A STUDY OF STUDENTS' PERCEPTIONS OF BLENDED LEARNING ENVIRONMENTS AT A STATE-SUPPORTED POSTSECONDARY INSTITUTION

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The purpose of this study was to conduct exploratory research regarding students' perceptions of blended learning environments at a state supported postsecondary institution. Specifically investigated were students' overall perceptions of blended learning environments, the reasons they chose to take a blended course, and whether generational differences existed in students' affected perceptions. An electronic survey was distributed to students enrolled in blended learning courses at the end of the spring 2009 term.

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CHAPTER 1

INTRODUCTION

Use of the term *blended learning* environments can evoke a number of responses from students. However when informally asked what they think about blended learning environments, most students respond, “I want technology to be a part of my class.” This sounds simple, yet research in the area of what students perceive about blended learning environments is limited.

Background

Technology has allowed education to evolve dramatically from the days of one teacher in a classroom with four walls to limitless boundaries. Computers and the Internet have broken through walls, giving students greater opportunities to personalize their education and engage in learning in new and unique ways (Department of Education, 2008). Online learning has not only changed the way education is viewed, but it has also affected the corporate world as well, especially in regards to training and development. As with anything new, online learning has shown some limitations. A primary limitation is that students may lack a sense of personal connection or a sense of learning community. As both the academic and corporate worlds embrace the opportunities of using technology such as computers, software programs, and the advancement of technology-based knowledge, online and traditional face-to-face instruction have merged to create a balanced method of delivery known as blended learning. The continued advancement of technology in the area of blended learning environments is astounding (Clement & Jones, 2007).

The term *blended learning* is being used with increased frequency in academia. In 2003 the American Society for Training and Development (ASTD) identified blended learning as one of the top 10 trends emerging in the knowledge delivery industry (Rooney, 2003). Blended learning is defined as courses that combine face-to-face instruction with computer-mediated instruction. Although the term *blended learning* is not new, the research surrounding it is evolving. While current research exists regarding online learning and traditional face-to-face learning, new research is emerging in the area of blended learning environments. The trend toward blended learning is spreading so quickly that initial estimates predict that as many as 80 to 90% of all courses in higher education could be classified as blended (Young, 2002). By bringing the unique features of online and face-to-face (F2F) learning environments together, blended learning uses the best of both delivery methods in order to address the different needs of students.

Need for the Study

This study focused on students' perceptions of blended learning environments. While there is a plethora of research directed at online learning and F2F learning, the topic of blended learning is growing. Although various studies compare the three methods of delivery, few concern students' perceptions specifically about blended learning environments. The blended approach is appealing because it offers the convenience of an online course with the stability of personal interaction from a traditional course (Clement & Jones, 2007).

The three modes of delivery included traditional (F2F), online, and blended. They are each important in the area of learning delivery. Literature has shown that further

research is needed as more universities begin to implement blended learning environments. Further research might also show students' true perceptions as to how they feel about blended learning methods as the chosen method of delivery.

The perception of blended learning environments is for the most part an uncharted area of research. The area of student perceptions of online and blended learning environments is often overlooked. It is important not to forget that students are the ones embracing or "fleeing" from these methods of delivery (El Mansour & Mupinga, 2007). What students perceive about the learning environment remains important for implementing new methods of delivery in the academic and training and development areas. Efforts should be continued in researching the group that is actually utilizing the different methods, and less time should be spent on making assumptions from others who are not directly involved in the process (Bersin, 2004).

Research in the area of blended learning is still less convincing than that of asynchronous education in regards to long-term effects. Research is beginning to show that student response to the provision of online information to supplement traditional face-to-face instruction is overwhelmingly positive. It is clear that in this area of technology, the rise of the term *blended learning* and the number of evaluative studies identified as attempting to engage the subject show progress; however more research is needed to continue to gather data concerning student's feelings towards blended learning (Attwell, 2007).

Theoretical Framework

Two theories provide the framework for this study. Malcolm Knowles's (1984) adult learner theory and the distance education theory proposed by Ruth Colvin Clark

(2007) show theoretical support for the proposed study of generational perceptions of blended learning environments.

Ruth Colvin Clark is known for her impact in the area of distance learning. She argues that how individuals react to technology is crucial for the area of academics. Just as television producers have learned varied techniques to enhance the viewing experience, so have visuals, audio, and simulations given rise to new forms of distance learning (Jarventaus, 2007). Clark also emphasizes the need for evaluation in distance education (Ruhe & Zumbo, 2009). As technology continues its rapid change and expansion into e-learning, evaluation becomes crucial. Each course should have the right blend of course components.

The field of adult learning termed *andragogy*, was developed by Malcolm Knowles, who studied adult learners for 35 years (Kisamore, Aldridge, Alexander & White, 2008). Knowles's early understanding of the importance of adult learning has provided insight that will continue to guide the professions dedicated to adult learning. His theory of andragogy has influenced the field of training and development. Adult learners are unique in the sense that persons find themselves in a specific situation with respect to their work, their recreation, their family life, and their community life, all of which require adjustments. Adult learners apply subject matter to these situations when needed. Texts and teachers play a new and secondary role in adult education: "They must give way to the primary importance of the learners" (Lindeman, 1926, p.12). Knowles's andragogical model is based on several assumptions: (a) the need to know, (b) the learner's self-concept, (c) role of the learner's experiences, (d) readiness to learn, (e) orientation to learning, and (f) motivation.

Several definitions have been used to describe adult learners. Malcolm Knowles's definition of the adult learner is that one has arrived at a self-concept of being responsible for one's own life, of being self-directed (Kisamore et al., 2008). Some simply look at the age of the learner and define adult learners as anyone over the age of 20, and some feel that the setting defines the adult learner. In other words, if learners are in community college, university, or work setting, they are adult learners. As the population ages and life expectancy lengthens, educators can expect more adult learners (Kisamore et al., 2008).

Andragogy ties in with generational differences as increasingly generations collide in the classrooms of academia (Howe & Strauss, 2000). For the first time in history, very distinct and different generations are blending in the world of academics. As with watching how different generations interact and have unique characteristics and ideas in the workforce, the same notion is being mirrored in academia. Mannheim (1952) presented the idea that people born between two specific dates share much more than only that. While many generational experts have laid out these specific dates, these are only guidelines. Generational personalities go much deeper than a collection of shared years (Lancaster & Stillman, 2002). In order to share generational bonds, individuals must be born within the same historical and cultural context and be exposed to common experiences during their formative adult years (Mannheim, 1952).

Currently there is a great deal of transition in classrooms, administration offices, and state and local governance as the older generation gradually gives way to its successors. The consequences of these transitions help explain much of what is occurring in education today. The impact of these generational differences is infiltrating

campuses across the United States (Strauss, 2005). A generation is shaped by highly significant events during the coming-of-age experiences between youth and adulthood (Strauss, 2005). These events define a generation and determine the traits and attitudes that distinguish one generation from another. Because of their shared experiences, generations often share values and behaviors as well as bring common approaches and ideas to the workplace and classroom (Lancaster & Stillman, 2002; Strauss & Howe, 1991).

For this particular study, I have chosen the generational guidelines offered by Hicks and Hicks (1999) and Tapscott (1998), because these age units are consistent throughout much of the literature: Traditionalists, 1921-1945; Baby Boomers, 1946-1964; Generation X (Gen X), 1965-1976; Generation Y (Gen X), 1977-1997. The last three generations were the mostly likely to be students at the particular time of the data gathering phase of this research study and were the three generational cohorts examined for their individual perceptions. Although generations are among the many aspects of diversity which exist in education, research shows that each generation has an opinion about the way in which courses are implemented and the different methods of delivery.

Purpose of the Study

The purpose of this study was to seek to explore students' perceptions of blended learning environments and to determine whether they have a positive, mixed, or negative response to blended learning environments. The study addressed the questions of how students perceive the blended learning environment, whether a

difference in perception exists regarding generational differences, and the rationale behind a student choosing to take a blended course.

Research Questions

The following research questions were examined in order to carry out the purpose of the study:

1. Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?
2. What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey?

Limitations

1. This research examined students' perceptions of blended learning environments and makes no claim to the students' ability to demonstrate knowledge learned from course content.
2. Although all blended learning courses at an SSPSI were utilized, the researcher could not control for differences in each individual blended course. These differences could have affected how students perceived blended learning environments.
3. The course that the student was enrolled in for the time period of the survey (spring 2009) may not be the only blended learning environment that has/did influenced the student's perception of blended learning environments overall.

Delimitations

1. No face-to-face courses were sampled for this study as a comparison of the two methods of delivery.
2. No online courses were sampled for this study as a comparison of the two methods of delivery.
3. This study focused on all students enrolled in blended learning courses at an SSPSI for the spring 2009 academic semester.
4. This study sought out each student's generational classification (Gen Y, Gen X, Baby Boomers) to determine whether there was a difference in students' perceptions regarding blended learning environments.
5. No specific blended learning courses were chosen specifically for this study. All blended learning courses were considered for this study, ranging from freshmen to graduate-level courses.
6. The number of potential survey respondents was based on enrollment in learning online component (LOC) courses during the spring 2009 semester.

Definitions of Terms

- Blended learning: Courses that combine face-to-face instruction with computer-mediated instruction (Bonk & Graham, 2006). A learning method with more than one delivery mode with the objective of optimizing the learning outcome and program delivery (Singh & Reed, 2001). Any mixture of instructor-led training methods with technology-based learning (Bielawski & Metcalf, 2005). The mixture of traditional and interactive-rich

forms of classroom training with any of the innovative technologies such as multimedia, video streaming, virtual classroom, e-mail/conference calls, and online video (Thorne, 2003).

- Face-to-face learning (F2F): A course that meets in the classroom with the instructor and the student, physically face-to-face (Elbaum, McIntyre, & Smith, 2002).
- Generational cohort: People born in the same general time span who share important life experiences (Zemke, Raines, & Filipczak, 2000).
- Personal Attributes: The attributes to be studied in this research, include open-mindedness, self-motivation, self-discipline, and willingness to commit time to course participations and independent learning (Bonk & Graham, 2006; Duren, 2004; Jung, Choi, Lim, & Leem, 2002; Pritchard, 2006;).
- Online learning community: When put into a learning context, discussion boards and chat rooms are used to develop a sense of community among students. The community is used as a medium for connecting students which may result in accelerated learning and sharing of knowledge (Klein, 2007). Includes courses in which students and their professors share a purposeful, coherent, and integrated learning environment in two linked or interdisciplinary courses (Gabelnick, MacGregor, Matthews, & Smith, 1990).

- Traditional delivery: Courses use no online technology, and content delivery takes place within the classroom setting (O'Malley & McCraw, 1999).
- Online delivery: Courses in which all content is delivered online with no face-to-face meetings. Any form of learning and/or teaching that takes place via computer network (Kearsley, 1997).

Summary

This chapter provided the statement of the problem, the theoretical framework for this study, and an examination of the significance of the study. The chapter provided background on blended learning environments and identified a need to examine students' perceptions of blended learning environments. It included a discussion of structural foundation showing that generational cohorts can play a role in student perception about blended learning environments. Research questions and hypotheses relating to students' learning community and the rationale for their taking a blended course were also discussed. Additionally, the chapter introduced the methodology, provided the delimitations and limitations, and concluded with definitions of important terms. Chapter 1 also defined the problem and described the need for inquiry. Chapter 2 provides a review of the existing literature related to this study.

CHAPTER 2

LITERATURE REVIEW

Introduction

The study sought to understand students' perceptions of blended learning environments to discover whether a difference exists in student perceptions based on generational differences. The literature review first provides first the historical significance of different learning environments; students' perceptions of online learning environments in general are then discussed. Finally a review of related literature on generational differences among students is presented.

Research Questions:

1. Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?

2. What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey?

Face-to-Face Learning and Distance Learning Environments

The traditional F2F learning environment has existed for centuries. Face-to-face learning typically has occurred in a teacher-directed environment with person-to-person interaction in a live synchronous environment (Bonk & Graham, 2006). In the mid-1990s online instruction began to increase in popularity at institutions of higher learning as the Internet provider industry began to flourish (Morabito, 1997). Numerous studies have

reported that the performance of students in online settings is equal to or better than that of learners in a traditional F2F environment (Arbaugh, 2001; Clark, 1999; Dutton, Dutton, & Perry, 2001). The majority of the research from these studies found “no significant difference” between the traditional F2F learning and online learning (Hiltz, Zhang & Tuross, 2002; Johnson, Aragon, Shaik, & Palma-Rivas, 2000; McLaren, 2004).

Although online distance learning is still young, the research base is expanding as researchers attempt various methodologies and more sophisticated techniques to test their theories and assumptions (Christensen, Anakwe, & Kessler, 2001). More importantly, reviewing the research related to online learning can provide valuable guidance for practitioners who are implementing online courses and programs with only a few existing models (Beard, Harper, & Riley, 2005; Biesenbach-Lucas, 2003; Caruso, 2004; Kelley & Bonner, 2005). The continued advancement of technology in the area of online learning is staggering. As both the academic and corporate world embrace this technology, it is changing the way that courses are facilitated (Clement & Jones, 2007). Technology has expanded to include distance learning, which has helped expand the possibilities for distributed communication and interaction (Bonk & Graham, 2006). Much of the research shows that online distance education can be an effective method for teaching and learning (Simonson, Smaldino, Albright, & Zvacek, 2006). The challenge arises when one tries to summarize the findings. Much of the research tends to be “largely anecdotal . . . reporting results of a specific project making it difficult to generalize” (Simonson et al., 2006, p. 5).

Regardless of these shortcomings, Simonson et al. (2006) discussed conclusions that are supported by the literature and research. Statements include that distance

education is just as effective as traditional education in regard to learning outcomes. Distance education learners generally have a more favorable attitude toward distance education than do traditional learners, and distance learners feel that they learn as well as if they were in a regular classroom. Also, successful distance education learners tend traditionally to be abstract learners who are intrinsically motivated and possess internal locus of control. Although interaction seems intuitively important to the learning experience, interaction should not be added without real purpose. Focusing on building collaboration and group interaction may be more important than focusing on individual participation. Each form of distance education technology has its own advantages and disadvantages in contributing to the overall quality of the learning experience.

Distance learning emphasizes that self-paced learning and learning interactions occur in an asynchronous environment. The growth of online education in institutions of higher education continues at an astounding rate (Martyn, 2003). Online education is an evolution of the traditional distance education model. Online education uses audio, video, and computer communication for the delivery of curricula (Sreebny, 2007). Online education “provides nontraditional adult students, who are juggling fulltime employment and family responsibilities, an opportunity to leverage the new technologies of the Internet to achieve the skills they need to stay competitive in an increasingly digital job market” (Martyn, 2003, p. 8). Yet it is difficult for those who know the strength of the traditional F2F classroom to acquiesce to the virtual classroom environment of online distance education (Leonard & DeLacey, 2002).

Since the proliferation of the World Wide Web, online learning environments have dramatically changed the way individuals learn (Dabbagh & Bannan-Ritland,

2005). To understand the concepts and principles underlying online learning it is important to look at traditional learning environments such as F2F, or classroom learning, and distance education in its classic form. Many of the characteristics of both traditional and distance education are melded into online learning environments (Dabbagh & Bannan-Ritland, 2005; Leonard & DeLacey, 2002; Martyn, 2003).

Many online learning environments provide learners with an opportunity to work at their own pace. That is, faster students are not slowed, and slow learners may have a chance to repeat parts of a lesson as many times as they want. Learners have a chance to complete their studies without being required to miss work to attend an F2F class or travel long distances to a physical class meeting. Furthermore they may accomplish this during time periods that are most convenient for them (Zenger & Uehlein, 2001). Bates (as cited in Foley, 2003) proposed 12 “golden rules” for the use of technology in education. These rules offer guidance in the broader areas of designing and developing distance education:

1. Good teaching matters. Quality design of learning activities is important for all delivery methods.
2. Each medium has its own aesthetic. Therefore professional design is important.
3. Education technologies are flexible. They have their own unique characteristics but successful teaching can be achieved with any technology.
4. There is no “super-technology.” Each has its strengths and weaknesses; therefore they need to be combined (an integrated mix).

5. Make all four media available for teachers and learners. The four include: print, audio, television, and computers.
6. Balance variety with economy. Using many technologies makes design more complex and expensive; therefore limit the range of technologies in a given circumstance.
7. Interaction is essential.
8. Student numbers are critical. The choice of medium will depend greatly on the number of learners reached over the life of a course.
9. New technologies are not necessarily better than old ones.
10. Teachers need training to use technology effectively.
11. Teamwork is essential as well as interaction. Not one person has all the skills to develop and deliver a distance-learning course, therefore subject matter experts, instructional designers, and media specialists are essential on every team.
12. Technology is not the issue. How and what the learners learn is the issue and technology is the tool. What the learners think is important. (p. 833)

These “golden rules” tie in with blended learning environments and the mix of traditional F2F and online learning by allowing for consideration of what the learner thinks, desires, and is willing to adapt to.

Blended Learning Environments

Blended learning is the ongoing convergence of two archetypal learning environments (Bonk & Graham, 2006). This blended form of instruction is not a single or

simple phenomenon, and neither are its outcomes (Niemiec & Otte, 2009). In an effort to meet the diverse needs of learners' learning and to improve their performance levels, newer ways to blend traditional instruction with technology-mediated instructional methods have emerged (Lim, Morris, & Kupritz, 2007). Several research studies support the positive effect of blended learning on teaching and learning (Bielawski & Metcalf, 2005). Face-to-face learning and distance learning environments have remained largely separate because of the different media used and have addressed the needs of each separate audience. With the widespread adoption and availability of distance learning technologies and their convergence with F2F learning environments, the intersection of these two archetypes depicts blended learning systems emerging (Bonk & Graham, 2006). The very nature of blended learning is "a mixture of the familiar and the unfamiliar, the traditional and the technological, making it more palatable" (Niemiec & Otte, 2009, p. 21).

Institutions of higher education are embracing the trend toward blended instruction. Blended instruction encompasses both the online distance education model and the traditional F2F classroom model, merging the two into a course or a program of study (Leonard & DeLacey, 2002; Martyn, 2003). For example, in an online blended distance education course, curricular materials are posted on the Internet for students to access through an Internet connection, and minimal F2F meetings are scheduled. These traditional F2F meetings could be as few as two: an orientation and a final assessment. Blended models tend to have F2F meetings on weekends so as not to interfere with the adult students' career schedules (Leonard & DeLacey, 2002; Martyn, 2003). Blended learning is part of the ongoing convergence of two archetypal learning

environments. By definition, blended learning environments combine F2F instruction with computer-mediated instruction (Bonk & Graham, 2006). Each learning environment has remained separate based on the different media as well as methods used in facilitation (Bonk & Graham, 2006). Studies have shown that people learn differently and that different types of media apply to different people as well (Bersin, 2003).

The combination of the two learning environments has created blended learning environments that have brought several benefits not only to the facilitators but also to the participants. The "blended" approach is appealing because it offers the convenience of an online course with the stability of personal interaction from a traditional course (Clement & Jones, 2007). Osguthorpe and Graham (2003) and Tabor (2007) discussed six reasons why blended learning environments are beneficial and are changing traditional learning (training):

1. Improved pedagogy allows for increased peer-peer interaction as well as allowing learners to take a more active role in their learning experience.
2. Blended learning environments provide increased access and flexibility. Training is often at the "mercy" of the facilitator, and even if the participant is not ready for learning, the training continues. Blended learning allows for increased flexibility with the work-life balance. Studies have found it to be important for mature participants with outside commitments such as family obligations.
3. Increased social interaction is also a benefit of blended learning environments. While not tying participants to a facilitator and a classroom, it still allows for personal interaction between the two (Osguthorpe &

Graham, 2003). F2F instruction is still a large part of learning (training) and always will be. Peer-to-peer learning and community building which takes place in person is vitally important in the learning process (Bersin, 2003).

4. Cost effectiveness is another important benefit, especially for the organizations responsible for training and development (Osguthorpe & Graham, 2003). Blended learning environments provide an opportunity for reaching a large, globally dispersed audience in a short period of time with consistent, semi-personal content delivery (Osguthorpe & Graham, 2003). Bersin and Associates (2003) are known for documenting corporate cases that have effectively used blended learning to provide a large return on investment (ROI) (Bersin, 2003). Unlike traditional education, corporate training exists primarily to improve business performance (Bersin, 2004).
5. Blended learning environments provide for ease of revision.
6. Blended learning assists in personal agency (beliefs in self-regulation; the exercise of personal responsibility, choice, and control in learning) (Osguthorpe & Graham, 2003).

Like F2F courses, online and blended courses are not ideal for everyone. To succeed in a learning environment, learners must have appropriate learning styles and necessary competencies (El Mansour & Mupinga, 2007). The styles can be different based on generational differences of the learners.

Generational Differences

Generational differences are now being considered an important issue in academics. Differences are not bad or good; they are simply differences (Patota, Schwartz, & Schwartz, 2007). Generations are unique. Strauss and Howe (1991) stated that the definition of generation "has no direct connection with genealogy or linage (p. 52)." Rather, a generational cohort is defined "as everyone who is 'brought into being' at the same historical moment" (p. 436). Mannheim (1952) defined a generational unit as a group of people who share a common experience; such defining moments help to determine generational cohort values (Meredith, Schewe, & Hiam, 2002).

For the past 30 years, society has labeled generations with letters (i.e., Generations X, Y, and Z). The majority of college students enrolled in courses are known as Gen Y (Millennials) and they are the children of the Baby Boomers (McGlynn, 2005).The roots of 21st-century learners can be traced back to this classification system. Generation X is roughly defined as people born in the 1970s and early 1980s. The stereotypical "Gen Xer" "poisoned his/her mind with video games and the launch of MTV" (Howe & Strauss, 2000). Speaking in general terms, it can be said that the youngest of them began using the Internet. The Internet of the early 1990s has been referred to as Web 1.0, in that it was relatively solitary and static. Generation Y can be defined as people born in the 1980s and early 1990s. This group has been classified as the first widespread users of the Internet (McCoog, 2008). The youngest of this cohort is now occupying seats in America's high schools. The latest generational tag (Gen Z) has been assigned to those born from the late 1990s to the present. Digital technology to them is almost a birthright, and schools must accommodate that. This generation is also often referred to as the Millennials (as is Gen Y) a reference not only to their birthdates,

but also to their connection to technology (Howe & Strauss, 2000). They use the Internet known as Web 2.0, which is more dynamic and collaborative than its predecessor.

These statistics are startling, but the challenge is not insurmountable. In fact, the solution seems elementary. These students must be taught in the way they learn, by using the 21st-century skills they already possess. In order to do this, students must be considered at the planning, delivery, and assessment stages of instruction. Teachers should not be afraid to ask their students their opinions. They should consider what they can contribute during the planning of a lesson. They should give them challenges and then guide them on their way to solutions. Twenty-first century teaching involves a balance of the objectives of the teacher with the needs and input of the students. For that reason, learning objectives should be specific but flexible while allowing for customization.

Today's students are acquiring 21st-century skills, and what surprises teachers most is that they are not the ones teaching them. Twenty-first century learners have taught themselves to network and find solutions. Because of this, they expect to have the same experience at school. This trend has rightfully caused a stir in the education community and has called for reform in how to teach and what to teach (McCoog, 2008).

Four different generations coexist today. These include the Traditionalists, Baby Boomers, Generation X, and Gen Y (Patota et al., 2007). It is not uncommon today for classrooms to be made up of several generations, which creates diversity that has become instrumental in shaping the modern organization (Shaul, 2007).

Misunderstandings and strife often result between members of different generational groups because of different expectations. An interesting point made by Patota et al. is that most people assume that as people age, they switch preferences to follow a role set before them (like switching a drink choice from soda to coffee). This is found to be untrue, and more organizations are beginning to understand this concept. As one generation ages, it does not necessarily follow in the footsteps of the previous generation. This is important to understand because training is often distributed to employees based on position, not generational cohort (Patota et al., 2007).

Career stages identified by specific age intervals have helped to examine differences in generations within the workforce. The stages by Cummings and Worley (2001) include: the establishment stage (21-26), advancement stage (26-40), and the maintenance stage (40-60). The three stages correspond closely with the age groups of Generation Y, Generation X, and Baby Boomers. The mixture of these three generations in academics has shown that each generation has its own learning styles and expectations (Shaul, 2007). Examining the differences in each generation in order to know what to expect is important to forecasters because they can make faulty assumptions that the future will be a straight line from the past. Each generation is sometimes viewed as just a more “extreme” version of the generation before, but this research is unsupported. Over the next 20 years, each generation will enter its next phase of life. In this way, history repeats itself and society continues to move forward. By continuing to learn about the differences in generations, organizations can better prepare for the future (Howe & Strauss, 2007). Differences in generations should be

viewed as strengths instead of weakness and much of the responsibility for this falls to the instructors.

Learning styles must be adapted to each generation. Research in this area has stressed repeatedly how one management style does not fit all generations. Obviously, generations cannot be changed, no matter how much effort is put into the attempt. In the end, the goal of every organization is to survive and grow. Managing different generations in academics will take time and effort but once focused on the same objectives; all can work together more effectively.

21st-Century Skills

Twenty-first- century skills have been defined in many different ways. Key components are 21st-century content (i.e., global awareness, scientific literacy); learning and thinking skills (higher order thinking, planning and managing, collaboration); technology literacy (using technology in the context of learning, E-communication); and leadership skills (creativity, ethics, creating products) (McCoog, 2008). While the foundation of all these skills is technology, they serve more as guidelines for success. Ethical issues such as cultural awareness and social responsibility are 21st-century skills as they are directly tied to E-communication. Productivity is another aspect. Twenty-first- century learners must possess both self-direction and an ability to collaborate with individuals, groups, and machines. A heavy emphasis is also placed on outcomes. Today's students will be required to think critically and create high-quality products in order to compete in the global marketplace.

To acquire 21st-century skills, students must be encouraged to create new ideas, to evaluate and analyze the material presented, and to apply that knowledge to their

academic experiences (McCoog, 2008). This is achieved by changing the methods of instruction. If teachers consider their students' skills and facilitate learning, students can reach their greatest potential. This, however, requires a shift in thinking. Instead of delivering content, teachers should engage students in the content, which may also mean delivering instruction at a faster pace. A one-size-fits-all approach must be replaced with giving students options. F2F interaction must be supplemented with online activities. This idea is an example of how technology acts as a foundation and not what drives 21st-century teaching and learning. Technology may actually hinder instruction until this paradigm shift occurs.

Lifelong Learning

Today lifelong learning (LLL) is the "lifelong, life wide, voluntary, and self-motivated pursuit of knowledge for either personal or professional reasons" (Brady & McCauley, 1999, p. 6). Learning is not confined to childhood or a classroom, but takes place throughout life and in a range of situations. During the last 50 years constant scientific and technological innovations and change have had a profound effect on learning styles and needs (Brady & McCauley, 1999). Learning can no longer be divided into a place and time to acquire knowledge (school) and a place and time to apply the acquired knowledge (the workplace) (Oester & Oester, 1997). Blended learning is just one small change in the ever-changing world of technology. Students are no longer committed to learning within "four-walls," and learning does not stop at the doorway of academic institutions.

Boundryless organizations by definition view organizations as having permeable boundaries (Newell, Pan, Galliers, & Huang, 2001). An organization has external

boundaries that separate it from its suppliers and customers and internal boundaries that provide demarcation to departments. This rigidity is removed in boundaryless organizations, where the goal is to develop greater flexibility and responsiveness to change and to facilitate the free exchange of information and ideas. The boundaryless organization behaves more like an organism encouraging better integration between departments and closer partnerships with suppliers and customers (Newell et al., 2001). Education connects with boundryless organizations based on the fact that technology has touched the way education is viewed. Education itself is a way to achieve goals of productivity and efficiency. It is a mechanism for growth by which accomplishments are measures and personal community is achieved. It has helped build infrastructure, powered factories, and developed transportation systems (Oester & Oester, 1997). However, with technological development, education is undergoing a transformation which will help increase productivity even further. Because of the information age, technology is providing access to information in new ways, thus allowing concepts and ideas to increase. Technology continues to change the way everyone lives, works, and learns. To meet the challenges that technology brings, people must improve their skills. The utilization of information networks and series will demand that learning be ongoing (Oester & Oester, 1997). The following supports lifelong learning:

> Lifelong Learning is a feature of modern life and will continue to be so. Change is everywhere and we need to learn to cope with it in different aspects of our lives. Jobs are changing with continually developing technology and pressures to keep up with foreign competitors. Daily life is changing with faster communications and more technology in our homes. (Scottish Office, 1998, p.23).

Motivation to learn is an internal, naturally occurring capacity of human beings that is enhanced and nurtured by supportive relationships, opportunities for personal

choice and responsibility for learning, and personally relevant and meaningful tasks. Lifelong learning is also a natural propensity of human beings to continue to learn, grow, and develop that is facilitated by discovering natural learning tendencies and the enjoyment of learning and by reducing or eliminating negative, insecure thoughts and belief systems (McCombs, 1991).

Summary

This study sought to investigate students' perceptions of blended learning to determine whether or not there was a difference in student perceptions based on generational differences. The review of literature has been conducted to gain a better understanding of what blended learning offers and to provide background information on underlying concepts such as F2F and online learning, student perceptions, and generational differences. Also, 21st-century skills for learning were discussed. The research methodology is discussed in chapter 3.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study was to examine student perception about blended learning environments as well as determine whether or not there was any difference in how students feel about blended learning environments based on generational differences. This chapter provides details regarding the population, instrumentation, data collection procedures, and treatment of data.

Research Questions

1. Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?

2. What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey?

Research Design

The research design is a cross-sectional survey design. The survey methodology describes the views of students of various generations regarding their overall perceptions of blended learning environments. This study implemented descriptive statistics, an analysis of variance (ANOVA), and a post hoc analysis to examine the perceptions of undergraduate and graduate students regarding blended learning environments at a state-supported postsecondary institution in the state of Texas.

Descriptive statistics is a collection of methods for classifying and summarizing numerical data (Hinkle, Wiersma, & Jurs, 2003). Descriptive studies are an important part of research, and they have increased knowledge, especially in the area of academics. Some descriptive research is intended to produce statistical information about education that will affect both policymakers and educators (Gall, Gall, & Borg, 2007). Analysis of variance (ANOVA) is a statistical procedure that compares the amount of between-group variance in an individual's scores with the amount of in-group variance (Gall et al., 2007). A post hoc analysis will show results for each perception question.

Population

The population of the study was made up of undergraduate and graduate students enrolled in blended learning courses at Tarleton State University, a state-supported postsecondary institution. Tarleton is comprised of several campuses in Texas: Stephenville, Killeen, Waco, Fort Worth, and Weatherford, with a total enrollment of 9,630 in the fall of 2008. According to the Texas Higher Education Coordinating Board, Tarleton is similar in composition, enrollment, and cost to other schools in Texas, including Midwestern State University, University of Houston-Clear Lake, and University of Texas-Tyler. Table 1 provides a comparison of the institutions with regard to enrollment and ethnic composition.

Table 1

University Composition Comparison

School	Tarleton State University	Midwestern State University	University of Houston -Clear Lake	University of Texas-Tyler
Headcount	9,630	6,157	7,753	4,254
% African American	8.20%	8.60%	8.40%	8.60%
% White	82.50%	73.90%	62.90%	82.90%
% Hispanic	6.80%	8.40%	12.50%	3.90%

Sample and Power Analysis

The study sample came from students enrolled in blended learning courses for spring 2009 on all SSPSI campuses. Based on Krejcie and Morgan's (1970) chart, with an estimated population of approximately 1,800 potential students, the estimated sample size was 317.

Instrumentation

The survey instrument utilized for this study was developed by Pritchard (2006). The researcher designed the survey due to the lack of instruments measuring student perceptions of blended learning environments. Only a few student perception instruments exist, and they often address student perceptions of online and/or face-to-

face courses, which did not fit the needs of this research. Pritchard's instrument design specifically examined student perceptions of blended learning environments. Pritchard's survey considers the personal attributes important to course success such as time management, technical skills, self-regulation, interaction, and motivation. The survey consists of a cross-section online questionnaire (Pritchard, 2006). Pritchard granted permission for the instrument to be utilized for this study (Appendix A).

When Pritchard established the survey, a panel of experts was selected for their background and experience in education and with distance learning. Panel members were asked to consider the following questions in regards to the original instrument:

1. Do the survey statements represent the research questions?
2. Are the statements easy to understand?
3. Is the format of the survey user-friendly?
4. Are the directions understandable?

For the purpose of this study, the same questions were asked of experts with experience in dealing with blended learning environments to establish content validity. Further use and replication of this instrument will benefit both reliability and validity.

A pretest of the survey instrument was given to 45 students, both graduate and undergraduates. The pretest showed that the instructions should be set in a larger font as well as adding the definition of blended learning environments for comprehension. Questions 1through 6 of the instrument were designed to gather demographic information that includes age, gender, race, ethnicity, and classification. Demographic questions were included in the instrument for the purpose of additional information. The survey is divided into four main sections. Section 1 examined personal attributes,

Section 2 examined personal skills, Section 3 asked about reasons for taking a blended course, and Section 4 identified the demographics of the population. The survey instrument used a 5-point Likert scale with choices of *strongly agree* (1), *agree* (2), *neither agree or disagree* (3), *disagree* (4), or *strongly disagree* (5). The demographic section of the survey offers participants specific choices and directions to choose the one that best fits them. To measure the degree to which the assessment consistently measures an attribute (Hinkle et al., 2003). This research study is the second time that the Student Opinion Survey (Pritchard, 2006) has been used, and it has been shown to be reliable. It measured what it was intended to measure; the outcomes showed that students overwhelmingly favor the blended learning environment.

Data Collection Procedures

Data were collected using a single-administered online instrument using the secure survey software tool Enterprise Feedback Management (EFM). In March 2009, instructors who were delivering a blended learning course were asked for permission to have their students participate in the study. Of the 282 instructors asked, 86 instructors gave written permission. The majority of the remainder of the instructors informed the researcher that they opted not to use Blackboard in their course, which turned their originally coded blended learning course into a traditional face-to-face course that could not be utilized for this study. Once written approval was granted, a follow-up e-mail was sent to each instructor (see Appendix C). The e-mail contained instructions for how to post the link and information regarding the study for students. This was sent via each individual instructor through their Tarleton State University e-mail. During the 13th week of the spring 2009 semester the instructors sent out the link and information regarding

the survey through Blackboard. This time lapse ensured that students had enough time in the course to have formed a perception about blended learning environments. Students were provided with a statement in accordance with Institutional Review Board (IRB) standards and practices that informed them that the instrument was for research and that they could choose not to participate or to discontinue participation at any time (see Appendix E and F).

The survey instrument was available for students to complete in a 2-week period. At the middle of the 2nd week of availability participating instructors were sent an e-mail asking them to remind students about the deadline for completion of the survey. To encourage survey response, respondents were told at the beginning of the survey that for each survey completed a donation would be made to Tarleton's Relay for Life team. This donation was made at the end of the spring 2009 term.

Data Analysis

Data analysis focused on the two research questions discussed in chapter 1. Data collected from individuals participating in the study were analyzed using Statistical Package for the Social Sciences (SPSS) version 13.0. A measure of effect size is a measure of the strength of the relationship between two variables. In this study the two variables were generational differences and student perception. The simplest measure of the treatment effect is the difference between the means.

Research Question 1

Research question 1 tested whether there was a statistical difference in student perception of blended learning environments based on the generational differences of

the students. The three generations that were involved included the Baby Boomers, Gen X, and Gen Y. The research question tested is as follows:

1. Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?

Analysis of variance (ANOVA) was used to test research question 1. ANOVA was conducted to evaluate whether evidence indicates any generational difference in how students perceive blended learning environments.

Research Question 2

Research question 2 summarized how students feel about blended learning environments by using descriptive data.

2. What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey?

Summary

This chapter discussed the study's design, population sample, instrumentation, data collection, and analysis procedures in regards to the investigation of students' perceptions of blended learning environments. The methodology chosen was discussed in detail. Chapter 4 provides the results and analysis of the study.

CHAPTER 4

RESULTS

The purpose of this study was to examine students' perceptions of blended learning environments. The data for this study are based on participants' perceptions of the blended learning environments. The research questions were addressed based on data gathered from students enrolled in blended learning courses at Tarleton State University in Texas during the spring 2009 semester. After the demographic characteristics of the student participants are shown, the findings associated with each of the two research questions are discussed.

Research Questions:

1. Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?

2. What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey?

Study Participants

The data collected for this study included 656 (n=656) uniquely completed surveys submitted online. Of the 656 respondents, 406 were females and 250 were males. A total of 117 students (17.8%) indicated that this was their first blended learning course. Of the respondents, 165 students (25.2%) indicated that they had taken five or more blended learning courses. Seventy-one respondents (10.8%) reported being

graduate students, whereas 575 respondents (87.6%) reported being undergraduate students.

Demographic information was requested at the beginning and end of the survey instrument. Information obtained from those who chose to respond revealed that 26.72 was the mean age of the participants. The demographic profile for students participating in the study is presented in Table 2.

Table 2

Demographic Characteristics of Student Responses

Characteristic	Variable categories	Frequency (*N*=656)	Percent
Gender			
	Female	406	61.9
	Male	250	38.1
Age	18-27	428	65.2
	28-43	159	24.2
	44-60	65	9.9
	61 +	4	.6

(table continues)

Table 2 (*continued*).

Characteristic	Variable categories	Frequency (N=656)	Percent
Ethnicity			
	American & Alaskan Native	10	1.5
	Asian & Pacific Islander	12	1.8
	Black, Non-Hispanic	47	7.2
	Hispanic	65	9.9
	White, Non-Hispanic	505	77.0
	Other	17	2.6
Class			
	Freshman	59	9.0
	Sophomore	69	10.5
	Junior	153	23.3
	Senior	294	44.8
	Graduate	71	10.8
	No Response	3	.5

(table continues)

Table 2 (*continued*).

Characteristic	Variable categories	Frequency (N=656)	Percent
Division			
	Business	312	47.6
	Education	137	20.9
	Nursing	17	2.6
	Agriculture	26	4.0
	Behavioral Science	51	7.8
	General Studies	30	4.6
	Information Technology	60	9.1
	Undecided	18	2.7
	No Response	5	.8

Results of Research Questions

Research Question 1

The research question “Is there a difference in student perception between generational groups as measured by Pritchard’s (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?” was measured via ANOVA. All participants choosing not to indicate their age were eliminated. Age was divided into categories based on generations: 18-27, 28-43, 44-61, and 61+. Due to the small number of Traditionalists’ (61+) responses to the survey, the

data from the 4 respondents were eliminated from the statistical analysis regarding generational differences and students' perceptions of blended learning environments; thus, survey data from participants in Gen Y, Gen X, and Baby Boomers were used. Table 3 shows the generational age breakdown.

Table 3

Generational Age Breakdown

Characteristic	Variable categories	Frequency (N=652)	Percent
Gen Y	18-27	428	65.2
Gen X	28-43	159	24.2
Baby Boomers	44-60	65	10.0

Questions 1 (Q1) through 23 (Q23) on the instrument were perception questions concerning how students felt about blended learning environments. Table 4 provides an overview of the 23 question outcomes. Data analysis for Research Question 1 shows that the generations are significant (at the 0.05) level for Questions 1, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 19 and 23. Questions 12, 13, 15, 20, and 21 had significance levels indicating very little likelihood of perception differences among the three different generations.

Table 4

Overview of Significance Levels for Generations

Statement No.	Statement	Significance level
1	I can easily understand new information by reading it on my own.	*.003
2	In general, I would consider myself to be highly organized.	.055
3	I learn better if I listen to lecture than if I read a textbook on my own.	*.012
4	Sometimes I need help to understand reading materials.	*.000
5	I have strong time management skills.	*.015
6	I need to be reminded about upcoming assignments and due dates.	*.000
7	I usually complete the textbook reading assignments.	*.000
8	If I have a question, it is more helpful to hear the answer explained to me than to read the answer in an e-mail.	*.000

(table continues)

Statement No.	Statement	Significance level
9	I am comfortable to wait a day or so for an instructor to respond to my questions or request.	*.001
10	The blended course requirements were too difficult.	*.002
11	I lacked the computer skills that were necessary for the course.	.063
12	I lacked the keyboarding skills that were necessary for the course.	.184
13	There was too much reading required in this course.	.156
14	There was too much writing required in this course.	*.001
15	I got behind and could not catch up.	.402
16	The course was too unstructured for me.	.073
17	I like the blended course format.	*.008
18	There was opportunity for interaction with the instructor.	.285
19	There was opportunity for interaction with classmates.	*.023

(table continues)

Statement No.	Statement	Significance level
20	The blended course component was designed to help me be an active learner.	.295
21	I understood what was expected from me.	.069
22	I experienced intellectual growth as a result of my participation in this blended course.	.203
23	I experienced difficulty with Blackboard.	*.002

p-value indicating significance difference.

Analysis of Research Question 2

Research question 2 “What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard’s (2006) Student Opinion Survey is summarized by using descriptive data. Table 5 shows the means of each generation by statement, as well as the average mean across the population.

Table 5

Means

No.	Statement	Gen Y	Gen X	Baby Boomers	Average mean
1	I can easily understand new information by reading it on my own.	2.2173	1.9623	2.00	2.1334

(table continues)

No.	Statement	Gen Y	Gen X	Baby Boomers	Average mean
2	In general, I would consider myself to be highly organized.	2.2850	2.1384	2.0154	2.2224
3	I learn better if I listen to lecture than if I read a textbook on my own.	2.2150	2.4780	2.4462	2.3021
4	Sometimes I need help to understand reading materials.	2.2921	2.6478	2.7385	2.4233
5	I have strong time management skills.	2.530	2.3962	2.1538	2.4233
6	I need to be reminded about upcoming assignments and due dates.	2.7430	3.2830	3.4308	2.9433
7	I usually complete the textbook reading assignments.	3.0374	2.4088	1.9846	2.7791

(table continues)

No.	Statement	Gen Y	Gen X	Baby Boomers	Average mean
8	If I have a question, it is more helpful to hear the answer explained to me than to read the answer in an e-mail.	2.1893	2.5597	2.9846	2.3589
9	I am comfortable to wait a day or so for an instructor to respond to my questions or request.	3.0374	2.7484	2.5846	2.9218
10	The blended course requirements were too difficult.	3.6472	3.9308	3.8308	3.7347
11	I lacked the computer skills that were necessary for the course.	4.3575	4.5283	4.3385	4.3972
12	I lacked the keyboarding skills that were necessary for the course.	4.4650	4.5786	4.4308	4.4893
13	There was too much Reading required in this course.	3.8692	3.7547	3.6462	3.8190

(table continues)

No.	Statement	Gen Y	Gen X	Baby Boomers	Average mean
14	There was too much writing required in this course.	3.9720	3.6917	3.6000	3.8666
15	I got behind and could not catch up.	4.1238	4.1824	4.0000	4.1258
16	The course was too unstructured for me.	3.9836	4.1635	4.1692	4.0460
17	I like the blended course format.	2.3435	2.0566	2.2615	2.2653
18	There was opportunity for interaction with the instructor.	1.9322	1.9371	1.7385	1.9141
19	There was opportunity for interaction with classmates.	2.0070	1.8302	1.7692	1.9402
20	The blended course component was designed to help me be an active learner.	2.2290	2.1950	2.0462	2.2025
21	I understood what was expected from me.	1.8692	1.8616	1.6308	1.84436

(table continues)

No.	Statement	Gen Y	Gen X	Baby Boomers	Average mean
22	I experienced intellectual growth as a result of my participation in this blended course.	2.2033	2.1572	1.9846	2.1702
23	I experienced difficulty with Blackboard.	3.6332	4.0063	3.7538	3.7362

Table 6

Percentage Related to Generation and Q1

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	17.1%	55.6%	10.5%	.5%
Gen X	159	28.9%	54.1%	8.2%	.0%
Baby Boomers	65	21.6%	54.6%	13.0%	.5%

Table 7

Percentage Related to Generation and Q3

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	25.7%	40.2%	10.7%	1.2%
Gen X	159	25.8%	26.4%	17.0%	4.4%
Baby Boomers	65	20.0%	32.3%	16.9%	.0%

Table 8

Percentage Related to Generation and Q4

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	16.1%	54.0%	10.7%	2.3%
Gen X	159	10.7%	45.3%	21.4%	5.0%
Baby Boomers	65	4.6%	47.7%	24.6%	3.1%

Table 9

Percentage Related to Generation and Q5

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	14.7%	41.1%	15.7%	4.2%
Gen X	159	18.9%	43.4%	14.5%	3.1%
Baby Boomers	65	24.6%	46.2%	10.8%	.0%

Table 10

Percentage Related to Generation and Q6

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	15.0%	36.0%	26.6%	6.8%
Gen X	159	5.7%	25.2%	40.9%	11.9%
Baby Boomers	65	3.1%	24.6%	36.9%	18.5%

Table 11

Percentage Related to Generation and Q7

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	7.5%	28.0%	28.0%	9.3 %
Gen X	159	24.5%	40.9%	22.0%	4.4%
Baby Boomers	65	30.8%	47.7%	7.7	.0%

Table 12

Percentage Related to Generation and Q8

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	32.5%	30.8%	11.4%	1.6%
Gen X	159	22.0%	31.1%	23.9%	3.8%
Baby Boomers	65	9.2%	18.5%	23.1%	6.2%

Table 13

Percentage Related to Generation and Q9

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	4.4%	38.1%	28.7%	11.0%
Gen X	159	7.5%	47.8%	22.6%	7.5%
Baby Boomers	65	6.2%	53.8%	18.5%	3.1%

Table 14

Percentage Related to Generation and Q10

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	2.6%	6.5%	45.6%	15.4 %
Gen X	159	2.5%	1.9%	43.4%	28.3%
Baby Boomers	65	.0%	3.1%	46.2%	20.0%

Table 15

Percentage Related to Generation and Q14

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	2.3%	6.3%	47.0%	30.6%
Gen X	159	5.0%	6.9%	42.1%	22.0 %
Baby Boomers	65	4.6%	9.2%	41.5%	18.5 %

Table 16

Percentage Related to Generation and Q17

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	19.6%	41.8%	7.0%	4.2%
Gen X	159	28.3 %	45.9%	3.1%	2.5%
Baby Boomers	65	26.2%	33.8%	6.2%	3.1%

Table 17

Percentage Related to Generation and Q19

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	28.3%	52.3%	5.4%	2.1%
Gen X	159	38.4%	46.5%	3.8%	1.3%
Baby Boomers	65	38.5%	46.2%	.0%	.0%

Table 18

Percentage Related to Generation and Q23

Category	N	% Strongly Agree	Agree	Disagree	Strongly Disagree
Gen Y	428	6.5%	11.7%	41.8%	23.1%
Gen X	159	1.9%	8.8%	41.5%	35.8%
Baby Boomers	65	6.2%	16.9%	33.8%	35.4%

Several questions appear to be related. Statements 1, 3, 7, 8, and 13 all pertained to reading within a blended learning environment. Table 19 shows each statement.

Table 19

Reading Skills Statements

No.	Statement	Gen Y	Gen X	Baby Boomers
1	I can easily understand new information by reading it on my own.	2.2173	1.9623	2.00
3	I learn better if I listen to lecture than if I read a textbook on my own.	2.2150	2.4780	2.4462
4	Sometimes I need help to understand reading materials.	2.2921	2.6478	2.7385
7	I usually complete the textbook reading assignments.	3.0374	2.4088	1.9846

(*table continues*)

No.	Statement	Gen Y	Gen X	Baby Boomers
8	If I have a question, it is more helpful to hear the answer explained to me than to read the answer in an e-mail.	2.1893	2.5597	2.9846
13	There was too much reading required in this course.	3.8692	3.7547	3.6462

All perception questions have to do with reading, so instructors might consider breaking down large reading assignments to accommodate Gen Y and Gen X students, who show that they do not like reading.

Table 20

Organizational Skills Statements

#	Statement	Gen Y	Gen X	Baby Boomers
5	I have strong time management skills.	2.530	2.3962	2.1538
6	I need to be reminded about upcoming assignments and due dates.	2.7430	3.2830	3.4308

Table 21

Technological Skills Statements

No.	Statement	Gen Y	Gen X	Baby Boomers
11	I lacked the computer skills that were necessary for the course.	4.3575	4.5283	4.3385
12	I lacked the keyboarding skills that were necessary for the course.	4.4650	4.5786	4.4308
23	I experienced difficulty with Blackboard.	3.6332	4.0063	3.7538

Table 22

Interaction Statements

No.	Statement	Gen Y	Gen X	Baby Boomers
9	I am comfortable to wait a day or so for an instructor to respond to my questions or request.	3.0374	2.7484	2.5846

(*table continues*)

No.	Statement	Gen Y	Gen X	Baby Boomers
18	There was opportunity for interaction with the instructor.	1.9322	1.9371	1.7385
19	There was opportunity for interaction with classmates.	2.0070	1.8302	1.7692

Summary

This chapter addressed the data collected and the statistical tests performed, including one-way ANOVA and descriptive. Significance was found in questions 1, 3, 4, 5, 6, 7, 8, 9, 10, 14, 17, 19, and 23. Chapter 5 provides a summary of the study, a discussion of the significance of the findings, and recommendations for future research.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter, the research is summarized. Chapter 5 includes three sections: Summary, Conclusions, and Recommendations for Future Research. In the summary of findings, an overview of the study methodology and results is provided. The Conclusions section is a discussion of the findings for the two research questions and the implications of these results. Finally, the Recommendations section provides suggestions for future research.

Research Questions

1. Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?

2. What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey?

Summary of Findings

The overarching purpose of this study was to provide insights into students' perceptions of blended learning environments. This study adds to the body of knowledge about students' perceptions of blended learning environments. Adding to the body of knowledge by surveying students of different generations provides a greater understanding of different perceptions regarding blended learning environments. Shaul (2007) stated that "several different generations in one classroom creates diversity that becomes instrumental in shaping the modern organization." These generational cohorts

play an important role in the 21st-century skills upon which organizations place a high degree of value.

The method chosen for this study was survey research, with an online questionnaire used to elicit data regarding students' perceptions about their blended learning environment experience. The study used ANOVA as well as descriptive statistics to analyze the data, with an alpha level of .05 set for analysis. Undergraduate and graduate students enrolled in blended learning courses offered by Tarleton State University, a state-supported postsecondary institution (SSPSI) were the target population for this study. A total of 652 individual students participated.

Individual one-way ANOVAS were used to examine students' perceptions based on generational differences. The study showed that differences existed in how students of different generations felt about blended learning environments.

The 652 respondents filled in the appropriate blocks for age. There were 406 female respondents and 246 males respondents in the study. The average age of Generation Y respondents was 21.37 years. The average age of Generation X respondents was 30.51 years, and the average age of Baby Boomers respondents was 47.23 years.

Conclusions

Conclusions for Research Question 1

The first research question asked, "Is there a difference in student perception between generational groups as measured by Pritchard's (2006) Student Opinion Survey in blended learning environments at a state-supported postsecondary institution (SSPSI)?" This question was examined via ANOVA. Similar to the findings of Pritchard

(2006), the data showed that generations differed on their perceptions of blended learning environments. Specific questions showed that differences existed in how students of different generations felt about parts of blended learning environments.

Conclusions for Research Question 2

The second research question asked, "What is the perception of how students of different generations feel about blended learning environments at a state-supported postsecondary institution (SSPSI) as measured by Pritchard's (2006) Student Opinion Survey ? This question was examined through an analysis of means.

Summary of Research Questions

This research study sought to answer research questions focusing on students' perceptions based on generational differences regarding blended learning environments. The findings of this study show differences between Gen Y, Gen X, and Baby Boomers. Technological skills were examined by several questions regarding personal computer and typing skills. Questions were also addressed about the use of Blackboard, the learning management system (LMS) that Tarleton State University currently utilizes. This study concludes that technological skills and technological problems were not concerns for students participating in the blended learning environments. Only 2.1% indicated they did, in fact, lack the necessary typing skills, and only 11.5 % experienced difficulty with Blackboard. This study reinforces existing research (Clement & Jones, 2007) that using blended learning courses helps to remedy the concerns of students regarding technological skills because they have the opportunity during face-to-face (F2F) interactions to ask questions.

Examining generational differences is important for instructors, students, and institutions. The blended course environment provides an outlet to enable instructors to address several differences, including differences based on generations. Course interaction was examined in this study. Research has shown that students feel a loss of community and personal contact in completely online courses (Bailey, 2002; Bielawski & Metcalf, 2005; Bonk & Graham, 2006; Jeffries, 2005; Kelley & Bonner, 2005). Based on this study the results show that the blended learning environment minimizes this sense of loss. Questions 18 and 19 addressed interaction in blended learning environments. Question 18 showed that 83.4% of respondents had the opportunity for interaction with the instructor. Question 19 showed that 81.7% had the opportunity for interaction among peers in the blended learning environment. The F2F mix with online learning allows for personal interaction throughout the course itself, not only with the instructor but also with peers. Blended learning courses have created the "best of both worlds," as quoted in Bonk and Graham (2006, p. 4). The blended approach is appealing because it offers the convenience of an online course with the stability of personal interaction from a traditional course (Bonk & Graham, 2006; Clement & Jones, 2007; Garrison & Vaughan, 2008). In an effort to meet the diverse needs of learners' learning and to improve their performance levels, newer ways to blend traditional instruction with technology mediated instructional methods have emerged (Lim et al., 2007).

This study also supports the positive perception of blended learning environments. Instructors can evaluate course design as well as consider the learners and their individual learning styles. Lim et al. (2007) stated that a major concern in

adopting new technologies is that at present, educators and trainers select the use of new technologies based on the convenience of the delivery of instructional content instead of the learner's needs and instructional effectiveness. The F2F mix with online learning allows for personal interaction throughout the course itself, not only with the instructor but also with peers.

Concerning generational breakdowns, this study shows that overall differences in this study were substantial among the three generational cohorts (Gen Y, Gen X, and Baby Boomers). Therefore, the conclusion of the researcher, based on the data collected and analyzed in this study, is that students of all three generations have an overall positive perception of blended learning environments. As noted previously, a few statements indicated significant differences among the three generational cohorts, at an alpha level of .05. Members of different generational groups have different expectations.

Points of Consideration

The following consideration statements are made as a result of this study:

1. The survey statement "I like the blended course format" (Q17) showed a response of 64.4%, which indicated that students liked the blended course environment. Learning online component (LOC) courses should continue to be offered, and the number of blended learning courses at Tarleton State University should be increased by individual colleges.
2. Instructors should be offered training in blended course design to help support student learning in blended learning environments.

3. Blended learning environments design should be matched with Tarleton's institutional goals. This includes Tarleton's mission statement to better address student's needs.
4. Tarleton State University should use the results of this study as part of a continuing evaluation of their distance learning courses (which includes blended learning courses).

Recommendations for Future Research

This study focused on students' perceptions about blended learning environments based on generational differences. A replicated research study broken down by division of study would indicate to individual departments how their students feel about their unique blended learning courses. This study could also be replicated using additional respondent data to further clarify and confirm this study's findings. Future studies could scrutinize each generation by examining various demographics such as region, division, and/or gender. Other cross-sections of the populations could be studied, including samples by ethnicity.

Looking back at the assumptions and limitations first addressed in the proposal for this study, it is clear that some areas that could be improved on. The research was limited specifically to Tarleton State University (SSPSI). Examining results at comparable universities such as listed in Table 1 should also be considered for future research. The data also assumed that the participants answered the surveys honestly because there was no fear of reprisal and that all answers were confidential. Because the study was a based on students' perceptions, the study relied on the accurate self-report.

At the time of this survey the involved instructors had not been offered specific training through Tarleton State University regarding blended learning course design. Each blended learning course was designed at the discretion of the instructor without consistency across the SSPSI. Further research in this area should include a study regarding instructor perceptions of blended learning environments. Using instructor demographic information (age, gender, ethnicity, and division of study taught) could be examined to see whether statistical significance exists in any of these areas. Perhaps instructors of different generations and geographical locations have varying perceptions of blended learning. Further research in this area is needed.

Students' perceptions in the area of blended learning are always important. Having a better understanding of how students feel about learning can help instructors in designing blended learning courses. Workshops for instructors on student perceptions could be designed to help develop these blended learning courses.

As organizations continue to adapt to technology changes, learning takes place more outside the classroom than in (Brady & McCauley, 1999). Lifelong learning (LLL) is encouraged, and blended learning will continue to meet the needs of boundryless organizations. Further research in the area of boundryless organization in regards to LLL should be considered based on the perceptions of organizations concerning blended learning.

Summary

Research has shown that there are differences in how students feel about F2F and online learning. Students' perceptions of blended learning environments are important and could be compared with F2F and online learning in further studies.

Having a better understanding of students' perceptions regarding the three modes of instructional delivery (F2F, online, and blended) could help instructors adjust course design based on generational differences.

Student feedback is vital for continued improvement in the understanding of the role played by blended learning. As students of differing generational cohorts come together in one learning environment, consideration of potential differences should be acknowledged. The opportunity to use students' perceptions can benefit all involved in the process.

APPENDIX A

INSTRUMENT PERMISSION

-----Original Message-----
From: Tracey Pritchard
Sent: Fri 9/19/2008 2:29 PM
To: Shaw, Ms. Joanna
Subject: Survey

Hi Joanna,

Congratulations on making it this far in your doctoral journey! You are more than welcome to use my survey. Just make sure that you properly cite it, not because I care, but because I wouldn't want you to get into trouble regarding recognizing the fact that you utilized an existing survey. Also, please let me know if there is any other way that I can support you as you move forward with this topic! I will be excited to read the final outcomes.

I have attached the survey by the way, for your convenience, as well as my contact information.

Tracey

APPENDIX B

ONLINE STUDENT SURVEY

Student Opinion Survey

Take this survey and help Tarleton's Relay for Life team!

This survey is part of a doctoral dissertation and seeks to collect student views on blended courses. Blended courses are defined as: courses that use both face-to-face instruction and online instruction (Blackboard).

Your answer to each question is confidential and will not be viewed by your instructor. It is important that you complete the demographic questions as they will be used to determine if gender, race, or age affects perceptions of blended learning. COMPLETION OF THIS SURVEY IS VOLUNTARY AND STUDENTS MAY OPT OUT OF THIS STUDY. You may take this survey more than once if you are enrolled in multiple blended courses. Submitting this voluntary survey online indicates your consent to participate in this research study.

For every survey that is submitted a donation will be made to Tarleton's Relay for Life team. Taking this survey is a great way to help make a difference in cancer research!
Thank you for your time:

1) What is your gender?

- ❍ Male
- ❍ Female

2) What is your age?

_____

3) With what racial or ethnic group do you identify?

- ❍ American & Alaskan Native
- ❍ Asian & Pacific Islander
- ❍ Black, Non-Hispanic
- ❍ Hispanic
- ❍ White, Non-Hispanic
- ❍ Other

4) Where are you from? (City and State):

_____

5) What is your classification?

- ❍ Freshman
- ❍ Sophomore
- ❍ Junior
- ❍ Senior
- ❍ Graduate Student
- ❍ Other

6) What is your division of study?

- ❍ Business
- ❍ Education
- ❍ Nursing
- ❍ Agriculture
- ❍ Behavioral Science
- ❍ General Studies
- ❍ Information Technology
- ❍ Undecided

Please indicate the degree to which you agree/disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I can easily understand new information by reading it on my own.	❍	❍	❍	❍	❍
In general, I would consider myself to be highly organized.	❍	❍	❍	❍	❍
I learn better if I listen to a lecture than if I read a textbook on my own.	❍	❍	❍	❍	❍
Sometimes I need help to understand reading materials.	❍	❍	❍	❍	❍
I have strong time-management skills.	❍	❍	❍	❍	❍
I need to be reminded about upcoming assignments and due dates	❍	❍	❍	❍	❍
I usually complete the textbook reading assignments.	❍	❍	❍	❍	❍

Please indicate the degree to which you agree/disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
If I have a question, it is more helpful to hear the answer explained to me than to read the answer in an e-mail.	❍	❍	❍	❍	❍
I am comfortable to wait a day or so for an instructor to respond to my question or request.	❍	❍	❍	❍	❍
The blended course requirements were too difficult.	❍	❍	❍	❍	❍
I lacked the computer skills that were necessary for this course.	❍	❍	❍	❍	❍

Please indicate the degree to which you agree/disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I lacked the keyboarding skills that were necessary for this course.	❍	❍	❍	❍	❍
There was too much reading required in this course.	❍	❍	❍	❍	❍
There was too much writing required in this course.	❍	❍	❍	❍	❍
I got behind and could not catch up.	❍	❍	❍	❍	❍
The course was too unstructured for me.	❍	❍	❍	❍	❍
I liked the blended course format.	❍	❍	❍	❍	❍
There was opportunity for interaction with the instructor.	❍	❍	❍	❍	❍
There was opportunity for interaction with classmates.	❍	❍	❍	❍	❍
The blended course component was designed to help me be an active learner.	❍	❍	❍	❍	❍
I understood what was expected of me.	❍	❍	❍	❍	❍
I experienced intellectual growth as a result of my participation in this blended course.	❍	❍	❍	❍	❍
I experienced difficulty with Blackboard.	❍	❍	❍	❍	❍

Please indicate the degree to which you agree/disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Instructional quality in this course met my expectations.	❍	❍	❍	❍	❍
Overall my experience in this course was positive due to the blended course component.	❍	❍	❍	❍	❍
I took this course because I thought it would be easier than a traditional course because of the blended course component.	❍	❍	❍	❍	❍
I think that this course was better with the blended component	❍	❍	❍	❍	❍
I think that courses with a blended component are a better fit with my work-related obligations compared to a traditional face-to-face course.	❍	❍	❍	❍	❍
I think that blended courses are a better fit with my family/work schedule compared to a traditional face-to-face course.	❍	❍	❍	❍	❍

Please indicate the degree to which you agree/disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I would take another course with a blended component because I commute a considerable distance to campus.	❍	❍	❍	❍	❍
I would take another course with a blended course component if one was available in my program.	❍	❍	❍	❍	❍

What course(s) are you currently enrolled in this semester that utilizes a blended learning component? Identify by course prefix and number (Ex: GB 103)

_____

For each course listed above is it a: core course, a course for my major, a general elective, or a course used in my minor area? (Please list the course and what it is).

_____

How many blended courses have you taken at TSU?

_____

Again, thank you for taking the time to participate in this survey. For every survey completed a donation will be made to Tarleton's Relay for Life team! Thank you for helping make a difference!

APPENDIX C

REQUEST FOR PARTICIPATION E-MAIL

Professor McCamey,

My name is Joanna Shaw and I teach in the Management, Marketing and Administrative Systems Department. I am currently attending the University of North Texas and in the data collection stage of my dissertation. My study is looking at student perception with how they feel about blended courses that use both face-to-face components and online (Blackboard) (or as TSU calls them LOC).

I am seeking your permission to send you an e-mail link through your TSU e-mail that you can copy and paste into your Blackboard course(s). Instructions for this will be forthcoming after permission is granted.

The anonymous survey will collect data the week of April 13th through April 29th. The survey instrument will take students about 10 minutes to complete and no identifying information (student or instructor) will be collected.

I would greatly appreciate the opportunity to have your students participate!

Please reply back to this e-mail and let me know if you give your permission. Another e-mail will follow once you reply with permission.

If you need more information, please call me at or e-mail me at jshaw@tarleton.edu. If you would like to speak with my Department Head about any concerns you might have, contact Dr. Rusty Freed.

Thank you so much for your consideration,

Joanna Shaw

Joanna Shaw
Department of Management, Marketing, and Administrative Systems
Tarleton State University

APPENDIX D

FOLLOW-UP LETTER WITH INSTRUCTIONS

Dear Faculty member,

Thank you so much for allowing your students to participate in my survey. Please send the e-mail out to students starting on **Monday April 13th**. The survey will be open until April 27th.

My IRB approval number is: 2009-031709-9027.

Before creating the e-mail in Blackboard, the "Enable HTML Creator" must be activated for the embedded survey link to be active. Click on the button and then cut/paste the information below in. See the screen shot below for where the "Enabler HTML Creator" is located.

Provided below is an e-mail to be sent to the students that you can cut/paste directly in your e-mail through Blackboard.

Students,

Joanna Shaw, an adjunct instructor and doctoral student, is gathering information about blended learning courses (These are courses that use both face-to-face instruction and online instruction such as Blackboard) for her dissertation. She has a short survey to fill out regarding what you think about this.

For each student that fills out a survey Ms. Shaw is making a donation to Tarleton's Relay for Life team to help support cancer research. Taking this survey is a great way to support Tarleton's Relay for Life team.

Please click on the link below and it will take you directly to this anonymous survey. I as your instructor will not have any access to your responses so please answer honestly. The survey will be open from April 13th-April 27th.
I encourage you to please take a moment to complete it!

https://survey01.tarleton.edu/efm/wsb.dll/s/4eg148

Please encourage your students as much as possible to participate in the survey. Again, I appreciate your willingness to allow your students to participate in this process. Please fill free to contact me with any questions.

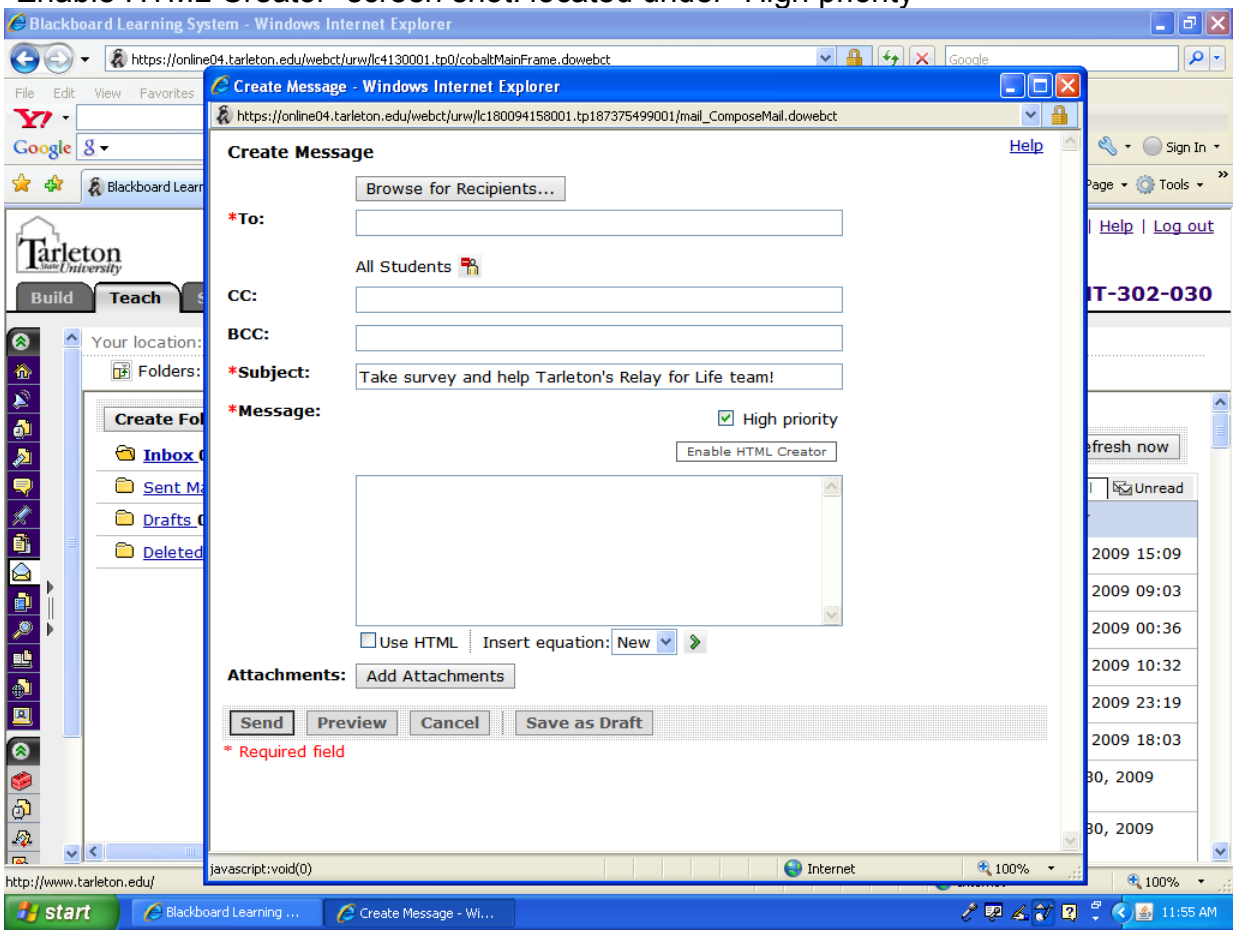
Sincerely,
Joanna Shaw

Steps for Sending E-mail to Your Students:

1. Click on "create new message" through Blackboard and select all students in each course.
2. Click on "Enabler HTML Creator"

3. Cut/Paste the information above into the e-mail
4. Add any comments you would like
5. Hit the send button!

“Enable HTML Creator” screen shot: located under “High priority”



APPENDIX E

IRB APPROVAL LETTER - UNIVERSITY OF NORTH TEXAS

UNT
UNIVERSITY OF
NORTH TEXAS
Discover the power of ideas.

OFFICE OF THE VICE PRESIDENT FOR RESEARCH AND ECONOMIC DEVELOPMENT

April 7, 2009

Joanna Shaw
Department of Learning Technologies
University of North Texas

RE: Human Subjects Application No. 09150

Dear Ms. Shaw:

In accordance with 45 CFR Part 46 Section 46.101, your study titled "A Study of Student Perception of Blended Learning Environments at a State Supported Post-Secondary Institution" has been determined to qualify for an exemption from further review by the UNT Institutional Review Board (IRB).

No changes may be made to your study's procedures or forms without prior written approval from the UNT IRB. Please contact Shelia Bourns, Research Compliance Administrator, ext. 3940, if you wish to make any such changes.

We wish you success with your study.

Sincerely,

Patricia L. Kaminski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK:sb

CC: Dr. Mickey Wircenski

1155 Union Circle #305250 | Denton, Texas 76203-5017 | TEL 940.565.3940 | FAX 940.565.4277
TTY 940.369.8652 | www.unt.edu

APPENDIX F

IRB APPROVAL NUMBER - TARLETON STATE UNIVERSITY

Your IRB application “A Study of Student’s Perceptions of Blended Learning Environments at a State-Supported Postsecondary Institution” has been approved. Please notify Joanna Shaw of this approval. Thank you for submitting your application and we wish you success in your research.

Your IRB No. 2009-031709-9027

Thank you,

Nona Williamson
Administrative Assistant IV
Sponsored Projects

REFERENCES

Arbaugh, J. B. (2001). How instructor immediacy behaviors affect student satisfaction and learning in Web-based courses. *Business Communication Quarterly*, *64*(4), 2.

Attwell, G. (2007). *More about blended learning?* The Wales-Wide Web. Retrieved September 23, 2007, from http://www.knownet.com/writing/weblogs/Graham_Attwell/entries/7198384319/

Bailey, K. (2002). *The effects of learning strategies on student interaction and student satisfaction*. Digital Dissertations #3060010 retrieved August 24, 2009,from Dissertations & Theses: Full Text (Publication No. AAT 3060010).

Beard, L. A., Harper, C., & Riley, G. (2005). Online versus on campus instruction: Student attitudes & perceptions. *TechTrends, 48*(6), pp 8.

Bersin, J. (2003). *What works in blended learning*. Learning Circuits.org. Retrieved September 21, 2008, from http://www.learningcircuits.org/2003/jul2003/bersin.htm

Bersin, J. (2004). Blended learning: Finding what works. *Chief Learning Officer*, 3(1), 39-42.

Bielawski, L., & Metcalf, D. (2005). *Blended elearning: Integrating knowledge, performance support, and online learning*. Amherst, MA: HRD Press.

Biesenbach-Lucas, S. (2003). Asynchronous discussion groups in teacher training classes: Perceptions of native and nonnative students. *Journal of Asynchronous Learning Networks, 7*(3), pp 2.

Bonk, C. J., & Graham, C. R. (2006). *The handbook of blended learning: Global perspectives, local designs*. San Francisco: John Wiley.

Brady, B., & McCauley, F. (1999). *Making an impact: The AONTAS response to the Green Paper Adult Education in an Era of Life Long Learning* (ERIC Document Reproduction Service No. ED473186). Retrieved September 22, 2009, from ERIC database.

Caruso, J. B. (2004). ECAR study of students and information technology, 2004: Convenience, connection, and control. *Educause Center for Applied Research* (*ECAR) Key Findings.*

Christensen, E. W., Anakwe, U. P., & Kessler, E. H. (2001). Receptivity to distance learning: The effect of technology, reputation, constraints, and learning preferences. *Journal of Research on Computing in Education, 33*(3).

Clark, D. (1999). Getting *results* with distance education. *American Journal of Distance Education*, *12(1*), 3.

Clark, R. C., & Kwinn, A. (2007). *The new virtual classroom*. San Francisco, CA: John Wiley & Sons.

Clement, C., & Jones, K. (2007). Blended vs. traditional classroom settings. *Journal of Educators Online*, *4,* 1-15.

Cummings, T. G., & Worley, C. G., (2001). *Organizational development and change*. OH: South-Western Cengage Learning.

Dabbagh, N., & Bannan-Ritland, B. (2005). *Online learning: Concepts, strategies, and application*. Columbus, OH: Merrill Prentice Hall.

Department of Education. (ED), O., & WestEd, W. (2008, July 1). *Evaluating online learning: Challenges and strategies for success. Innovations in education*. US Department of Education (ERIC Document Reproduction Service No. ED501849). Retrieved September 30, 2008, from ERIC database.

Duren, R. N. (2004). *An investigation of student learning and faculty instruction associated with Internet-based, distance learning courses at a mid-Atlantic community college*. Ed.D. dissertation, Wilmington College (Delaware), United States -- Delaware. Retrieved September 17, 2008, from Dissertations & Theses: Full Text database (Publication No. AAT 3159164).

Dutton, J., Dutton, M., & Perry, J. (2001). Do online students perform as well as lecture students? Retrieved September 21, 2009 from http://www4.ncsu.edu/unity/users/d/dutton/public/research/online.pdf

Elbaum, B., McIntyre, C., & Smith, A. (2002). *Essential elements: Prepare, design, and teach your online course.* Madison, WI: Atwood Publishing.

El Mansour, B., & Mupinga, D. (2007). Student's positive and negative experiences in a hybrid and online class. *College Student Journal*, *41(1),* 242-248.

Foley, M. (2003). The global development learning network: A world Bank initiative in distance learning for development. In M. G. Moore & W. G. Anderson (Eds.), *Handbook of distance education* (pp. 8). Mahwah, NJ: Erlbaum.

Gabelnick, F., MacGregor, J., Matthews, R., & Smith, B. (1990). Learning community foundations. *New Directions for Teaching and Learn*ing. *22* (1)

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research*. Boston: MA: Pearson Education

Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presences in online learning: Interaction is not enough. *American Journal of Distance Education, 19*(3), 133-148.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education*. San Francisco: Jossey-Bass.

Hicks, R., & Hicks, K. (1999). *Boomers, Xers, and other strangers: Understanding the generational differences that divide us*. Wheaton, IL: Tyndale House.

Hiltz, R., Zhang, Y., & Tuross, M. (2002). Studies of effectiveness of learning networks. *Elements of quality online education: Vol 3 in the Sloan-C series*. Needham, MA.

Hinkle, D. E., Wiersma, W., & Jurs, S. G. (2003). *Applied statistics for the behavioral sciences*. Boston: Houghton Mifflin Company

Howe, N., & Strauss, W. (2007). The next 20 years: How customer and workforce attitudes will evolve. *Harvard Business Review, 85*(7-8), 41-52.

Howe, N., & Strauss, W. (2000). *Millennials rising: The next great generation*. New York: Vintage Books.

Jarventaus, J. (2007). The new virtual classroom: Evidence-based guidelines for synchronous e-learning. *T+D*, *61*(7), 83-83. Retrieved March 19, 2009, from Academic Search Complete database.

Jeffries, M. (2005). *Research in distance education*. Retrieved September 1, 2009, from University of Wisconsin, Distance Education Clearinghouse Website: http://www.uwex.edu/disted/

Johnson, S. D., Aragon, S. R., Shaik, N., & Palma-Rivas, N. (2000). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. *Journal of Interactive Learning Research*, *11*(1), 29-49.

Jung, I., Choi, S., Lim, C., & Leem, J. (2002). Effects of different types of interaction on learning achievement, satisfaction and participation in Web-based instruction. *Innovations in Education & Teaching International*, *39*(2), 153-162. Retrieved September 17, 2008, doi: 10.1080/14703290252934603

Kearsley, G. (1997). *A guide to online education.* Retrieved October 18, 2009, from http://fcae.nova.edu/kearsley/online.html

Kelley, K. B., & Bonner, K. (2005). Digital text, distance education and academic dishonesty: Faculty and administrator perceptions and responses. *Journal of Asynchronous Learning Networks, 9*(1), 4352.

Kisamore, J. L., Aldridge, D., Alexander, E., & White, D. L. (2008). *Educating adult learners: Twelve tips for teaching business professionals*. Retrieved Eric Database ED502732.

Klein, C. I. (2007). *Exploring new classroom designs: Instructor perceptions of sport administration classes designed in a blended format*. Ph.D. dissertation, The University of New Mexico, United States -- New Mexico. Retrieved October 15, 2008, from Dissertations & Theses: Full Text database. (Publication No. AAT 3298187).

Knowles, M. S. (1984). *Andragogy in action: Applying modern principles of adult education*. San Francisco: Jossey-Bass.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607-610

LaPointe, L., & Reisetter, M. (2008). Belonging online: Students' perceptions of the value and efficacy of an online learning community. *International Journal on E-Learning*, *7*(4), 641-665. (ERIC Document Reproduction Service No. EJ810076). Retrieved November 28, 2008, from ERIC database.

Lancaster, L., & Stillman, D. (2002). *When generations collide: Who they are. Why they clash. How to solve the generational puzzle at work*. New York: HarperCollins.

Leese, M. (2009). Out of class—out of mind? The use of a virtual learning environment to encourage student engagement in out of class activities. *British Journal of Educational Technology*, *40*(1), 70-77. Retrieved March 5, 2009, doi:10.1111/j.1467-8535.2008.00822.x

Leonard, D. A., & DeLacey, B. J. (2002). *Designing hybrid online/in class learning programs for adults* (Working Paper). Harvard Business School. Retrieved November 13, 2008, from http://hbswk.hbs.edu/archive/docs/hybrid.pdf

Lim, D., Morris, M., & Kupritz, V. (2007). Online vs. blended learning: Differences in instructional outcomes and learner satisfaction. *Journal of Asynchronous Learning Networks*, *11*(2), 27-42. http://search.ebscohost.com

Lindeman, E. C. (1926). *The meaning of adult education*. New York: New Republic.

Mannheim, K. (1952). *Essays on the* so*ciology of knowledge.* New York: Oxford University Press.

Martyn, M. (2003). The hybrid online model: Good practice. *Educause Quarterly*, *26*(1), 1823.

Maxwell, S. D., & Delaney, H. D. (2004). *Designing, experimenting, and analyzing data*. Mahwah, NJ: Erlbaum

McCombs, B. L. (1991). Motivation and life-long learning. *Educational Psychologist, 26*, 117–127.

McCoog, I. (2008). *21st Century Teaching and Learning*. Online Submission (ERIC Document Reproduction Service No. ED502607). Retrieved November 28, 2008, from ERIC database.

McGlynn, A. (2005). Teaching millennials, our newest cultural cohort. *Education Digest: Essential Readings Condensed for Quick Review*, *71*(4), 12-16 (ERIC Document Reproduction Service No. EJ741200). Retrieved October 14, 2008, from ERIC database.

McLaren, C. H. (2004). A comparison of student persistence and performance in online and classroom business statistics experiences. *Decision Sciences Journal of Innovative Education,* 2(1), 1-10.

Meredith, G. E., Schewe, C. D., & Hiam, A. (2002). *Managing by defining moments.* New York: Hungry Minds.

Morabito, M. G. (1997). *Online distance education: Historical perspective and practical application* (Doctoral dissertation, American Coastline University, 1997). Retrieved March 5, 2007, from *ProQuest Digital Dissertations database* (Publication No. AAT 3185200).

Newell, S., Pan, S., Galliers, R., & Huang, J. (2001). The myth of boundaryless organization. Communications of the ACM *44* (12), 74-76.

Niemiec, M., & Otte, G. (2009). An administrator's guide to the whys and hows of blended learning. *Journal of Asynchronous Learning Networks*, *13*(1), 19-30. http://search.ebscohost.com

O'Malley, J., & McCraw, J. H. (1999). Students perceptions of distance learning, online learning and the traditional classroom. *Online Journal of Distance Learning Administration 2*(4). Retrieved September 12, 2009, from www.westga.edu/~distance/omalley24.html

Oester, T., & Oester, D. (1997). Life-long learning: Learning to be productive (ERIC Document Reproduction Service No. ED425409). Retrieved September 22, 2009, from ERIC database.

Osguthorpe, R. T., & Graham, C. R. (2003). Blended learning systems: Definitions and directions. *Quarterly Review of Distance Education,* 4(3), 227-234.

Patota, N., Schwartz, D., & Schwartz, T. (2007). Leveraging generational differences for productivity gains. *Journal of American Academy of Business*, 11(2), 1-10. Retrieved October 13, 2007, from ABI/INFORM Global database.

Pritchard, T. B. (2006). Students' perceptions of the hybrid learning structure: An exploratory study. Ed.D. dissertation, Wilmington College (Delaware), United States -- Delaware. Retrieved September 17, 2008, from Dissertations & Theses: Full Text database (Publication No. AAT 3238368).

Rooney, J. E. (2003). Blended learning opportunities to enhance education programming and meetings. *Association Management*, 55(5), 26-32.

Ruhe, V., & Zumbo, B. D. (2009). Evaluation in distance education and e-learning: The unfolding model. New York: The Gifford Press.

Scottish Office. (1998). *Opportunity Scotland: A paper on lifelong leaning*, cm 4048. Edinburgh: The Stationery Office.

Singh, H., & Reed, C. (2001). A white paper: Achieving success with blended learning: 2001 ASTD state of the industry report. Alexandria, VA: American Society for Training and Development.

Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2006). *Teaching and learning at a distance: Foundations of distance education* (3rd ed.). Columbus, OH: Pearson.

Shaul, C. (2007). The attitude toward money as a reward system between the age groups corresponding to the Boomers, Generation X, and Generation Y employees (Doctoral dissertation, Alliant International University, 2007). ProQuest Digital Dissertations.

Sims, R. (2008). Rethinking (e) learning: A manifesto for connected generations. *Distance Education*, *29*(2), 153-164 (ERIC Document Reproduction Service No. EJ801005). Retrieved November 28, 2008, from ERIC database

Sreebny, O. (2007). Digital rendezvous: Social software in higher education. *Educause Center for Applied Research* (*ECAR) Research Bulletin*, *2,* 112.

Strauss, W. (2005). Talking about their Generations: Making sense of a school environment made up of Gen-Xers and Millennials. *School Administrator*, *62*(8) (ERIC Document Reproduction Service No. EJ726613). Retrieved October 16, 2008, from ERIC database.

Strauss, W., & Howe, N. (1991). *Generations: The history of America's future, 1584 to 2069.* New York: William Morrow.

Tabor, S. (2007). Narrowing the distance: Implementing a hybrid learning model for information security education. *The Quarterly Review of Distance Communication*, 8(1), 47-57.

Tapscott, D. (1998). *Growing up digitial: The rise of the Net Generation*. New York: McGraw-Hill.

Thorne, K. (2003). *Blended learning: How to integrate online & traditional learning*. London: Korgan Page.

Verkroost, M., Meijerink, L., Lintsen, H., & Veen, W. (2008). Finding a balance in dimensions of blended learning. *International Journal on E-Learning*, *7*(3), 499-522 (ERIC Document Reproduction Service No. EJ801018). Retrieved November 28, 2008, from ERIC database.

Young, J. R. (2002). “Hybrid” teaching seeks to end the divide between traditional and online instruction. *Chronicle of Higher Education*, p. A33.

Zemke, R., Raines, C., & Filipczak, B. (2000). Generations at work: Managing the clash of Veterns, Boomers, Xers, and Nexters in your workplace. New York: AMACOM.

Zenger, J., & Uehlein, C. (2001). Why blended will win. *T + D*, 55(8).