = 72) felt that having a computer in

the home connected to the Internet was very important or somewhat important, and only one student indicating that it was neither important nor unimportant.

When the results were categorized by gender and ethnicity, as shown in Table E85 in Appendix E, the data revealed that the only student who indicated very unimportant was a Caucasian female, and only one student, a Hispanic female, indicated it was neither important nor unimportant. When the data was categorized by age groups and ethnicity, as shown in Table E86 in Appendix E, the data revealed that both the female students were in the 25-49 age group.

When students from both ethnic groups were asked where they preferred to access the Internet, all but two students specifically stated from home as their preference. Priscilla, a Hispanic, and Haley, a Caucasian, also added that accessing the Internet from work was acceptable as well. The two students who did not specifically state home as their preference indicated that anywhere was acceptable. Orlando liked his wireless laptop computer and said he would access the Internet "wherever I'm at," and Theresa simply stated, "Oh, anywhere I can."

Research Question Five

How do the motivations of Hispanic students who succeed in online courses differ from the motivations of Caucasian students who succeed in online courses?

Data for research question 5 was collected by questions 10 through 15 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 1 and 2 of the interview questions listed in Appendix D.

Question 12 in the survey was used to determine whether a student was successful in his or her first online course and asked each student what grade was received for the first online course in which he or she enrolled. Success in a course was defined as having completed the course with a grade of A, B, C, or Credit. Table E87 in Appendix E lists the results of question 12 by ethnicity. Of the 146 Caucasians who responded, 93.8% (n = 137) succeeded and of the 78 Hispanic students, 93.6% (n = 73) succeeded in their first online course.

Question 10 in the survey asked students why they enrolled in their first online course. Five reasons were listed for the student to choose from, along with another option where the participant could enter a reason not provided on the list. Table E88 in Appendix E lists the results of question 10 for those students who succeeded in their first online class and was categorized by ethnicity. The data revealed that the two top reasons for the 137 Caucasian students were working days and no night classes (21.9%, n =30), and the class was needed for graduation (16.1%, n = 22). Of the 73 Hispanics, the top reason was also working days and no night classes (27.4%, n =20), but needed for graduation and difficulties in transportation to the campus were both second (15.1%, n =11). An examination of responses in the other category revealed that scheduling and convenience were the predominate reasons identified by both ethnic groups. Statements reflective of the other responses included, “online classes were more convenient—fit into my schedule,” and “It what was available for my schedule.”

When the data from question 10 was further categorized by gender and ethnicity, as in Table E89 in Appendix E, the data revealed that of the 27 Caucasian males, 29.6% (n = 8) indicated need for graduation was the most common reason, and 29.6% (n = 8) indicated that working days with no night classes was an equally common reason. For Caucasian females, 106 responded and 18.9% (n = 20) indicated working days and no night classes was the most common reason, 12.3% (n = 13) indicated need for graduation was the second most common reason, and caring for a family member was a close third with 11.3% (n = 12). Of the 10 Hispanic males, 30.0% (n = 3) indicated the need for graduation was the most common reason, and 20.0% (n = 2) indicated that online classes were easier was the second most common reason. Of the 57 Hispanic females, 33.3% (n = 19) indicated working days and no night classes was the most common reason, and 14.0% (n = 8) identified that transportation problems was the second most common reason.

Hispanic students who were interviewed strongly supported the survey results indicating that scheduling convenience was the main reason for enrolling in an online course. Priscilla liked the fact that she did not need to modify her work schedule to attend class. Priscilla stated, “I like not having to meet on campus, it makes it more convenient because you don’t have to make sure you get time…the time off work to come in.” Orlando recognized the flexibility as he stated, “studying whenever you want, you know, wherever you want.” Rosa echoed Orlando’s observation when she stated, “You can take

your online class on the road, you can take it on a bus, you can take it anywhere. So the availability of having a class wherever and whenever is really the benefit."

Caucasian students who were interviewed responded similarly to the Hispanic students. Haley liked the convenience of not having to find parking. When asked about the benefits of enrolling in an online class, Haley replied, "The ease of availability. It's hard to find parking here, it's getting worse." Carl explained that he would have to cut his work hours to travel to campus. Carl explained, "So coming down here during a period of time when I'm working for a summer session it wouldn't work out very well; it would cut into my hours." And finally, Julie's statement was overall representative of the students who were interviewed when she described her feelings about taking an online course. Julie stated, "The ease of it—I work full-time and so the less time I have to spend at the college the better."

Question 11 of the survey was an open-ended question asking each respondent why he or she was motivated to enroll in an online course. Students identified scheduling, convenience of course access, family concerns, course availability, and the perception that online courses were easier as motivating factors in their decision to enroll in an online class. One student indicated that curiosity was a motivating factor, and several students indicated that gasoline prices were a factor.

Hispanic students who were interviewed echoed the results of the survey with representative statements such as one from Veronica who stated, "It was just more convenient being able to stay at home with the kids and still do school," and Priscilla who

explained, “I was working full-time, 8:30 to 5:00.” And finally Ursula who stated, “I thought it'd be easier than a real class.” It is interesting to note that Ursula referred to classes other than online as real classes. Yolanda presented an interesting perspective about online classes that was not evident in the survey results. When asked what motivated Yolanda to enroll in online courses, she replied,

> Sometimes I think I'm antisocial but I don't like when other students don't listen. I'm a big believer in listening, so if you listen you'll get the instructions, you'll know what's going on and then you don't have to ask the stupid questions that take up our time. And so when it's an online class it's pretty much just myself and I don't have to deal with that.

Caucasian students who were interviewed also indicated that the ease of online course availability was a factor in motivating them to enroll. When Julie was asked what motivated her to enroll in an online class, she replied “The ease of it - I work full-time and so the less time I have to spend at the college the better,” Haley echoed Julie when she stated, “The ease of the availability. It's hard to find parking here, it's getting worse. And just the ease of it, I work full-time” and Barbara stated, “I thought it'd be easier, you know, just to be able to be at home and not have to come to class, you know, because I do have a busy schedule.” Carl was unique in that he did not realize that he was enrolling in an online course. Carl explained, “In all honesty, originally when I enrolled I didn’t realize I was enrolling in an online course, at first.”

Question 13 was based on a 5-step Likert-type scale that ranged from very likely (one) to very unlikely (five), and asked each student if he or she had the chance of taking a course that was offered either online or on campus, how likely would he or she have

been to take the course online. The mean and standard deviation for question 13 contained only the values for very likely to very unlikely, and did not include the option depends. Table E90 in Appendix E categorized the means by ethnicity (Caucasian M = 2.04, SD = 1.57 and Hispanic M = 2.55, SD = 1.87). Table E91 in Appendix E lists the response distribution of question 13 sorted by ethnicity. Of the 136 Caucasian students who responded, 77.9% (n = 106) were very likely or somewhat likely to take an online course versus a campus course, while 5.9% (n = 8) were somewhat unlikely or very unlikely, and 9.6% (n = 13) indicated that it would depend on the particular course offered. Of the 73 Hispanic students, 68.5% (n = 50) were very likely or somewhat likely to take an online class versus a campus class, 5.5% (n = 4) were somewhat unlikely or very unlikely, and 17.8% (n = 13) indicated that it would depend on the class that was offered. Furthermore, of the 73 Hispanic students, 17.8% (n = 13) indicated that it would depend on the class being offered, while of the 136 Caucasian students, only 9.6% (n = 13) indicated that it would depend on the type of class offered.

Hispanic students who were interviewed did express some concern about the topic being offered. Sophia felt that math was not a topic for online learning, but English was appropriate. Sophia explained, “Well, depending on the classes, like for me, math I could not take online, because I struggle. I need to see the drawn examples,” and added, “But to me like an English class is a whole lot better for me because I write, write, write, write, write, write, and then, you know, it's the communication that goes back and forth.” Similarly, Ursula preferred online courses depending on what the subject was, and felt

she learned more than from listening to a campus teacher's lecture. Ursula stated, "Depending on what is being taught I prefer online because actually I learn better than just listening to the teacher." Yolanda believed that online courses required more responsibility. When asked about the differences between online and on-campus courses, Yolanda replied, "I think the online courses you feel a lot more responsibility. Since you don't really have the one-on-one instruction, you don't see where any information is more emphasized than other information."

Nina was concerned about maintaining focus in an online course when she stated, "I think in the course of the semester I probably stay more focused once I'm in - if I go to in-class courses." However, Theresa and Priscilla enjoyed the convenience of the online format despite the topic. Theresa liked not having to worry about parking as she stated, "I have to find parking and I have to try to make it on time, that's the big difference - that parking issue, yeah. But, when online, I don't have to worry about that." Priscilla simply stated, "They're [online classes] more convenient."

Caucasian students who were interviewed appeared to be mostly concerned with the self-discipline required for an online course and not necessarily the type of course. Julie suggested that "you have to be kept more accountable online because the teacher doesn't see you," while Haley simply stated that "you have to be structured." Ellen felt that "you have to be much more dedicated and organized to be an online student," and Alice stated that "you have to be a lot more self-disciplined for online classes." Finally, Carl suggested that an online student must be self-reliant as he stated, "There's not

someone feeding you information, you have to go get it yourself - you have to do self-retrieval."

Caucasian students appeared focused on the level of interaction between campus classes and online classes. When asked about the differences between online and campus classes, Gerard replied, "Well, I think what stands out the most is just the interaction. At least the classes - online classes that I took didn't really offer anything in a real-time type environment." Fiona equated the classroom with camaraderie as she stated, "You don't have the physical classroom, so you don't have the camaraderie with the students. You don't have that relationship with the instructor." Iris believed every online course should have had a campus element as she explained, "I think that every one of the online courses should be a little bit of a hybrid, not just for test taking, but I think there should probably be sort of a mandatory, maybe once every 2 weeks, type thing."

Question 14 asked students to agree or disagree with a statement that they believed teachers and other students respected their cultural background in the classroom. The question was based on a 5-step Likert-type scale ranging from strongly agree (one) to strongly disagree (five). Table E92 in Appendix E lists the mean and standard deviation for each ethnicity (Caucasian M = 1.74, SD = 1.10 and Hispanic M = 1.74, SD = .85). Table E93 in Appendix E lists the response distribution of question 14 categorized by ethnicity. The data revealed that a greater proportion of Caucasian students indicated that their cultural background was not respected by teachers and other students. Of the 136 Caucasians, 7.4% (n = 10) somewhat disagreed or strongly disagreed with the statement

that teachers and students respected their cultural background in the classroom, while only 1.4% (n = 1) of the 73 Hispanic students strongly disagreed. Further categorizing the results of question 14 into age groups and ethnicity, as shown in Table E94 in Appendix E, revealed that of the nine Caucasian students who somewhat disagreed or strongly disagreed, 44.4% (n = 4) were in the 20-24 age group and 33.3% (n = 3) were in the 25-49 age group. The remaining two students were split between the 19-or-younger category and the 50-or-older category. The single Hispanic student who strongly disagreed was in the 25-49 age group.

Caucasian students who were interviewed were aware of cultural differences, but overall did not see it as a factor affecting online learning. Iris noted the anonymity of online as she stated, “Because it’s sort of anonymous, you don’t necessarily see a cultural difference.” However, Iris also noted that cultural tendencies can be recognized in the written word, as she explained, “You can hear it in the way they write; you can hear it in their slang, you can hear it in some of the ways that they phrase or construct their sentences.”

Haley also saw some cultural differences in the written word and observed, “Maybe if there's a cultural difference you can tell how they write, how they type. Maybe their English isn't exactly the same, but I don't really find that as being a challenge.” Gerard saw the online cultural aspect the same as on campus as he stated, “I don't see any significant cultural differences in the classroom than what I see outside of the classroom.”

Hispanic students who were interviewed did not notice culture as a factor in online learning. Veronica, when asked if she saw any cultural differences in the classroom simply replied, “I don’t. No, none,” and Ursula’s response to the same question was simply “Not much really.” Yolanda did not see any differences, but raised an interesting point about being sensitized to the issue. Yolanda explained her perception as,

> I think - sometimes I don't believe I see any. I don't know if it's just that we're used to it or I'm used to it, the differences, but at times I notice some older Hispanic women with my mom's attitude of, well, you need to teach like this and the instructor's like, no, and the older Hispanic ladies were yes, you do. Like they want to change the curriculum and really, no.

Rosa believed the anonymity of online prevented cultural differences from being recognized as she stated, “I think it's very difficult to perceive cultural differences online because you don't know who's writing what. So if you're reading data or if you're reading information, you're reading entries, it doesn't matter.” Nina did not perceive her Hispanic culture as noticeable as much as she did her age. Nina stated, “I think probably the perception that I put on myself is not so much for being Hispanic but for being not 18. For being over 30, like being that sort of a student. That's what I perceive.”

Question 15 asked students which was more important, going to school first or getting a job first. The question was based on three responses: attending school, seeking employment, or neutrality on the issue. Table E95 in Appendix E categorized the results of question 15 by ethnicity. The data revealed that of the 73 Hispanic students, 21.9% (n = 16) believed getting a job first was more important, while 16.9% (n = 23) of the 136

Caucasian students agreed. In contrast, a slightly higher percentage of Caucasian students believed that going to college first was more important. Of the 136 Caucasian responses, 60.3% (n = 82) believed going to college first was more important than getting a job first, and 57.5% (n = 42) of the 73 Hispanic students agreed.

When the results of question 15 were further categorized by gender and ethnicity, as shown in Table E96 in Appendix E, the female responses for both ethnic groups remained relatively equal in all three responses. However, the male responses showed a greater difference in both the job first option and the college first option Of the 27 Caucasian males who responded, 11.1% (n = 3) believed getting a job first was more important, and of the 10 Hispanic males who responded, 30.0% (n = 3) believed that a job first was more important. In contrast, 70.3% (n = 19) of the Caucasian males believed college should be first, and 50.0% (n = 5) of the Hispanic males believed the same. Categorizing the data by age groups and ethnicity, as is shown in Table E97 in Appendix E, revealed that no one from either ethnic group in the 19-or-younger category believed that a job first was more important than college first.

Of the 10 Caucasian students who were interviewed, three indicated that they attended college to improve job skills. When asked what the motivation was for attending college, Dorothy replied that it "was to improve job skills," Fiona "found out that [she] needed additional classes to supplement the kind of work [she did]," and for Gerard, it was an opportunity to try new options. Gerard explained that he had retired from one career and that "it was too early for me to, you know, sit around in a rocking chair."

Other Caucasian students stated that the close proximity, cost, or convenience were the main motivating factors in attending college, with the exception of Julie. Julie was attending college "Because I needed to get a degree and my dad was pushing me to go to college."

Hispanic students who were interviewed were almost unanimous in that the motivating factor for attending community college was that it was close and cheap. Nina summed up the general response when she stated, "because it's close by and because it's affordable." Other comments included "because it was cheap and easy," "because it was the closest college," and "because of the convenience." Sophia was the single standout in that she was given an option by a government welfare-to-work type of program. Sophia explained, "Well, I belong to the CalWORKs Gain Program. So we had a choice to either go to school or go to work, so I chose to come back to school, and AVC was the closest college around."

Research Question Six

How do the motivations of Hispanic students who do not succeed in online courses differ from the motivations of Caucasian students who do not succeed in online courses?

Data for research question 6 was collected by questions 10 through 15, along with question 32 in the Attitudes Toward Online Learning Survey listed in Appendix B, and from questions 1 and 2 of the interview questions listed in Appendix D.

Survey question 12 was used to determine if a student did not succeed in his or her first online class and asked each student what grade was received for the first online course in which he or she enrolled. Not succeeding in a course was defined as having received a grade of D, F, W, or No-Credit. Table E98 of Appendix E lists the results of question 12 by ethnicity for those students who did not succeed in their first online class. Of the 14 students, 64.3% (n = 9) were Caucasian, and 35.7% (n = 5) were Hispanic.

Question 10 in the survey explored the reason why students enrolled in their first online course. Five reasons were listed for the student to choose from, along with another option where the participant could enter a reason not provided on the list. Table E99 in Appendix E lists the results of question 10 categorized by ethnicity. Of the nine Caucasian students, needed for graduation or transfer (22.2%, n = 2) and online classes were easier (22.2%, n = 2) were the top two reasons indicated. The responses listed in the other category included "the hours," and "my schedule was too busy and I wanted to try an online class." Of the five Hispanics, need for graduation or transfer, working days and no night class, and transportation to campus difficulties each had one response (20.0%, n = 1). The only response listed in the other category was "Math 102 had the Educo program."

Of the students who were interviewed, one Caucasian student, Barbara, and one Hispanic student, Margarita, had never passed an online course. When asked what motivated her to enroll in an online course, Barbara just wanted to try it out. Barbara explained, "I wanted to try it out. I thought it was easier just to be able to be at home and

not have to come to class, you know, because I have a busy schedule." And Margarita, when asked the same question was quick to reply, "Gas. I live 40 miles away, gas, absolutely, it's gas."

Question 11 was an open-ended question and asked respondents what the motivation was for taking an online class. An examination of the responses to question 11 revealed that motivations covered a diverse set of responses across both ethnic groups and included, "I didn't have a babysitter," "Time restrictions," "Wanted to try an online class and it worked with my schedule more," and "I liked the sound of it." One of the more interesting responses was "possibility of doing better as to a on-campus course" which suggested that the student thought online classes might be easier than campus classes.

Question 13 asked students if they had the chance of taking a course that was offered either online or on campus, how likely would they have been to take the course online. The question was based on a 5-step Likert-type scale that ranged from very likely (one) to very unlikely (five), with the addition of an option stating that it depends on the class. The calculated mean for question 13, as shown in Table E100 in Appendix E, contained only the results for very likely to very unlikely (Caucasian M = 2.89, SD = 1.69 and Hispanic M = 3.60, SD = 2.41). Table E101 in Appendix E lists the response distribution for question 13 categorized by ethnicity. Of the nine Caucasian students, 55.6% (n = 5) were very likely or somewhat likely to take an online class versus a campus class, and of the five Hispanic students, 40.0% (n = 2) were very likely to have

done the same. Only one student, a Hispanic, indicated that it depended on the class being offered.

The two students who were interviewed and had never passed an online class indicated that face-to-face with the teacher was an important aspect in a class. Barbara, when asked what she thought about the differences between online and campus courses, replied,

> I'd have to say I like warm body or on-campus classes a little more because you can't - you know, immediately you can be, you know, gratified, whether it's if you have a question you ask right then or if - you know, if there's an open discussion, it's just different between typing.

And Margarita, when asked the same question replied, “I need the teacher right in front of me, on the board, looking over my shoulder. You know, some subjects like math and English and business courses were more instructional and I would never take online.”

Question 14 asked students how strongly they agreed or disagreed with the statement, “When I am in class, either online or on campus, teachers and other students respect my cultural background.” The question was based on a 5-step Likert-type scale that ranged from strongly agree (one) to strongly disagree (five). Table E102 lists the mean and standard deviation for question 14 (Caucasian M = 2.44, SD = 1.33 and Hispanic M = 1.80, SD = .84). Table E103 in Appendix E lists the response distribution of question 14 categorized by ethnicity. Of the five Hispanic students, 80.0% (n = 4) strongly agreed or somewhat agreed, and 20.0% (n = 1) neither agreed nor disagreed. None of the Hispanic students disagreed somewhat or strongly. Of the 9 Caucasian students, 44.4% (n = 4) strongly agreed or somewhat agreed, 44.4% (n = 4) neither

agreed nor disagreed, and 11.1% (n = 1) strongly disagreed. No Caucasian students indicated that they somewhat disagreed.

Both of the students who were interviewed and had not passed their first online class, indicated that culture did not appear to be a factor or distraction in class. When asked to what extent, if any, she perceived cultural differences in the classroom, Barbara replied, “Cultural differences? I don't know, honestly. I mean the one class I took we had to kind of talk about ourselves, you know, introduce ourselves, but I don't think anyone mentioned cultural - you know.” Margarita, when asked the same question responded, “I don't really see any. It's pretty - I haven't really noticed. I haven't - there's - it's usually a pretty evened out crowd in my classrooms so I haven't really noticed.”

Question 15 asked each student which was more important, going to school first then getting a job, or getting a job first then going to school. The question was based on three responses: attending school, seeking employment, or neutrality on the issue. Table E104 in Appendix E lists the responses to question 15 categorized by ethnicity. Of the nine Caucasian students who did not succeed in their first online class, 77.8% (n = 7) believed that college first then getting a job was more important, while 80% (n = 4) of the five Hispanic students felt the same. Only one Caucasian student and no Hispanic students indicated that getting a job first then going to college was more important.

Students who were interviewed and had not succeeded in their first online class did not mention whether going to school first was more important or getting a job first was more important.

Summary

A comparative case study was conducted using a researcher-developed quantitative survey instrument and semi-structured interviews. Forty-two questions were created for the researcher-developed Attitudes Toward Online Learning Survey. The survey questions were reviewed by a panel of three professionals from the fields of institutional research and distance education, and found to be appropriate for gathering data that supported the study research questions. A test and retest strategy was used to establish reliability of the survey. The target sample for the Caucasian population was not met, but the target sample for the Hispanic population was reached.

Ten Caucasian students and 10 Hispanic students participated in follow-up semi-structured interviews. The interviews were digitally recorded, de-identified, and submitted to a commercial transcribing service for transcription. Interviewees were provided with a summary of the interview transcripts for verification of accuracy. Themes from the transcripts were identified, categorized, and submitted for review to a distance education colleague and a Dean of Social and Behavioral Sciences. Both the colleague and the dean reviewed the transcripts and agreed that the themes identified were appropriate.

Caucasian and Hispanic students who succeeded in online courses did not appear to have difficulty finding information in an online class, and tended to clearly understand the course objectives. Students who succeeded did not experience feelings of isolation, and in some cases preferred it. For both ethnicities, students who did not succeed tended

to not clearly understand course objectives and suggested that the design of the course impeded progress toward success. Students who did not succeed also tended to have feelings of isolation, regardless of ethnicity.

Hispanic students tended to have a higher level of technology self-efficacy, and both ethnic groups suggested that their level of technology confidence affected performance and whether or not a course was enjoyable. Hispanic students varied more in comfort levels, but both ethnic groups still felt at least somewhat comfortable in an online class. Caucasian students and Hispanic students felt comfortable using word processing software and computers to send or receive email.

Both ethnic groups saw online social applications as a positive element in an online class. Preferences for specific online social applications varied slightly between Caucasian students and Hispanic students, but was exactly opposite between males and females. Hispanic students were more likely to text message than Caucasian students, especially female Hispanics. Caucasian students were more likely to access the Internet from work, and both ethnic groups overwhelmingly preferred to access the Internet from home. Both ethnic groups also felt strongly that a computer in the home connected to the Internet was important.

Hispanic students preferred visual and asynchronous technologies more than Caucasian students. Hispanic students were more likely to prefer working in groups; however, group work was not always preferred by either Caucasian students or Hispanic students. Hispanic students felt slightly more that teachers paid attention to them in the

classroom, and both groups felt that the rate and method of teacher feedback was an important element in an online class. Hispanic students tended to prefer technology-mediated instant feedback as well.

For students who succeeded, regardless of ethnicity, course availability and scheduling convenience were the top two motivating factors for enrolling in an online class. Caucasian students were slightly more likely to take online classes and were concerned about the self-discipline aspect of an online course. Hispanic students were more concerned about the type of class offered and its appropriateness for the online format. Caucasian students appeared slightly more aware of culture in the classroom; however, neither ethnic group perceived culture as a barrier in an online class.

Students who succeeded from both ethnic groups were more inclined to suggest that going to college first and then getting a job was more important. However, Caucasian students were more likely to enroll in college to improve job skills, while Hispanic students were more likely to take advantage of the proximity and cost effectiveness of a community college.

For students who did not succeed, needing the class for graduation and thinking that online classes were easier were the top two motivating factors for enrolling in an online course. Finally, Caucasian students who did not succeed were more likely than Hispanic students to enroll in an online course, but neither group was likely to enroll in an online course if the same course was offered on campus.

CHAPTER 5: INTERPRETATION, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study was to examine the differences between online learning for Hispanic and Caucasian community college students, and to identify possibilities as to why Hispanic online students did not succeed in online courses at rates comparable to the Caucasian online student population. The study included a survey and interviews of Hispanic and Caucasian students who had participated in at least one online course at Antelope Valley College, a community college located in California. This chapter is divided into five sections: a) an interpretation of the results by research question, b) implications for social change, c) recommended actions for Antelope Valley College, d) recommendations for further research, and e) a summary.

Interpretation of Results

Research Question One

How do online course features in which Hispanic students succeed differ from online course features in which Caucasian students succeed?

Overall, Caucasian and Hispanic students differed little in online courses where they succeeded. Finding information in an online class did not appear to be problematic for either Caucasian or Hispanic students in classes where they received a grade of A, B, C, or Credit (Table E2). Similar to the research revealed in the literature review related to technology experience (p. 26), the lack of problems finding information online could have been a result of students possessing a somewhat high level of technology self-efficacy (Table E32), and students from both groups having understood course objectives

and/or the expectations of the teacher (Table E8). Furthermore, students who understood the objectives of the course also appeared to enjoy the course more than when the objectives or expectations were not clear, regardless of ethnicity (p. 120).

Isolation in an online environment, as the literature review suggested, could have affected a student's college experience and negatively impacted his or her willingness or ability to succeed (p. 47). Caucasian and Hispanic students did not experience isolation in an online class (Table E12) and expressed similar notions that isolation was not a challenge or obstacle to succeeding in an online course; however, there was an awareness of the potential to feel isolated, and in some cases that isolation was welcomed or preferred (p. 122).

Where Caucasian and Hispanic students differed was in their preference toward design elements used in the online classroom. This may be notable in light of McGee's suggestion that course design had more to do with learning than having technology skills (p. 27). Caucasian students preferred textual design elements and Hispanic students preferred visual design elements (Table E2). The top three design elements identified by Caucasians were instant messaging, chat rooms, and discussion forums, while the top three design elements identified by Hispanic students were animations, Web cameras, and videos. What makes this observation noteworthy is that the three technologies identified by the Caucasian students arguably require higher levels of reading, typing, and written comprehension skills than do animations, Web cameras, and videos. Interestingly, Hispanics made up the greater proportion of students who responded to the survey and

had not completed a transfer level English course (Table E3). The data suggested that online courses designed with a high level of textual interface were less preferable to Hispanic students, and thus, possibly more of a challenge to complete. The notion that prior academics, in this case a transfer level English course, affected the potential for success in future classes was clearly supported in the literature by Bruner, Diaz, Morris, and others (p. 23). However, despite the difference in preferences, both Caucasian students and Hispanic students who succeeded in online classes suggested that videos and interactive graphics, such as animations or simulations, should be part of online classes, and both ethnic groups preferred that lectures be more than just text (p. 116).

Research Question Two

How do online course features in which Hispanic students do not succeed differ from online course features in which Caucasian students do not succeed?

Finding information in an online class did not appear to be problematic for either Caucasian or Hispanic students in classes where they received a grade of D, F, W, or No-Credit, although Caucasian students experienced greater difficulty locating information in an online class (Table E20). Students from both ethnic groups suggested that the course design could be a factor in successfully completing an online course (p. 126); McGee also suggested that course design had more affect on student learning than did a student's level of technology experience (p. 27). Furthermore, the ability to manage how information was accessed and controlled was also a factor in a student's ability to succeed (p. 126); Roblyer echoed a similar notion and contended that controlling the pace

and learning, along with determining when instruction occurred, was important to students (p. 43).

Hispanic students tended to more clearly understand objectives in an online course (Table E24); however, it is interesting to note that of the students who did not succeed in an online class, three indicated that the teacher did not explain the course objectives (Table E25), while of the students who did succeed, no students indicated that the teacher did not explain the course objectives (Table E9). The data suggested that clearly defining course objectives or teacher expectations was a factor in student success. Even though the majority of students indicated that the teacher's explanation of course objectives was very clear or somewhat clear (Table E25), students who were interviewed, regardless of ethnicity, suggested that instructor clarity, feedback, or course design ambiguity may have had an impact on the ability to succeed in an online course (p. 127). The literature review revealed that a supportive environment that included instructor feedback increased student confidence and the likelihood of success (p. 31). Students appeared to enjoy an online course more when the teacher was available, and found it more challenging when a teacher was not available or was slow to provide feedback (p. 128).

Minimizing feelings of isolation and creating a community online was important, as the literature review suggested, and that the college experience, specifically culture, course design, and teacher support, affected a student's ability to succeed (p. 47). There was little difference between Caucasian students and Hispanic students with regard to

feeling isolated in an online class (Table E28); however, the data suggested that students who did not succeed in an online class experienced some feelings of isolation. Furthermore, Caucasian and Hispanic students who were interviewed and did not succeed in an online class, suggested that feelings of isolation did exist and that some form of community in the online class was desirable (p. 130).

Research Question Three

What were the differences in the way in which Hispanic and Caucasian students utilize the Internet for learning?

Overall, Caucasian and Hispanic students possessed similar levels of comfort when using Internet technologies (Tables F37, F41, and F45). The literature review revealed that confidence in the use of technology affected performance (p. 30), and students who enrolled in online classes considered control and pace of learning as motivating factors (p. 43). This study found that Hispanic students tended to have a higher level of technology self-efficacy, and most students believed that they possessed computer skills at or near an experienced level or better, with Caucasian students indicating a slightly higher level than Hispanic students (Table E32). Furthermore, both ethnic groups suggested that their level of technology confidence affected performance and whether or not a course was enjoyable (Table E31).

Both ethnic groups felt more than somewhat comfortable finding a specific Web site (Table E37); however, Caucasian students had a slightly higher level of comfort. Similarly, no major difference existed between the comfort level of Caucasian and

Hispanic students when using word processing software to create documents (Table E41). However, Hispanic male students felt the most comfortable (Table E43), and Hispanic students in the 50-or-older group felt the least comfortable using word processing software to create documents (Table E44).

There was very little difference in the comfort level of Caucasian and Hispanic students when using a computer to send or receive email (Table E45). Caucasian and Hispanic students who were interviewed did not indicate that they felt uncomfortable using a computer to send and receive email, and suggested it was just another communication tool (p. 137). However, some students did suggest that the asynchronous nature of email could cause frustration with regard to getting prompt feedback (p. 135). Why this may be notable is that students, regardless of their ethnicity, who had a higher level of comfort or confidence and a lower level of frustration, appeared to enjoy or engage more in online courses. Students who were interviewed indicated that classes were more enjoyable when they felt comfortable or confident using computers (p. 137). If Bruner's concept of an individual's readiness for learning through the acquisition, transformation, and evaluation of new information (p. 32) was combined with the use of Internet technologies for online learning, then the comfort and confidence level of students would be noteworthy (p. 32).

Caucasian and Hispanic students embraced online social applications and activities as a positive factor in online courses (p. 140). The preference for specific social applications differed slightly between ethnicities (Table E49) and was completely

opposite between male students and female students (Table E50). Creating a positive social environment had been shown to increase student success, especially with programs such as the Puente Project, which was designed to assist Hispanic students in obtaining a college degree (p. 48). Overall, Caucasian and Hispanic students appeared comfortable using technology such as cell phones, word processors, and the Internet to integrate with their educational and social environments. In some cases, the use of technology was a motivating factor for enrolling in, or participating in, an online class.

Caucasian and Hispanic students used cell phones to text message friends or relatives at similar rates, with Hispanic students having had a slightly higher rate (Table E51). Both groups were comfortable using asynchronous communication technologies such as cell phone text messaging and online asynchronous discussion forums. However, the data also suggested that female students from both ethnic groups were more likely to have used a cell phone to send a text message, and Hispanic male students were the least likely of the four groups to use a cell phone to send a text message (Table E52).

Females from both ethnicities embraced socializing through technology more than males (Table E50 and F52), and females were more comfortable, or at least willing, to use cell phones to take pictures or record short videos (Table E55).

There were no major differences between Caucasian students and Hispanic students in how they accessed the Internet (Table E57). Although the literature review suggested that there may be a digital divide between Caucasian and Hispanic students in the use of, and access to, technology (p. 33), this study did not find evidence to support

such a contention. However, it should be noted that this study was primarily an online study, which might not have been a strong indicator of technology use by either ethnic population. Both Caucasian and Hispanic students overwhelmingly preferred to access the Internet from home. Although accessing the Internet from work was the second most popular choice (Table E58), Caucasian students were somewhat evenly split between those students who would have accessed the Internet from work and those students who would not have accessed the Internet from work. In contrast, a greater percentage of Hispanic students indicated that they would not have accessed the Internet from work (Table E58). Unfortunately, the study did not collect employment data of students in the survey, and so it could have been the case where Internet access was not available at the student's place of employment.

Research Question Four

How do the learning preferences of Hispanic and Caucasian students differ?

The literature review revealed that Hispanic students preferred working in groups more than do Caucasian students (p. 32). The survey results for this study supported that notion and found that Caucasian students preferred working alone more than Hispanic students (Table E75). However, students who were interviewed slightly contradicted the survey results and suggested a more balanced opinion between ethnic groups in preferences toward working alone or in groups (p. 150).

There was very little difference between Caucasian students and Hispanic students with regard to feeling that their teacher paid attention to them (Table E79).

Students who were interviewed supported the survey results and suggested that instructor feedback and availability was important to their learning experience, and also indicated that feedback was an important aspect in whether or not their online learning experience was enjoyable (p. 152). Students also indicated that they wanted more immediate feedback from the instructor, and from course activities such as quizzes or simulations, and would have liked lectures to be something other than just text (p. 154). Once again, the literature review supported the findings of this study in that creating a supportive learning environment improved student performance (p. 31).

No major difference existed between Caucasian and Hispanic students in the belief that it was important to have an Internet-connected computer in the home. Both ethnic groups felt that it was important to have a computer in the home connected to the Internet (Table E83 and F84).

Research Question Five

How do the motivations of Hispanic students who succeed in online courses differ from the motivations of Caucasian students who succeed in online courses?

A literature review on motivations for enrolling in online classes revealed convenience as one of the main motivations for students (p. 42). This study found evidence which supported the literature review and that Caucasian and Hispanic students who succeeded in online courses had similar motivations for having enrolled in an online class. For both ethnicities, the results of the survey suggested that scheduling and

convenience were two main reasons for students to have enrolled in online courses (Table E88).

Caucasian students and Hispanic students who succeeded in online courses appreciated the convenience of online classes; however, they differed in concerns about what type of class was being offered online. Caucasian students expressed concern with the self-discipline requirements for completing a class (p. 162), while Hispanic students expressed concern about the type of class that was offered and its appropriateness for an online format (p. 161). Nevertheless, results of the survey suggested that students were mostly willing to take a course online versus on campus, with Caucasian students slightly more likely than Hispanic students (Table E90).

Results from the literature review suggested that cultural validation was important to Hispanic students (p. 45); however, this study did not find evidence to support or reject the literature as it related to cultural perceptions in the online classroom. This study found that Caucasian students were more aware of perceived cultural differences than were Hispanic students (Table E93), but any perceived differences did not appear to be a problem with either ethnic group (p. 163).

Successful students from both ethnic groups were more inclined to choose college first and then get a job (Table E95). A review of literature that examined the motivations of community college students revealed that economics, social mobility, and job satisfaction were motivating factors for Hispanics who attended college and successfully completed a degree (p. 45). This study found that Caucasian students were more likely to

attend a community college in order to improve job skills (p. 166), while Hispanic students were more likely to take advantage of the proximity and cost effectiveness of a community college (p. 166).

Research Question Six

How do the motivations of Hispanic students who do not succeed in online courses differ from the motivations of Caucasian students who do not succeed in online courses?

Caucasian students who did not succeed were more likely than Hispanic students who did not succeed to enroll in an online course, but neither group was likely to enroll in an online course if the same course was offered on campus (Table E100). Needing the class for graduation and thinking that online classes were easier were the top two motivating factors for enrolling in an online course (Table E99). It is interesting to note that convenience, as the literature suggested (p. 42), is not one of the top two motivations for those students who did not succeed.

Culture was not a factor with students who did not succeed in their first online class (p. 170), regardless of ethnicity, and Hispanic students felt more strongly that their cultural background was respected by teachers and other students while in the classroom (Table E103). Interestingly, cultural awareness appeared to be greater with students who did not succeed than it did with students who did succeed, as discussed in the previous research question.

Almost all of the students who did not succeed in their first online class believed that going to college before getting a job was more important; only one Caucasian student and no Hispanic students indicated that getting a job first then going to college was more important (Table E104). Students who were interviewed and had not succeeded in their first online class did not mention whether going to school first was more important or getting a job first was more important (p. 171).

Implications for Social Change

The Hispanic population in the United States is continuing to increase and will potentially reach 61 million by the year 2025 (Laden, 2004), and many Hispanic students have elected to enroll in 2-year or community colleges (Fry, 2002). Sanchez contended that Latinos who had a college degree did better in the economic world than those who did not (Sanchez, 2000); therefore, the failure of Hispanics to complete a degree program could have negative effects on employment opportunities and improved lifestyles. In the business environment, Hulm suggested that working-age adults lacked the necessary skills for accessing training through Internet technologies (Hulm, 2004). Utilizing the Internet for education could allow employers to provide training and at the same time not lose potential productivity that may result from an employee having to leave a job to attend a class (Flowers, 2001). Such training strategies would require the ability to succeed in an online learning environment.

This examination of differences between Hispanic and Caucasian students toward online learning has identified potential factors that could influence whether Hispanic

students were able to succeed or not succeed in an online educational environment. Increasing the success of Hispanics in online learning would create positive social change that might benefit universities, businesses, and the community through an increased level of education for the Hispanic population. Consequently, Hispanics may experience increased employment opportunities and improved lifestyles.

Recommendations for Action

Based on the results of this study and the potential to affect positive social change, Antelope Valley College should consider three courses of action.

1. Antelope Valley College should design online courses with multiple formats for retrieving course data that include visual and textual design elements.
2. Antelope Valley College should develop a process to ensure that all courses contain an orientation that clearly defines the course objectives. Furthermore, the explanation of the objectives should be made available in multiple learning formats when appropriate such as audio, video, graphical, and textual designs.
3. Antelope Valley College should consider developing social or community activities for the online environment, such as a campus version of Facebook or MySpace.

Recommendations for Further Study

The survey for this study was distributed to the entire population at Antelope Valley College who met the participation criteria, and respondents to the survey self-selected. The Hispanic target sample size for this study was reached; however, the Caucasian target sample size was not achieved. Consequently, the results of this study may not necessarily be generalized to the larger population, but may still serve as a guide for future research. A repeat of this study might benefit from identifying a more focused population and using a simple or stratified random sampling approach. Doing so might allow the results to be generalized to a larger population.

The results of this study have identified three areas that may benefit from further research: a) visual versus textual preferences for accessing course information, b) clearly understanding course objectives and increased success in an online class, and c) online social environments in the classroom.

Preferences for Accessing Course Information

The results of this study suggested that Hispanic students preferred visual information more than textual representations (Table E2) in online classes. Hispanic students also made up a greater proportion of survey respondents who had not completed a transfer level English course. Further research should include an examination of the relationship between the levels of English completed as it correlated to the success of students in an online course. Utilizing bilingual designs in the study might also prove beneficial.

Clearly Understanding Course Objectives

Students who succeeded in online courses generally had a clear understanding of the course objectives (Table E9), while students who did not succeed in online courses did not always clearly understand the course objectives (Table E25). Future studies should focus on the methods used to communicate course objectives, and how clearly the objectives were understood related to whether or not students succeeded in an online course.

Online Social Environments

Caucasian and Hispanic students viewed online social applications and activities as contributors to a more enjoyable online experience (p. 140). However, students from each ethnic group differed slightly in their preferences for specific social applications (Table E49), and preferences were completely opposite between male students and female students (Table E50). Further study should examine the relationship between the use of online social applications and the success of students in an online course.

Summary

This study examined the differences between online learning for Hispanic and Caucasian community college students, and identified potential factors that might help Hispanic students succeed in online courses. Helping Hispanic students succeed in online classes will create positive social change through an increase in the education and socioeconomic levels of the Hispanic population.

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APPENDICES

APPENDIX A

Letter of Cooperation

Antelope Valley College

3041 West Avenue K

Lancaster, CA 93536

May 1, 2009

Dear Mr. Beyer,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "An examination of Differences Between Online Learning for Hispanic and Caucasian Community College Students" within the Antelope Valley College organization. As part of this study, I authorize you to invite members of my organization, whose email addresses I will provide, to participate in an online survey. I understand that survey participants who qualify may also elect to participate in interviews. Their participation were voluntary and at their own discretion. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,

Jackie L. Fisher, Sr., Ed.D.
Superintendent/President
Antelope Valley College

APPENDIX B

Attitudes Toward Online Learning Survey

This survey is part of a study about Caucasian and Hispanic community college students who have taken two or more college courses online. Completing this survey should take approximately 10-15 minutes. Your participation in this survey is completely voluntary.

> *Note: For the purposes of this study only, the term Hispanic/Latino refers to an individual who self-reported as a descendent of a Spanish-speaking heritage, and included, but is not limited to, Mexican-American, Mexican, Puerto Rican, Cuban, and other Latin races.

Please answer the following questions by selecting one of the options listed.

1) What ethnicity did you claim on your application for Antelope Valley College?

O	O	O	O
Caucasian	*Hispanic/Latino	Other	I declined to answer the question

2) How many online classes have you completed?

O	O	O	O	O
0	1	2	3	4 or more

Thank you for considering being part of this study. If you have never completed an online course, or if you indicated an ethnicity other than Caucasian or Hispanic, including declined to state, there is no reason to continue with this survey.

Technology Literacy

3) On a scale of 1 to 10, with 10 being an expert, how would you rate your computer skills?

O	O	O	O	O	O	O	O	O	O
1	2	3	4	5	6	7	8	9	10
Not good at all ----------			Beginner ----------			Experienced ----------			Expert

4) How comfortable do you feel using a computer to find a specific Web site?

O	O	O	O	O
Very Comfortable	Somewhat Comfortable	Neither Comfortable nor Uncomfortable	Somewhat Uncomfortable	Very Uncomfortable

5) How comfortable do you feel using a word processor to create documents?

O	O	O	O	O
Very Comfortable	Somewhat Comfortable	Neither Comfortable nor Uncomfortable	Somewhat Uncomfortable	Very Uncomfortable

6) How comfortable do you feel using a computer to send and receive email?

O	O	O	O	O
Very Comfortable	Somewhat Comfortable	Neither Comfortable nor Uncomfortable	Somewhat Uncomfortable	Very Uncomfortable

7) Which of the following online social applications have you used?

O	O	O	O	O
My Space	Facebook	Second Life	Other (please specify)	None

8) Do you use a cell phone to text message a friend or relative?

O	O	O
Yes	No	I do not have a cell phone

9) Do you use a cell phone to take pictures or record small videos?

O	O	O
Yes	No	I do not have a cell phone

Enrollment Motivations

10) What is the main reason why you enrolled in <u>your first</u> online course?

a) I have difficulty getting transportation to campus
b) I have to care for a family member and cannot attend a class on campus
c) I needed the class for graduation or transfer
d) I work during the day and the class was not available at night
e) Online classes were easier than campus classes
f) Other: (please specify)

11) What motivated you to enroll in your first online course?

12) What grade did you receive for <u>your first</u> online class?

O	O	O	O	O	O	O	O	O
A	B	C	D	F	W	I	Credit	No-Credit

13) If you had the choice of taking the same course either online or on campus, how likely would you be to select the online course?

O	O	O	O	O
Very Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Very Unlikely

14) How strongly do you agree with the following statement, "When I am in class or on campus, teachers and other students respect my cultural background?"

O	O	O	O	O
Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree

15) Which do you believe is more important, getting a job first and then going to college, or going to college first and then getting a job?

a) Job first then college b) College first then a job c) It does not matter

Online Classroom Design

16) Which of the following activities or course elements would you like to see in an online course? (check all that apply):

a) Animations
b) Audio
c) Chat rooms
d) Discussion forums
e) Electronic whiteboards
f) Instant messaging
g) Podcasting
h) Telephone
i) Videos
j) Web cameras
k) None of these
l) Other (please specify)

For questions 17-21, think of a course you took online and received a grade of A, B, C, or Credit. If you have not received an A, B, C, or Credit grade in an online course, please skip questions 17-21 and go to question 22.

17) What grade did you receive in the course?

O	O	O	O
A	B	C	Credit

18) How easy was it to find information in different parts of the course?

O	O	O	O	O
Very Easy	Somewhat Easy	Neither Easy nor Difficult	Somewhat Difficult	Very Difficult

19) How clear was the teacher's explanation of the course objectives?

O	O	O	O	O	O
Very Clear	Somewhat Clear	Neither Clear nor Confusing	Somewhat Confusing	Very Confusing	Objectives Were Not Explained

20) How strongly would you agree with the following statement? I felt like I was isolated or alone in the online class.

O	O	O	O	O
Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree

21) What would you like to see in an online course that does not already exist in the course you completed?

For questions 22-26, think of a course you took online and received a grade of D, F, W, or No-Credit. If you have never received a D, F, W, or No Credit for an online course, please skip questions 22-26 and go to question 27.

22) What grade did you receive in the course?

O	O	O	O
D	F	W	No Credit

23) How easy was it to find information in different parts of the course?

O	O	O	O	O
Very Easy	Somewhat Easy	Neither Easy nor Difficult	Somewhat Difficult	Very Difficult

24) How clear was the teacher's explanation of the course objectives?

O	O	O	O	O	O
Very Clear	Somewhat Clear	Neither Clear nor Confusing	Somewhat Confusing	Very Confusing	Objectives Were Not Explained

25) How strongly would you agree with the following statement? I felt like isolated or alone in the online class.

O	O	O	O	O
Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree

26) What would you like to see in an online course that does not already exist in the course you completed?

Learning Preferences

27) Please rate each of the following online activities or course elements. Select N/A if you have not done the activity or used the course element.

	Like a Lot	Like Somewhat	Neither like Nor dislike	Dislike Somewhat	Extremely Dislike	N/A
Animations	O	O	O	O	O	O
Listen to Audio	O	O	O	O	O	O
Chat rooms	O	O	O	O	O	O
Discussion forums	O	O	O	O	O	O
Electronic whiteboards	O	O	O	O	O	O
Graphics (pictures)	O	O	O	O	O	O
Instant messaging	O	O	O	O	O	O
Podcasting	O	O	O	O	O	O
Telephone	O	O	O	O	O	O
Download videos	O	O	O	O	O	O
Web cameras	O	O	O	O	O	O

28) Which would you prefer more, working alone in an online class or working in online groups?

O	O	O	O	O
Always Alone	Mostly Alone/ Sometimes Groups	No Preference	Mostly in Groups/ Sometimes Alone	Always In Groups

29) How strongly do you agree with the statement, "I feel like my teachers pay attention to me in an online class."

O	O	O	O	O
Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree

30) How important do you feel it is to have a computer connected to the Internet in your home?

O	O	O	O	O
Very Important	Somewhat Important	Neither Important nor Unimportant	Somewhat Unimportant	Very Unimportant

Student Demographics

31) Approximately how many classes have you completed in college (either online or on campus)?

O	O	O	O
2-5	6-10	11-15	More than 15

32) Approximately what is your current Grade Point Average (GPA)? Enter DK if you do not know what your GPA is.

GPA: _____

33) Where do you generally access the Internet from?

	Most of the time	A Lot	Occasionally	Rarely	Never
Home	O	O	O	O	O
College	O	O	O	O	O
Public library	O	O	O	O	O
Friend's house	O	O	O	O	O
Work	O	O	O	O	O

34) Have you previously taken a computer class online or on campus?

a) Yes, online only
b) Yes, on campus only
c) Yes, one online and one on campus
d) Yes, half online and half on campus
e) No

35) Of the following, which is the highest level of English you have completed in college?

a) ENGL 066 Basic English Grammar
b) ENGL 097 Basic Composition
c) ENGL 099 Intermediate Composition
d) ENGL 101 Freshman Composition
e) ENGL 102 Freshman Composition II
f) I have not taken an English class
g) I did not have to take these English courses because of my High School AP scores

36) Of the following, which is the highest level of Mathematics you have completed in college?

a) 050 Arithmetic
b) 070 Elementary Algebra
c) 080 Plane Geometry
d) 102 Intermediate Algebra
e) 130 College Algebra
f) I have not taken a math class
g) I did not have to take these Math courses because of my High School AP scores

37) What is your gender?

a. Female b. Male

38) Which of the following age groups were you part of?

a. 19 or younger b. 20-24 c. 25-49 d. 50-or-older

39) What language is mostly spoken in your home?

a. English. b. Spanish c. Other

40) Would you be willing to participate in a follow-up interview to this survey?

a. Yes. b. No

41) If you was willing to participate in a follow-up interview, how would you like to be contacted?

Email. Please enter your email address:

Phone. Please enter your phone number:

APPENDIX C

Consent Form

You were invited to take part in a research study of *An Examination of Differences Between Online Learning for Hispanic and Caucasian Community College Students*. You were chosen to be interviewed because you indicated on a survey that you were either Hispanic or Caucasian and you have completed two or more online college classes. Please read this form and ask any questions you have before agreeing to be interviewed. This study is being conducted by a researcher named Ed Beyer, who is a doctoral student at Walden University, and a professor at Antelope Valley College.

Background Information

The purpose of this study is to examine the differences between Hispanic and Caucasian community college students about online learning in order to identify ways that may help online students succeed. This study included a survey, which you have already completed, and interviews of Hispanic and Caucasian students who have participated in online courses at Antelope Valley College.

Procedures

If you agree to be interviewed, you were asked to answer questions about your experiences with Antelope Valley College and your experience in online courses in which you have succeeded or not succeeded.

Voluntary Nature of the Study

Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one at Antelope Valley

College will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. If you feel stressed during the study you may stop at any time. You may skip any questions that you feel were too personal.

Risks and Benefits of Being in the Study

The benefit of participating in this study is that you may be helping other community college students increase their chance of succeeding in online courses. There were no risks in being part of this study.

Compensation

Participants who complete the survey and the interview process will receive a thank you gift in the form of a gift certificate to a local coffee house. The thank you gift were presented to the participant at the completion of the interview.

Confidentiality

Any information you provide were kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in any reported of the study.

Contacts and Questions

The researcher's name is Ed Beyer. The researcher's faculty advisor is Dr. Bernice Folz. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone at 661-722-6374 or email at ebeyer@waldenu.edu. You may also contact the advisor at bernice.folz@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the

Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210. The researcher will give you a copy of this form to keep.

Statement of Consent

☐ I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study.

Printed Name of Participant _____

Participant's Signature _____

Researcher's Signature _____

APPENDIX D

Interview Questions

A semi-structured interview were based on two general lines of inquiry. The two lines of inquiry were: a) why go to college and enroll in online courses, and b) what would an exciting online class look like to the respondent. The first set of questions is intended to address a student's motivation for attending college, and enrolling in online courses. The second set of questions is intended to address course design preferences and include a discussion on student learning preferences. Possible probing questions were listed in bullet form below each question.

1) Why did you choose to go to Antelope Valley College?

- How did you learn about AVC?
- What were some of the other schools you thought about attending besides AVC?
- How did the availability of online courses at AVC influence your decision to enroll at the college?
- What motivated you to enroll in an online course?

2) What made you think about taking online courses at AVC?

- What do you think about the differences between online courses and on-campus courses?
- Where do you like to access your online courses from?
- What do you find most challenging about taking an online class?
- What do you see as some of the benefits of taking a course over the Internet?
- To what extent do you perceive cultural differences in the classroom?

3) Think of an online course that <u>you enjoyed</u>. Tell me about the course

- What did you like most about the course?
- How did you feel when you were in the online classroom?
- How often did you go into the online classroom?

4) Think of an online course that you did not enjoy. Tell me about the course.

- What did you not like about the course?
- How did you feel when you were in the online classroom?
- How often did you go into the online classroom?

5) If you could design the perfect online class, what would it look like?

- What kind of things would you want in the class?
- What kinds of things would you not want in the class?
- How often would you want students to access the online classroom?

APPENDIX E

Table E1

*(Q1) Ethnicity * (Q17) Course with A, B, C, or Credit*

(Q1) Ethnicity	(Q17) Course with A, B, C, or Credit					
	A	B	C	Credit	Did Not Pass Any Online Courses	Total
Caucasian	93	34	9	5	4	145
Hispanic	37	23	5	6	6	77
Total	130	57	14	11	10	222

Table E2

*(Q16) Would Like to See in an Online Course * (Q17) Course with A, B, C, or Credit * (Q1) Ethnicity*

(Q16) Would Like to See in an Online Course	(Q17) Course with A, B, C, or Credit					
	Caucasian	%	Hispanic	%	Total	% Difference
Audio	64	64.0	36	36.0	100	28.0
Discussion Forums	62	65.3	33	34.7	95	30.6
Instant Messaging	63	70.8	26	29.2	89	41.6
Videos	52	61.2	33	38.8	85	22.4
Animations	45	56.9	34	43.1	79	13.8
Electronic White Boards	49	65.3	26	34.7	75	30.6
Chat Rooms	51	68.9	23	31.1	74	37.8
Podcasting	30	65.2	16	34.8	46	30.4
Web Cameras	25	60.9	16	39.1	41	21.8
None of These	19	76.0	6	24.0	25	52.0
Telephone	13	59.1	9	40.9	22	18.2

APPENDIX E

Table E3

*(Q35) Highest Level of English Completed * (Q37) Gender * (Q1) Ethnicity*

(Q1) Ethnicity	(Q35) Highest Level of English Completed	(Q37) Gender		
		Male	Female	Total
Caucasian	ENGL 066 Basic English Grammar	0	1	1
	ENGL 095 Developmental Writing Skills	-	-	-
	ENGL 097 Basic Composition	-	-	-
	ENGL 099 Intermediate Composition	3	7	10
	ENGL 101 Freshman Composition	11	57	68
	ENGL 102 Freshman Composition II	12	34	46
	I Have Not Taken an English Course	0	9	9
	None Because of My AP Scores	2	4	6
	Total	28	112	140
Hispanic	ENGL 066 Basic English Grammar	-	-	-
	ENGL 095 Developmental Writing Skills	0	3	3
	ENGL 097 Basic Composition	0	2	2
	ENGL 099 Intermediate Composition	0	8	8
	ENGL 101 Freshman Composition	4	21	25
	ENGL 102 Freshman Composition II	6	17	23
	I Have Not Taken an English Course	2	8	10
	None Because of My AP Scores	0	1	1
	Total	12	60	72

APPENDIX E

Table E4

(Q18) Ease Finding Parts of Course - Passed Course

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.6241	141	.88268
Hispanic	1.7391	69	.91799
Total	1.6619	210	.89388

Table E5

*(Q1) Ethnicity * (Q18) Ease Finding Parts of Course - Passed Course*

(Q1) Ethnicity	(Q18) Ease Finding Parts of Course - Passed Course				
	Very Easy	Somewhat Easy	Neither Easy Nor Difficult	Somewhat Difficult	Total
Caucasian	81	42	8	10	141
Hispanic	35	22	7	5	69
Total	116	64	15	15	210

Table E6

*(Q37) Gender * (Q18) Ease Finding Parts of Course - Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q18) Ease Finding Parts of Course - Passed Course				
		Very Easy	Somewhat Easy	Neither Easy Nor Difficult	Somewhat Difficult	Total
Caucasian	Male	14	10	2	3	29
	Female	64	32	5	7	108
	Total	78	42	7	10	137
Hispanic	Male	6	3	1	1	11
	Female	27	17	6	4	54
	Total	33	20	7	5	65

APPENDIX E

Table E7

*(Q38) Age Group * (Q18) Ease Finding Parts of Course - Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q18) Ease Finding Parts of Course - Passed Course				
		Very Easy	Somewhat Easy	Neither Easy Nor Difficult	Somewhat Difficult	Total
Caucasian	19 or Younger	9	6	1	1	17
	20-24	22	10	1	3	36
	25-49	34	18	2	5	59
	50 or Older	13	8	3	1	25
	Total	78	42	7	10	137
Hispanic	19 or Younger	8	2	0	0	10
	20-24	10	3	2	1	16
	25-49	15	13	4	3	35
	50 or Older	0	2	1	1	4
	Total	33	20	7	5	65

Table E8

(Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.5180	139	.88753
Hispanic	1.5362	69	.91683
Total	1.5240	208	.89518

APPENDIX E

Table E9

*(Q1) Ethnicity * (Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course*

(Q1) Ethnicity	(Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course				
	Very Clear	Somewhat Clear	Neither Clear Nor Confusing	Somewhat Confusing	Total
Caucasian	94	28	7	10	139
Hispanic	46	15	2	6	69
Total	140	43	9	16	208

Table E10

*(Q37) Gender * (Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course				
		Very Clear	Somewhat Clear	Neither Clear Nor Confusing	Somewhat Confusing	Total
Caucasian	Male	15	6	2	4	27
	Female	77	21	4	6	108
	Total	92	27	6	10	135
Hispanic	Male	6	4	0	1	11
	Female	38	10	1	5	54
	Total	44	14	1	6	65

APPENDIX E

Table E11

*(Q38) Age Group * (Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q19) Clarity of Teacher's Course Objectives Explanation - Passed Course				
		Very Clear	Somewhat Clear	Neither Clear Nor Confusing	Somewhat Confusing	Total
Caucasian	19 or Younger	11	5	0	1	17
	20-24	21	8	3	3	35
	25-49	41	10	1	5	57
	50 or Older	19	4	2	1	26
	Total	92	27	6	10	135
Hispanic	19 or Younger	9	1	0	0	10
	20-24	11	3	1	1	16
	25-49	24	7	0	4	35
	50 or Older	0	3	0	1	4
	Total	44	14	1	6	65

Table E12

(Q20) Felt Isolated or Alone in Class - Passed Course

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	3.7730	141	1.20930
Hispanic	3.5797	69	1.27655
Total	3.7095	210	1.23211

APPENDIX E

Table E13

*(Q1) Ethnicity * (Q20) Felt Isolated or Alone in Class - Passed Course*

(Q1) Ethnicity	(Q20) Felt Isolated or Alone in Class - Passed Course					
	Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	3	24	32	25	57	141
Hispanic	5	8	22	10	24	69
Total	8	32	54	35	81	210

Table E14

*(Q37) Gender * (Q20) Felt Isolated or Alone in Class - Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q20) Felt Isolated or Alone in Class - Passed Course					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	Male	0	8	10	4	6	28
	Female	3	16	22	20	48	109
	Total	3	24	32	24	54	137
Hispanic	Male	1	1	3	4	2	11
	Female	4	6	17	6	21	54
	Total	5	7	20	10	23	65

APPENDIX E

Table E15

*(Q38) Age Group * (Q20) Felt Isolated or Alone in Class - Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q20) Felt Isolated or Alone in Class - Passed Course					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	19 or Younger	0	4	4	3	6	17
	20-24	1	5	10	6	13	35
	25-49	2	9	14	9	25	59
	50 or Older	0	6	4	6	10	26
	Total	3	24	32	24	54	137
Hispanic	19 or Younger	1	1	5	1	2	10
	20-24	1	3	3	2	7	16
	25-49	3	3	9	6	14	35
	50 or Older	0	0	3	1	0	4
	Total	5	7	20	10	23	65

Table E16

(Q22) Course with D, F, W, or No-Credit

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.4667	15	.51640
Hispanic	1.5455	11	.52223
Total	1.5000	26	.50990

APPENDIX E

Table E17

*(Q1) Ethnicity * (Q22) Course with D, F, W, or No-Credit*

(Q1) Ethnicity	(Q22) Course with D, F, W, or No-Credit					
	D	F	W	No-Credit	Passed All Online Courses	Total
Caucasian	8	7	9	1	121	146
Hispanic	5	6	2	3	58	74
Total	13	13	11	4	179	220

Table E18

*(Q37) Gender * (Q22) Course with D, F, W, or No-Credit * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q22) Course with D, F, W, or No-Credit					
		D	F	W	No-Credit	Passed All Online Courses	Total
Caucasian	Male	1	1	1	0	26	29
	Female	7	5	8	1	91	112
	Total	8	6	9	1	117	141
Hispanic	Male	1	2	0	1	8	12
	Female	4	4	2	2	46	58
	Total	5	6	2	3	54	70

APPENDIX E

Table E19

*(Q38) Age Group * (Q22) Course with D, F, W, or No-Credit * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q22) Course with D, F, W, or No-Credit					
		D	F	W	No-Credit	Passed All Online Courses	Total
Caucasian	19 or Younger	1	0	1	0	15	17
	20-24	4	1	2	1	29	37
	25-49	3	4	5	0	48	60
	50 or Older	0	1	1	0	25	27
	Total	8	6	9	1	117	141
Hispanic	19 or Younger	2	0	0	1	8	11
	20-24	1	1	1	0	15	18
	25-49	2	4	1	2	28	37
	50 or Older	0	1	0	0	3	4
	Total	5	6	2	3	54	70

Table E20

(Q23) Ease Finding Parts of Course - Not Passed

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	2.8800	25	1.50886
Hispanic	1.8750	16	.61914
Total	2.4878	41	1.32518

APPENDIX E

Table E21

*(Q1) Ethnicity * (Q23) Ease Finding Parts of Course - Not Passed*

(Q1) Ethnicity	(Q23) Ease Finding Parts of Course - Not Passed Course					
	Very Easy	Somewhat Easy	Neither Easy Nor Difficult	Somewhat Difficult	Very Difficult	Total
Caucasian	6	6	3	5	5	25
Hispanic	4	10	2	0	0	16
Total	10	16	5	5	5	41

Table E22

*(Q37) Gender * (Q23) Ease Finding Parts of Course - Not Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q23) Ease Finding Parts of Course - Not Passed Course					
		Very Easy	Somewhat Easy	Neither Easy Nor Difficult	Somewhat Difficult	Very Difficult	Total
Caucasian	Male	1	1	0	0	1	3
	Female	5	5	3	5	3	21
	Total	6	6	3	5	4	24
Hispanic	Male	1	3	0			4
	Female	3	7	2			12
	Total	4	10	2			16

APPENDIX E

Table E23

*(Q38) Age Group * (Q23) Ease Finding Parts of Course - Not Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q23) Ease Finding Parts of Course - Not Passed Course					
		Very Easy	Somewhat Easy	Neither Easy Nor Difficult	Somewhat Difficult	Very Difficult	Total
Caucasian	19 or Younger	1	0	1	0	0	2
	20-24	2	4	1	0	1	8
	25-49	2	2	1	5	2	12
	50 or Older	1	0	0	0	1	2
	Total	6	6	3	5	4	24
Hispanic	19 or Younger	1	2	0			3
	20-24	1	2	0			3
	25-49	2	6	1			9
	50 or Older	0	0	1			1
	Total	4	10	2			16

Table E24

(Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	2.7391	23	1.45282
Hispanic	1.6667	15	.89974
Total	2.3158	38	1.35777

APPENDIX E

Table E25

*(Q1) Ethnicity * (Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed*

(Q1) Ethnicity	(Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed Course						
	Teacher Did Not Explain Objectives	Very Clear	Somewhat Clear	Neither Clear Nor Confusing	Somewhat Confusing	Very Confusing	Total
Caucasian	2	6	6	2	6	3	25
Hispanic	1	8	5	1	1	0	16
Total	3	14	11	3	7	3	41

Table E26

*(Q37) Gender * (Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed Course						
		Teacher Did Not Explain Objectives	Very Clear	Somewhat Clear	Neither Clear Nor Confusing	Somewhat Confusing	Very Confusing	Total
Caucasian	Male	1	1	1	0	0	0	3
	Female	0	5	5	2	6	3	21
	Total	1	6	6	2	6	3	24
Hispanic	Male	0	2	2	0	0		4
	Female	1	6	3	1	1		12
	Total	1	8	5	1	1		16

APPENDIX E

Table E27

*(Q38) Age Group * (Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q24) Clarity of Teacher's Course Objectives Explanation - Not Passed Course						
		Teacher Did Not Explain Objectives	Very Clear	Somewhat Clear	Neither Clear Nor Confusing	Somewhat Confusing	Very Confusing	Total
Caucasian	19 or Younger	0	1	0	1	0	0	2
	20-24	1	1	5	0	1	0	8
	25-49	0	3	1	1	4	3	12
	50 or Older	0	1	0	0	1	0	2
	Total	1	6	6	2	6	3	24
Hispanic	19 or Younger	0	2	1	0	0		3
	20-24	0	1	1	0	1		3
	25-49	0	5	3	1	0		9
	50 or Older	1	0	0	0	0		1
	Total	1	8	5	1	1		16

Table E28

(Q25) Felt Isolated or Alone in Class - Not Passed Course

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	2.5200	25	1.53080
Hispanic	2.3125	16	1.19548
Total	2.4390	41	1.39730

APPENDIX E

Table E29

*(Q1) Ethnicity * (Q25) Felt Isolated or Alone in Class - Not Passed*

(Q1) Ethnicity	(Q25) Felt Isolated or Alone in Class - Not Passed Course					
	Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	9	5	5	1	5	25
Hispanic	5	4	5	1	1	16
Total	14	9	10	3	6	41

Table E30

*(Q37) Gender * (Q25) Felt Isolated or Alone in Class - Not Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q25) Felt Isolated or Alone in Class - Not Passed Course					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	Male	0	1	1	0	1	3
	Female	8	4	4	1	4	21
	Total	8	5	5	1	5	24
Hispanic	Male	0	0	3	1	0	4
	Female	5	4	2	0	1	12
	Total	5	4	5	1	1	16

APPENDIX E

Table E31

*(Q38) Age Group * (Q25) Felt Isolated or Alone in Class - Not Passed Course * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q25) Felt Isolated or Alone in Class - Not Passed Course					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	19 or Younger	1	0	1	0	0	2
	20-24	1	2	3	1	1	8
	25-49	5	3	1	0	3	12
	50 or Older	1	0	0	0	1	2
	Total	8	5	5	1	5	24
Hispanic	19 or Younger	0	2	1	0	0	3
	20-24	1	0	2	0	0	3
	25-49	3	2	2	1	1	9
	50 or Older	1	0	0	0	0	1
	Total	5	4	5	1	1	16

Table E32

(Q3) On a scale from 1 to 10, with 10 being an expert, how would you rate your computer skills?

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	7.5168	149	1.47320
Hispanic	7.4359	78	1.49969
Total	7.4890	227	1.47954

APPENDIX E

Table E33

*(Q1) Ethnicity * (Q3) Computer Skills*

(Q1) Ethnicity	(Q3) Computer Skills								
	3	4 Beginner	5	6	7 Experienced	8	9	10 Expert	Total
Caucasian	2	3	5	19	52	28	25	15	149
Hispanic	0	6	2	2	35	16	9	8	78
Total	2	9	7	21	87	44	34	23	227

Table E34

(Q32) Approximately what is your current Grade Point Average?

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	3.3687	113	.46671
Hispanic	3.1639	51	.55931
Total	3.3050	164	.50465

APPENDIX E

Table E35

*(Q3) Skills * (Q17) Course with A, B, C, or Credit * (Q1) Ethnicity*

(Q1) Ethnicity	(Q3) Skills	(Q17) Course with A, B, C, or Credit				
		A	B	C	Credit	Total
Caucasian	3	1	0	0	0	1
	4 Beginner	1	2	0	0	3
	5	2	3	0	0	5
	6	12	3	3	1	19
	7 Experienced	32	12	2	2	48
	8	15	8	3	0	26
	9	17	5	1	2	25
	Expert	14	1	0	0	15
	Total	94	34	9	5	142
Hispanic	4 Beginner	1	3	2	0	6
	5	0	1	0	0	1
	6	0	2	0	0	2
	7 Experienced	18	9	1	2	30
	8	5	5	2	3	15
	9	6	2	0	1	9
	Expert	7	1	0	0	8
	Total	37	23	5	6	71

APPENDIX E

Table E36

*(Q3) Skills * (Q22) Course with D, F, W, or No-Credit * (Q1) Ethnicity*

(Q1) Ethnicity	(Q3) Skills	(Q22) Course with D, F, W, or No-Credit				
		D	F	W	No-Credit	Total
Caucasian	4 Beginner	0	1	0	0	1
	5	0	1	1	0	2
	6	1	1	0	0	2
	7 Experienced	2	3	2	0	7
	8	3	0	2	1	6
	9	1	1	2	0	4
	Expert	1	0	2	0	3
	Total	8	7	9	1	25
Hispanic	4 Beginner	0	0	0	0	0
	5	1	1	0	0	2
	6	0	0	0	0	0
	7 Experienced	3	3	1	2	9
	8	1	1	0	1	3
	9	0	0	0	0	0
	Expert	0	1	1	0	2
	Total	5	6	2	3	16

Table E37

(Q4) How comfortable do you feel using the Internet to find a specific Web site?

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.2886	149	.74702
Hispanic	1.3590	78	.66400
Total	1.3128	227	.71888

Note: Very comfortable = 1 and very uncomfortable = 5

APPENDIX E

Table E38

*(Q1) Ethnicity * (Q4) Comfort Finding Web Site*

(Q1) Ethnicity	(Q4) Comfort Finding Web Site					
	Very Comfortable	Somewhat Comfortable	Neither	Somewhat Uncomfortable	Very Uncomfortable	Total
Caucasian	122	18	5	1	3	149
Hispanic	56	18	2	2	0	78
Total	178	36	7	3	3	227

Table E39

(Q4) How comfortable do you feel using the Internet to find a specific Web site? (Q37) Gender*

(Q1)Ethnicity	(Q37) Gender	Mean	N	Std. Deviation
Caucasian	Male	1.0345	29	.18570
	Female	1.3482	112	.82429
	Total	1.2837	141	.74954
Hispanic	Male	1.1667	12	.38925
	Female	1.4333	60	.72174
	Total	1.3889	72	.68290

Note: Very comfortable = 1 and very uncomfortable = 5

APPENDIX E

Table E40

(Q4) How comfortable do you feel using the Internet to find a specific Web site? (Q37) Age Group*

(Q1) Ethnicity	(Q38) Age Group	Mean	N	Std. Deviation
Caucasian	19 or Younger	1.3529	17	.70189
	20-24	1.3784	37	1.11433
	25-49	1.1833	60	.53652
	50 or Older	1.3333	27	.55470
	Total	1.2837	141	.74954
Hispanic	19 or Younger	1.0000	11	.00000
	20-24	1.4444	18	.85559
	25-49	1.4359	39	.68036
	50 or Older	1.7500	4	.50000
	Total	1.3889	72	.68290

Note: Very comfortable = 1 and very uncomfortable = 5

Table E41

(Q5) How comfortable do you feel using word processing software such as Word or WordPerfect to create documents?

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.4122	148	.82420
Hispanic	1.3462	78	.59928
Total	1.3894	226	.75346

Note: Very comfortable = 1 and very uncomfortable = 5

APPENDIX E

Table E42

*(Q1) Ethnicity * (Q5) Comfort Using Word Processing Software*

(Q1) Ethnicity	(Q5) Comfort Using Word Processing Software					
	Very Comfortable	Somewhat Comfortable	Neither	Somewhat Uncomfortable	Very Uncomfortable	Total
Caucasian	108	28	5	5	2	148
Hispanic	55	20	2	1	0	78
Total	163	48	7	6	2	226

Table E43

(Q5) How comfortable do you feel using word processing software such as Word or WordPerfect to create documents? (Q37) Gender*

(Q1) Ethnicity	(Q37) Gender	Mean	N	Std. Deviation
Caucasian	Male	1.3103	29	.54139
	Female	1.4643	112	.89974
	Total	1.4326	141	.83926
Hispanic	Male	1.1667	12	.38925
	Female	1.4000	60	.64309
	Total	1.3611	72	.61221

Note: Very comfortable = 1 and very uncomfortable = 5

APPENDIX E

Table E44

(Q5) How comfortable do you feel using word processing software such as Word or WordPerfect to create documents? (Q38) Age Group*

(Q1) Ethnicity	(Q38) Age Group	Mean	N	Std. Deviation
Caucasian	19 or Younger	1.1765	17	.39295
	20-24	1.4595	37	.96017
	25-49	1.5167	60	.83345
	50 or Older	1.3704	27	.88353
	Total	1.4326	141	.83926
Hispanic	19 or Younger	1.0000	11	.00000
	20-24	1.4444	18	.70479
	25-49	1.3846	39	.63310
	50 or Older	1.7500	4	.50000
	Total	1.3611	72	.61221

Note: Very comfortable = 1 and very uncomfortable = 5

Table E45

(Q6) How comfortable do you feel using a computer to send and receive email?

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.1074	149	.46703
Hispanic	1.1282	78	.43720
Total	1.1145	227	.45614

Note: Very comfortable = 1 and very uncomfortable = 5

APPENDIX E

Table E46

*(Q1) Ethnicity * (Q6) How comfortable do you feel using a computer to send and receive email?*

(Q1) Ethnicity	(Q6) Comfort Sending and Receiving Email				
	Very Comfortable	Somewhat Comfortable	Somewhat Uncomfortable	Very Uncomfortable	Total
Caucasian	138	9	1	1	149
Hispanic	70	7	1	0	78
Total	208	16	2	1	227

Table E47

*(Q6) How comfortable do you feel using a computer to send and receive email? * (Q37) Gender*

(Q1) Ethnicity	(Q37) Gender	Mean	N	Std. Deviation
Caucasian	Male	1.0345	29	.18570
	Female	1.1250	112	.52204
	Total	1.1064	141	.47362
Hispanic	Male	1.0833	12	.28868
	Female	1.1500	60	.48099
	Total	1.1389	72	.45364

Note: Very comfortable = 1 and very uncomfortable = 5

APPENDIX E

Table E48

*(Q6) How comfortable do you feel using a computer to send and receive email? * (Q38) Age Group*

	(Q38) Age Group	Mean	N	Std. Deviation
Caucasian	19 or Younger	1.0588	17	.24254
	20-24	1.1351	37	.67339
	25-49	1.0667	60	.25155
	50 or Older	1.1852	27	.62247
	Total	1.1064	141	.47362
Hispanic	19 or Younger	1.0000	11	.00000
	20-24	1.0556	18	.23570
	25-49	1.1538	39	.53991
	50 or Older	1.7500	4	.50000
	Total	1.1389	72	.45364

Table E49

*(Q7) Which of the following online social applications have you used? * Ethnicity*

	Total	%	Caucasian	Hispanic
Facebook	47	19.6	36	11
Live Journal	27	11.3	16	11
My Space	152	63.3	100	52
Second Life	7	2.9	6	1
Do Not Use Online Social Applications	64	26.7	45	19

Note:% is based on 240 survey respondents.

APPENDIX E

Table E50

*(Q7) Online Social Applications Used * (Q3) Ethnicity * (Q37) Gender*

	Total	%	Caucasian		Hispanic	
			Male	Female	Male	Female
Facebook	42	17.5	8	25	2	7
Live Journal	22	9.2	2	11	1	8
My Space	142	59.2	20	75	8	39
Second Life	5	2.1	2	3	0	0
Do Not Use Online Social Applications	60	25.0	9	33	3	15

Note:% is based on 240 survey respondents.

Table E51

*(Q1) Ethnicity * (Q8) Use Cell Phone to Text Message*

(Q1) Ethnicity	Yes	No	No Cell Phone	Total
Caucasian	116	25	7	148
Hispanic	63	8	6	77
Total	179	33	13	225

Table E52

*(Q37) Gender * (Q8) Use Cell Phone to Text Message * (Q1) Ethnicity*

(Q1) Ethnicity		Yes	No	No Cell Phone	Total
Caucasian	Male	21	8	0	29
	Female	89	17	6	112
	Total	110	25	6	141
Hispanic	Male	7	2	3	12
	Female	50	6	3	59
	Total	57	8	6	71

APPENDIX E

Table E53

*(Q38) Age Group * (Q8) Use Cell Phone to Text Message * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	Yes	No	No Cell Phone	Total
Caucasian	19 or Younger	15	2	0	17
	20-24	36	1	0	37
	25-49	45	11	4	60
	50 or Older	14	11	2	27
	Total	110	25	6	141
Hispanic	19 or Younger	9	1	1	11
	20-24	15	1	2	18
	25-49	30	5	3	38
	50 or Older	3	1	0	4
	Total	57	8	6	71

Table E54

*(Q1) Ethnicity * (Q9) Use Cell Phone to Take Pictures*

(Q1) Ethnicity	Yes	No	No Cell Phone	Total
Caucasian	111	30	7	148
Hispanic	60	11	6	77
Total	171	41	13	225

APPENDIX E

Table E55

*(Q37) Gender * (Q9) Use Cell Phone to Take Pictures*

(Q1) Ethnicity	(Q37) Gender	Yes	No	No Cell Phone	Total
Caucasian	Male	19	10	0	29
	Female	86	20	6	112
	Total	105	30	6	141
Hispanic	Male	6	3	3	12
	Female	49	7	3	59
	Total	55	10	6	71

Table E56

*(Q38) Age Group * (Q9) Use Cell Phone to Take Pictures*

(Q1) Ethnicity	(Q38) Age Group	Yes	No	No Cell Phone	Total
Caucasian	19 or Younger	13	4	0	17
	20-24	36	1	0	37
	25-49	44	12	4	60
	50 or Older	12	13	2	27
	Total	105	30	6	141
Hispanic	19 or Younger	7	3	1	11
	20-24	14	2	2	18
	25-49	31	5	3	39
	50 or Older	3	0	0	3
	Total	55	10	6	71

APPENDIX E

Table E57

*(Q1) Ethnicity * (Q33) Access the Internet from Home*

	(Q33) Access the Internet from Home					
(Q1) Ethnicity	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	121	14	1	4	0	140
Hispanic	57	7	4	3	1	72
Total	178	21	5	7	1	212

Table E58

*(Q1) Ethnicity * (Q33) Access the Internet from Work*

	(Q33) Access the Internet from Work					
(Q1) Ethnicity	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	38	26	17	13	43	137
Hispanic	15	12	7	3	31	68
Total	53	38	24	16	74	205

Table E59

*(Q1) Ethnicity * (Q33) Access the Internet from College*

	(Q33) Access the Internet from College					
(Q1) Ethnicity	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	13	15	37	39	36	140
Hispanic	11	20	20	10	11	72
Total	24	35	57	49	47	212

APPENDIX E

Table E60

*(Q1) Ethnicity * (Q33) Access the Internet from Friend's House*

	(Q33) Access the Internet from Friend's House					
(Q1) Ethnicity	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	4	4	40	35	53	136
Hispanic	2	3	13	12	38	68
Total	6	7	53	47	91	204

Table E61

*(Q1) Ethnicity * (Q33) Access the Internet from Public Library*

	(Q33) Access the Internet from Public Library					
(Q1) Ethnicity	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	2	1	10	33	91	137
Hispanic	3	2	12	16	34	67
Total	5	3	22	49	125	204

Table E62

*(Q37) Gender * (Q33) Access the Internet from Home * (Q1) Ethnicity*

		(Q33) Access the Internet from Home					
(Q1) Ethnicity	(Q37) Gender	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	Male	27	2	0	0		29
	Female	94	12	1	4		111
	Total	121	14	1	4		140
Hispanic	Male	10	1	1	0	0	12
	Female	47	6	3	3	1	60
	Total	57	7	4	3	1	72

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Table E63

*(Q37) Gender * (Q33) Access the Internet from College * (Q1) Ethnicity*

		(Q33) Access the Internet from College					
(Q1) Ethnicity	(Q37) Gender	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	Male	2	5	11	8	3	29
	Female	11	10	26	31	33	111
	Total	13	15	37	39	36	140
Hispanic	Male	1	4	3	2	2	12
	Female	10	16	17	8	9	60
	Total	11	20	20	10	11	72

Table E64

*(Q37) Gender * (Q33) Access the Internet from Public Library * (Q1) Ethnicity*

		(Q33) Access the Internet from Public Library					
(Q1) Ethnicity	(Q37) Gender	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	Male	0	0	2	9	18	29
	Female	2	1	8	24	73	108
	Total	2	1	10	33	91	137
Hispanic	Male	1	0	1	4	6	12
	Female	2	2	11	12	28	55
	Total	3	2	12	16	34	67

APPENDIX E

Table E65

*(Q37) Gender * (Q33) Access the Internet from Friend's House * (Q1) Ethnicity*

		(Q33) Access the Internet from Friend's House					
(Q1) Ethnicity	(Q37) Gender	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	Male	1	2	6	9	11	29
	Female	3	2	34	26	42	107
	Total	4	4	40	35	53	136
Hispanic	Male	0	1	3	4	4	12
	Female	2	2	10	8	34	56
	Total	2	3	13	12	38	68

Table E66

*(Q37) Gender * (Q33) Access the Internet from Work * (Q1) Ethnicity*

		(Q33) Access the Internet from Work					
(Q1) Ethnicity	(Q37) Gender	Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	Male	5	5	5	5	9	29
	Female	33	21	12	8	34	108
	Total	38	26	17	13	43	137
Hispanic	Male	2	4	1	0	5	12
	Female	13	8	6	3	26	56
	Total	15	12	7	3	31	68

APPENDIX E

Table E67

*(Q38) Age Group * (Q33) Access the Internet from Home * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q33) Access the Internet from Home					
		Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	19 or Younger	16	1	0	0		17
	20-24	33	2	0	2		37
	25-49	52	5	1	1		59
	50 or Older	20	6	0	1		27
	Total	121	14	1	4		140
Hispanic	19 or Younger	11	0	0	0	0	11
	20-24	10	2	3	3	0	18
	25-49	32	5	1	0	1	39
	50 or Older	4	0	0	0	0	4
	Total	57	7	4	3	1	72

Table E68

*(Q38) Age Group * (Q33) Access the Internet from College * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q33) Access the Internet from College					
		Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	19 or Younger	1	4	5	4	3	17
	20-24	2	3	13	11	8	37
	25-49	5	6	12	16	21	60
	50 or Older	5	2	7	8	4	26
	Total	13	15	37	39	36	140
Hispanic	19 or Younger	1	2	5	1	2	11
	20-24	5	5	6	1	1	18
	25-49	4	11	8	8	8	39
	50 or Older	1	2	1	0	0	4
	Total	11	20	20	10	11	72

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Table E69

*(Q38) Age Group * (Q33) Access the Internet from Public Library * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q33) Access the Internet from Public Library					
		Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	19 or Younger	0	0	1	4	11	16
	20-24	0	0	2	8	27	37
	25-49	1	1	5	12	41	60
	50 or Older	1	0	2	9	12	24
	Total	2	1	10	33	91	137
Hispanic	19 or Younger	1	0	1	3	5	10
	20-24	1	0	5	2	8	16
	25-49	1	2	5	9	20	37
	50 or Older	0	0	1	2	1	4
	Total	3	2	12	16	34	67

Table E70

*(Q38) Age Group * (Q33) Access the Internet from Friend's House * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q33) Access the Internet from Friend's House					
		Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	19 or Younger	0	0	9	4	3	16
	20-24	2	4	16	8	7	37
	25-49	2	0	9	14	35	60
	50 or Older	0	0	6	9	8	23
	Total	4	4	40	35	53	136
Hispanic	19 or Younger	1	2	4	1	2	10
	20-24	0	0	2	2	12	16
	25-49	1	1	6	7	23	38
	50 or Older	0	0	1	2	1	4
	Total	2	3	13	12	38	68

APPENDIX E

Table E71

*(Q38) Age Group * (Q33) Access the Internet from Work * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q33) Access the Internet from Work					
		Most of the Time	A Lot	Occasionally	Rarely	Never	Total
Caucasian	19 or Younger	1	4	1	3	7	16
	20-24	9	6	5	6	11	37
	25-49	23	9	5	4	18	59
	50 or Older	5	7	6	0	7	25
	Total	38	26	17	13	43	137
Hispanic	19 or Younger	3	1	1	1	4	10
	20-24	4	1	0	1	11	17
	25-49	8	8	5	1	15	37
	50 or Older	0	2	1	0	1	4
	Total	15	12	7	3	31	68

APPENDIX E

Table E72

*(Q1) Ethnicity * (Q27) Rate online activities or course elements*

(Q1) Ethnicity		Animations	Listen to Audio	Chat Rooms	Discussion Forums	Electronic Whiteboards	Graphics (pictures)	Instant Messaging	Podcasting	Telephone	Download Videos	Web Cameras
Caucasian	Mean	2.0580	2.0111	2.2568	1.9070	2.1864	1.6306	2.2600	2.5714	2.7660	2.1579	2.7955
	N	69	90	74	129	59	111	50	42	47	76	44
	Std. Deviation	.98345	1.08612	1.07348	1.01890	.93725	.77375	1.08440	1.03930	1.08773	1.23345	1.21195
Hispanic	Mean	1.5750	1.5625	2.5152	1.8070	1.7000	1.4615	2.2759	2.0000	2.4800	1.7273	2.1111
	N	40	48	33	57	30	52	29	19	25	33	18
	Std. Deviation	.78078	.74108	1.17583	.98992	.70221	.69906	1.27885	.81650	1.00499	.71906	.67640
Total	Mean	1.8807	1.8551	2.3364	1.8763	2.0225	1.5767	2.2658	2.3934	2.6667	2.0275	2.5968
	N	109	138	107	186	89	163	79	61	72	109	62
	Std. Deviation	.94010	1.00037	1.10696	1.00849	.89160	.75274	1.15146	1.00463	1.06149	1.11769	1.12293

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Table E73

*(Q27) Rate online activities or course elements * (37) Gender * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender		Animations	Listen to Audio	Chat Rooms	Discussion Forums	Electronic Whiteboards	Graphics (pictures)	(Instant Messaging	Podcasting	Telephone	Download Videos	Web Cameras
Caucasian	Male	Mean	2.2353	2.0476	2.2000	2.0741	2.4118	1.9167	2.4375	2.0000	2.5714	2.2105	2.4706
		N	17	21	20	27	17	24	16	15	14	19	17
		Std. Dev.	.6642	.9206	1.0052	.9578	.8702	.7172	.9639	.7559	1.0163	1.0316	.7174
	Female	Mean	2.0000	2.0000	2.3019	1.8800	2.1500	1.5647	2.1765	2.8889	2.8485	2.1607	3.0000
		N	52	69	53	100	40	85	34	27	33	56	27
		Std. Dev.	1.0664	1.1375	1.1021	1.0374	.9486	.7783	1.1407	1.0500	1.1214	1.3042	1.4142
	Total	Mean	2.0580	2.0111	2.2740	1.9213	2.2281	1.6422	2.2600	2.5714	2.7660	2.1733	2.7955
		N	69	90	73	127	57	109	50	42	47	75	44
		Std. Dev.	.9834	1.0861	1.0705	1.0204	.9261	.7760	1.0844	1.0393	1.0877	1.2343	1.2119
Hispanic	Male	Mean	1.8000	1.7500	1.8333	2.1818	1.8000	2.0000	2.3333	3.0000	3.0000	2.2500	3.0000
		N	5	8	6	11	5	9	3	1	1	4	1
		Std. Dev.	.8366	.7071	.7527	.9816	.8366	.8660	1.1547	.	.	.9574	.
	Female	Mean	1.5588	1.5385	2.6923	1.7174	1.6800	1.3333	2.2800	2.0000	2.4583	1.6552	2.0588
		N	34	39	26	46	25	42	25	17	24	29	17
		Std. Dev.	.7859	.7555	1.2253	.9812	.6904	.6115	1.3391	.7905	1.0206	.6695	.6586
	Total	Mean	1.5897	1.5745	2.5312	1.8070	1.7000	1.4510	2.2857	2.0556	2.4800	1.7273	2.1111
		N	39	47	32	57	30	51	28	18	25	33	18
		Std. Dev.	.7853	.7443	1.1909	.9899	.7022	.7018	1.3012	.8023	1.0049	.7190	.6764

APPENDIX E

Table E74

*(Q37) Age Group * (Q27) Rate online activities or course elements * (Q3) Ethnicity - Caucasian*

(Q1) Ethnicity	(Q38) Age Group		Animations	Listen to Audio	Chat Rooms	Discussion Forums	Electronic Whiteboards	Graphics (pictures)	Instant Messaging	Podcasting	Telephone	Download Videos	Web Cameras
Caucasian	19 or Younger	Mean	2.0000	2.4286	2.6000	2.0769	1.8000	2.0000	2.0000	3.0000	3.2500	3.2857	3.5000
		N	7	7	5	13	5	14	5	4	4	7	4
		Std. Dev.	1.0000	1.1338	1.5165	1.0377	.8366	.8770	1.0000	.8165	.5000	1.3801	1.2909
	20-24	Mean	1.7619	2.1250	2.0000	1.5588	2.0000	1.4483	2.1875	2.5833	3.0000	2.4444	3.0769
		N	21	24	22	34	15	29	16	12	15	18	13
		Std. Dev.	1.0910	1.3613	1.1547	.6601	.7559	.6316	1.2230	1.0836	1.3627	1.2935	1.1151
	25-49	Mean	2.1818	1.6250	2.3548	2.0185	2.3704	1.6809	2.3636	2.4762	2.4348	1.8108	2.6500
		N	33	40	31	54	27	47	22	21	23	37	20
		Std. Dev.	.8822	.6674	.8774	1.1241	1.0432	.7831	.9021	.9283	.7877	.9380	1.1367
	50 or Older	Mean	2.3750	2.5263	2.4000	2.1154	2.4000	1.5789	2.2857	2.6000	3.2000	2.2308	2.2857
		N	8	19	15	26	10	19	7	5	5	13	7
		Std. Dev.	1.0606	1.1722	1.1832	1.1073	.8432	.8377	1.4960	1.6733	1.4832	1.4806	1.4960
	Total	Mean	2.0580	2.0111	2.2740	1.9213	2.2281	1.6422	2.2600	2.5714	2.7660	2.1733	2.7955
		N	69	90	73	127	57	109	50	42	47	75	44
		Std. Dev.	.9834	1.0861	1.0705	1.0204	.9261	.7760	1.0844	1.0393	1.0877	1.2343	1.2119

Note: Table E74 continued on next page.

Table E74 (continued)

*(Q37) Age Group * (Q27) Rate online activities or course elements * (Q3) Ethnicity – Hispanic*

(Q1) Ethnicity	(Q38) Age Group		Animations	Listen to Audio	Chat Rooms	Discussion Forums	Electronic Whiteboards	Graphics (pictures)	Instant Messaging	Podcasting	Telephone	Download Videos	Web Cameras
Hispanic	19 or Younger	Mean	1.8333	1.6000	2.2500	1.7500	2.0000	1.4286	2.3333	3.0000	3.0000	1.8000	2.5000
		N	6	5	4	8	2	7	3	1	4	5	2
		Std. Dev.	.9831	.8944	.9574	.7071	1.4142	.7868	1.1547	.	.8165	1.0954	.7071
	20-24	Mean	1.5455	1.4000	2.2857	1.6154	1.3333	1.6000	2.0000	2.0000	2.5000	2.0000	1.5000
		N	11	10	7	13	6	10	3	4	4	4	2
		Std. Dev.	.8202	.5164	.7559	.9607	.5164	.8432	1.0000	.8165	1.2909	.8165	.7071
	25-49	Mean	1.5789	1.5862	2.4118	1.7812	1.6667	1.4000	2.0556	2.1000	2.2308	1.5500	2.1818
		N	19	29	17	32	18	30	18	10	13	20	11
		Std. Dev.	.7685	.8245	1.3719	1.0390	.6859	.6746	1.3491	.8756	1.0919	.6048	.7507
	50 or Older	Mean	1.3333	2.0000	3.7500	2.7500	2.2500	1.5000	3.5000	1.6667	2.7500	2.2500	2.0000
		N	3	3	4	4	4	4	4	3	4	4	3
		Std. Dev.	.5773	.0000	.5000	.9574	.5000	.5773	1.0000	.5773	.5000	.5000	.0000
	Total	Mean	1.5897	1.5745	2.5312	1.8070	1.7000	1.4510	2.2857	2.0556	2.4800	1.7273	2.1111
		N	39	47	32	57	30	51	28	18	25	33	18
		Std. Dev.	.7853	.7443	1.1909	.9899	.7022	.7018	1.3012	.8023	1.0049	.7190	.6764

APPENDIX E

Table E75

*(Q1) Ethnicity * (Q28) Prefer Working Alone or in Groups*

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.8322	143	.82211
Hispanic	2.3288	73	1.01454
Total	2.0000	216	.92006

Table E76

*(Q1) Ethnicity * (Q28) Prefer Working Alone or in Groups*

(Q1) Ethnicity	(Q28) Prefer Working Alone or in Groups					
	Always Alone	Mostly Alone Sometimes Groups	No Preference	Mostly Groups Sometimes Alone	Always in Groups	Total
Caucasian	55	64	17	7	0	143
Hispanic	15	32	14	11	1	73
Total	70	96	31	18	1	216

Table E77

*(Q37) Gender * (Q28) Prefer Working Alone or in Groups * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q28) Prefer Working Alone or in Groups					
		Always Alone	Mostly Alone Sometimes Groups	No Preference	Mostly Groups Sometimes Alone	Always in Groups	Total
Caucasian	Male	11	10	7	1		29
	Female	43	53	10	6		112
	Total	54	63	17	7		141
Hispanic	Male	2	6	4	0	0	12
	Female	13	26	9	11	1	60
	Total	15	32	13	11	1	72

APPENDIX E

Table E78

*(Q38) Age Group * (Q28) Prefer Working Alone or in Groups * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q28) Prefer Working Alone or in Groups					
		Always Alone	Mostly Alone Sometimes Groups	No Preference	Mostly Groups Sometimes Alone	Always in Groups	Total
Caucasian	19 or Younger	6	9	2	0		17
	20-24	15	15	4	3		37
	25-49	26	26	6	2		60
	50 or Older	7	13	5	2		27
	Total	54	63	17	7		141
Hispanic	19 or Younger	4	4	0	3	0	11
	20-24	3	8	4	3	0	18
	25-49	8	17	9	4	1	39
	50 or Older	0	3	0	1	0	4
	Total	15	32	13	11	1	72

Table E79

*(Q1) Ethnicity * (Q29) My Teachers Pay Attention to Me*

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.8881	143	1.09483
Hispanic	1.8767	73	1.01304
Total	1.8843	216	1.06554

APPENDIX E

Table E80

*(Q1) Ethnicity * (Q29) My Teachers Pay Attention to Me*

(Q1) Ethnicity	(Q29) I feel as if My Teachers Pay Attention to Me					
	Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	74	28	27	11	3	143
Hispanic	32	25	12	1	3	73
Total	106	53	39	12	6	216

Table E81

*(Q37) Gender * (Q29) My Teachers Pay Attention to Me * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q29) I feel as if My Teachers Pay Attention to Me					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	Male	11	9	3	5	1	29
	Female	62	18	24	6	2	112
	Total	73	27	27	11	3	141
Hispanic	Male	4	6	1	0	1	12
	Female	27	19	11	1	2	60
	Total	31	25	12	1	3	72

APPENDIX E

Table E82

*(Q38) Age Group * (Q29) My Teachers Pay Attention to Me * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q29) I feel as if My Teachers Pay Attention to Me					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	19 or Younger	8	5	4	0	0	17
	20-24	18	8	6	5	0	37
	25-49	31	8	14	5	2	60
	50 or Older	16	6	3	1	1	27
	Total	73	27	27	11	3	141
Hispanic	19 or Younger	7	0	4	0	0	11
	20-24	7	6	2	1	2	18
	25-49	17	15	6	0	1	39
	50 or Older	0	4	0	0	0	4
	Total	31	25	12	1	3	72

Table E83

*(Q1) Ethnicity * (Q30) Home Computer Connected to the Internet*

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.0699	143	.38730
Hispanic	1.0959	73	.34011
Total	1.0787	216	.37143

Table E84

*(Q1) Ethnicity * (Q30) Home Computer Connected to the Internet*

(Q1) Ethnicity	(Q30) Importance of a Home Computer Connected to the Internet				
	Very Important	Somewhat Important	Neither Important Nor Unimportant	Very Unimportant	Total
Caucasian	136	6	0	1	143
Hispanic	67	5	1	0	73
Total	203	11	1	1	216

APPENDIX E

Table E85

*(Q37) Gender * (Q30) Home Computer Connected to the Internet * (Q1) Ethnicity*

(Q1) Ethnicity	(Q37) Gender	(Q30) Importance of a Home Computer Connected to the Internet				
		Very Important	Somewhat Important	Neither Important Nor Unimportant	Very Unimportant	Total
Caucasian	Male	27	2		0	29
	Female	107	4		1	112
	Total	134	6		1	141
Hispanic	Male	11	1	0		12
	Female	55	4	1		60
	Total	66	5	1		72

Table E86

*(Q38) Age Group * (Q30) Home Computer Connected to the Internet * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q30) Importance of a Home Computer Connected to the Internet				
		Very Important	Somewhat Important	Neither Important Nor Unimportant	Very Unimportant	Total
Caucasian	19 or Younger	16	1		0	17
	20-24	37	0		0	37
	25-49	57	2		1	60
	50 or Older	24	3		0	27
	Total	134	6		1	141
Hispanic	19 or Younger	11	0	0		11
	20-24	15	3	0		18
	25-49	36	2	1		39
	50 or Older	4	0	0		4
	Total	66	5	1		72

APPENDIX E

Table E87

*(Q1) Ethnicity * (Q12) Grade in First Online Class*

	(Q12) Grade in First Online Class								
(Q1) Ethnicity	A	B	C	D	F	W	Credit	No-Credit	Total
Caucasian	91	32	10	4	3	1	4	1	146
Hispanic	31	29	8	2	0	1	5	2	78
Total	122	61	18	6	3	2	9	3	224

APPENDIX E

Table E88

*(Q1) Ethnicity * (Q10) Main Reason for Enrolling in First Class*

(Q1) Ethnicity	(Q10) Main Reason for Enrolling in First Class							
	Other	Transportation to Campus Difficulties	Care for a Family Member	Needed for Graduation or Transfer	Work Days and No Night Class	Online Classes were Easier	Counselor Recommendation	Total
Caucasian	53	7	12	22	30	13	0	137
Hispanic	16	11	8	11	20	6	1	73
Total	69	18	20	33	50	19	1	210

Table E89

*(Q37) Gender * (Q10) Main Reason for Enrolling in First Class * (Q1) Ethnicity for Students Who Succeeded*

(Q1) Ethnicity	(Q37) Gender	(Q10) Main Reason for Enrolling in First Class							
		Other	Transportation to Campus Difficulties	Care for a Family Member	Needed for Graduation or Transfer	Work Days and No Night Class	Online Classes were Easier	Counselor Recommendation	Total
Caucasian	Male	8	0	0	8	8	3		27
	Female	44	7	12	13	20	10		106
	Total	52	7	12	21	28	13		133
Hispanic	Male	3	1	1	3	0	2	0	10
	Female	13	8	6	6	19	4	1	57
	Total	16	9	7	9	19	6	1	67

APPENDIX E

Table E90

(Q13) Take Course Online Versus On-Campus

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.7293	133	1.05979
Hispanic	1.8750	64	1.16155
Total	1.7766	197	1.09305

Table E91

*(Q1) Ethnicity * (Q13) Take Course Online Versus On-Campus*

(Q1) Ethnicity	(Q13) Take Course Online Versus On-Campus						
	Very Likely	Somewhat Likely	Neither Likely Nor Unlikely	Somewhat Unlikely	Very Unlikely	Depends on the Class	Total
Caucasian	73	33	9	6	2	13	136
Hispanic	29	21	6	1	3	13	73
Total	102	54	15	7	5	26	209

Table E92

(Q14) Teachers and Students Respect My Cultural Background

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	1.7426	136	1.10216
Hispanic	1.7397	73	.85028
Total	1.7416	209	1.01916

APPENDIX E

Table E93

*(Q1) Ethnicity * (Q14) Teachers and Students Respect My Cultural Background*

(Q1) Ethnicity	(Q14) Teachers and Students Respect My Cultural Background					
	Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	84	18	24	5	5	136
Hispanic	35	24	13	0	1	73
Total	119	42	37	5	6	209

Table E94

*(Q38) Age Group * (Q14) Teachers and Students Respect My Cultural Background * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q14) Teachers and Students Respect My Cultural Background					
		Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree	Total
Caucasian	19 or Younger	14	1	1	1	0	17
	20-24	19	5	6	3	1	34
	25-49	37	6	10	0	3	56
	50 or Older	13	5	7	1	0	26
	Total	83	17	24	5	4	133
Hispanic	19 or Younger	6	2	2		0	10
	20-24	8	6	2		0	16
	25-49	18	11	7		1	37
	50 or Older	0	2	2		0	4
	Total	32	21	13		1	67

APPENDIX E

Table E95

*(Q1) Ethnicity * (Q15) More Important - Job or College First*

	(Q15) More Important - Job or College First			
(Q1) Ethnicity	Job First, Then College	College First, Then Job	It Does Not Matter	Total
Caucasian	23	82	31	136
Hispanic	16	42	15	73
Total	39	124	46	209

Table E96

*(Q37) Gender * (Q15) More Important - Job or College First * (Q1) Ethnicity*

		(Q15) More Important - Job or College First			
(Q1) Ethnicity	(Q37) Gender	Job First, Then College	College First, Then Job	It Does Not Matter	Total
Caucasian	Male	3	19	5	27
	Female	20	62	24	106
	Total	23	81	29	133
Hispanic	Male	3	5	2	10
	Female	12	33	12	57
	Total	15	38	14	67

APPENDIX E

Table E97

*(Q38) Age Group * (Q15) More Important - Job or College First * (Q1) Ethnicity*

(Q1) Ethnicity	(Q38) Age Group	(Q15) More Important - Job or College First			
		Job First, Then College	College First, Then Job	It Does Not Matter	Total
Caucasian	19 or Younger	0	14	3	17
	20-24	5	23	6	34
	25-49	13	32	11	56
	50 or Older	5	12	9	26
	Total	23	81	29	133
Hispanic	19 or Younger	0	8	2	10
	20-24	4	7	5	16
	25-49	9	21	7	37
	50 or Older	2	2	0	4
	Total	15	38	14	67

Table E98

*(Q1) Ethnicity * (Q12) Grade in First Online Class*

(Q1) Ethnicity	(Q12) Grade in First Online Class				
	D	F	W	No-Credit	Total
Caucasian	4	3	1	1	9
Hispanic	2	0	1	2	5
Total	6	3	2	3	14

APPENDIX E

Table E99

*(Q1) Ethnicity * (Q10) Main Reason for Enrolling in First Class*

(Q1) Ethnicity	(Q10) Main Reason for Enrolling in First Class							
	Other	Transportation to Campus Difficulties	Care for a Family Member	Needed for Graduation or Transfer	Work Days and No Night Class	Online Classes were Easier	Counselor Recommendation	Total
Caucasian	3	0	1	2	0	2	1	9
Hispanic	2	1	0	1	1	0	0	5
Total	5	1	1	3	1	2	1	14

APPENDIX E

Table E100

(Q13) Take Course Online Versus On-Campus

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	2.8889	9	1.69148
Hispanic	3.6000	5	2.40832
Total	3.1429	14	1.91581

Table E101

*(Q1) Ethnicity * (Q13) Take Course Online Versus On-Campus*

(Q1) Ethnicity	(Q13) Take Course Online Versus On-Campus					
	Very Likely	Somewhat Likely	Neither Likely Nor Unlikely	Very Unlikely	Depends on the Class	Total
Caucasian	2	3	1	3	0	9
Hispanic	2	0	0	2	1	5
Total	4	3	1	5	1	14

Table E102

(Q14) Teachers and Students Respect My Cultural Background –Not Pass First Online Class

(Q1) Ethnicity	Mean	N	Std. Deviation
Caucasian	2.4444	9	1.33333
Hispanic	1.8000	5	.83666
Total	2.2143	14	1.18831

APPENDIX E

Table E103

*(Q1) Ethnicity * (Q14) Teachers and Students Respect My Cultural Background*

(Q1) Ethnicity	(Q14) Teachers and Students Respect My Cultural Background				
	Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Strongly Disagree	Total
Caucasian	3	1	4	1	9
Hispanic	2	2	1	0	5
Total	5	3	5	1	14

Table E104

*(Q1) Ethnicity * (Q15) More Important - Job or College First*

(Q1) Ethnicity	(Q15) More Important - Job or College First			
	Job First, Then College	College First, Then Job	It Does Not Matter	Total
Caucasian	1	7	1	9
Hispanic	0	4	1	5
Total	1	11	2	14

CURRICULUM VITAE

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EDUCATION

Doctor of Philosophy, Education, Educational Technology, Walden University, Minneapolis, Minnesota, 2002 – Present

Master of Science, Systems Management, University of Southern California, Los Angeles, California, May 1997.

Bachelor of Science, Computer Science, Chapman University, Orange, California, May 1993.

Associate of Arts, Computer Information Systems, Antelope Valley College, Lancaster, California, June 1988.

Certificate of Completion in Digital Animation, Cerro Coso Community College, Ridgecrest, California, June 2000.

EMPLOYMENT

Antelope Valley College, Lancaster, California **2000-Present**
Professor of Computer Applications
Develop curriculum and teach computer-related courses. Classes taught include Introduction to Microcomputers, Essentials of Microcomputer Applications, Introduction to C++ Programming, Introduction to Telecommunications, BASIC Programming, and Introduction to Computer Information Science.

Cerro Coso Community College, Ridgecrest, California **1996-2000**
Director of Information Technology/Associate Professor of Computer Applications
Developed, managed, and coordinated information technology services in support of instruction and college operations. Taught computer science and application courses. Courses taught included Game Design, Introduction to C++ Programming, Introduction to Telecommunications, and Introduction to Microcomputers.

Cerro Coso Community College, Edwards AFB, California **1994-1996**
Adjunct Faculty
Courses taught included MS Word, WordPerfect, MS Excel, MS PowerPoint, and Windows 3.1.

Computer Sciences Corporation, Edwards AFB, California **1990-1996**
Senior Computer Scientist 1996
Performed systems analysis and design of avionics communication software for the Advanced RADAR Instrumentation Aircraft.

Computer Scientist 1995-1996
Designed, analyzed, and developed computer programs for data acquisition and instrumentation control in the Benefield Anechoic Facility.

Senior Member Technical Staff/Programmer Analyst 1990-1995
Performed analysis and design of data acquisition systems for use in an Electronic Warfare test environment. Designed and developed programs for MIL-STD-1553 data control and acquisition systems on PC and UNIX platforms.

Lockheed Aeronautical Systems Company, Burbank, California **1979-1990**
Electronic Systems Integration Research Engineer, Sr. 1990
Developed and integrated AIX operating system-based Computer Automatic Test Equipment in an F-117A avionics test facility.

Electronic Systems Integration Research Engineer 1986-1990

Electronic Systems Integration Research Engineer Assistant 1985-1986

Electronic Systems Flight Technician 1983-1985

Programmer/Operator of DITMCO Automatic Circuit Test Equipment 1979-1983

COMMITTEE ASSOCIATIONS

Distance Education Committee, Antelope Valley College, Co-Chair	2006-Present
Faculty Accreditation Coordinator, Antelope Valley College	2007-Present
Information Technology Committee, Antelope Valley College	2001-2004
Distance Learning Advisory Committee, Cerro Coso C.C.	1996-2000
Information Technology Resources Team, Cerro Coso C.C., Chair	1996-2000
Curriculum Instruction Committee, Cerro Coso C.C.	1996-2000

PROFESSIONAL DEVELOPMENT

Seminars developed and presented as part of a faculty professional development program

Blackboard Course Management System

- Blackboard Adaptive Release
- Assessment with Blackboard
- Bb Basics I
- Bb Basics II
- Bb Content Management
- Blackboard Gradebook
- Blackboard and Accessibility
- Multimedia and Blackboard

Microsoft Applications

- FrontPage for Online Courses
- PowerPoint in the Classroom

Classroom Instruction

- Easy Grade Pro grade book application
- Technology in the Classroom
- Video Streaming
- Making Courses Accessible
- Macromedia Flash for Instruction

MILITARY

United States Navy, Aviation Electrician's Mate 3rd Class 1976-1982

GRANTS

Vocational and Technical Education Act (VTEA) Grant - $3,000. 2001

Funds to develop curriculum and train 30 faulty in the use of Macromedia Flash for classroom instruction.

PAPERS AND PUBLICATIONS

Dissertation in progress: 2002-Present

Title: *An Examination of Differences Between Online Learning for Hispanic and Caucasian Community College Students.* Walden University, Minneapolis, Minnesota

AWARDS, AND LICENSES

Gray Key Award for Academic Excellence, Chapman University, 1993

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