A CASE STUDY OF THE DEVELOPMENT AND IMPACT OF ONLINE STUDENT SERVICES WITHIN COMMUNITY COLLEGES

By

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Signed: Aubrey D. Conover
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DEDICATION

I dedicate this work to my wife Laura,

Without her love, support, and encouragement

this dissertation would never have become a reality.
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ABSTRACT

Over the past ten years institutions of higher education throughout the country have begun to expand their educational offerings to the online environment. While the benefits of online education have been touted by administrators and institutions across the country, the actual impact on students’ education is unclear (Distance learning student services: An interview with CTDLC executive director Ed Klonoski. 2004; Planning reaps variety of benefits for distance programs. 2006; Restauri, 2004; Yang & Cornelius, 2004). Many authors including Cox (2005) and Vail (2006) have found that in their rush to take advantage of the online market, many schools have failed to adequately prepare and develop both the educational and student services foundation needed for a successful online education program.

This dissertation seeks to provide insight into the development of the online educational student services environment within the community college setting. Based on the work of Orlikowski and Gash (1994), an examination of the technological frames of institutional stakeholders was performed. Through this analysis a clearer picture of the online services development process was achieved. Furthermore, the theory of technological frames was examined to proved a framework from which organizations may examine their own institutional structures.

Using a multifaceted qualitative case study approach, this dissertation explored both the level of satisfaction students are receiving from the online student services environment and the technological frames of stakeholders that contributed to the current state of service. The findings of this research provided insight into current practices as well as contributed to the literature through the expansion of the theory of technological frames.
CHAPTER ONE: INTRODUCTION

Overview of the Topic

The explosion of online technology has opened the door to many new educational opportunities for community colleges. No longer are students bound to the brick and mortar campus and the restrictive time and space of a traditional education. Furthermore, the students of today’s higher education system are looking for services that meet their needs and offer the greatest potential for their educational development.

In answer to these demands, higher education institutions have begun to utilize online education as a way to reach nontraditional students while providing the institution with an additional medium through which to serve diverse populations. Specifically, community colleges have begun to use online education both in recognition of the needs of their nontraditional student body and as an opportunity to increase their enrollments through the online process. Students are able to utilize the online environment to overcome the limiting challenges of time and space constraints in a traditional educational setting.

While the benefits of online education have been touted by administrators and institutions across the country, the actual impact on students’ education is unclear (Distance learning student services: An interview with CTDLC executive director Ed Klonoski.2004; Planning reaps variety of benefits for distance programs.2006; Restauri, 2004; Yang & Cornelius, 2004). Many authors including Cox (2005) and Vail (2006) have found that in their rush to take advantage of the
online market, many schools have failed to adequately prepare and develop both the educational and student services foundation needed for a successful online education program.

Challenges faced by Higher Education

Three significant challenges facing higher education that have directly influenced the movement to online education and online student service include issues of increased enrollments, of decreased funding, and of access. As a greater number of students seek to obtain higher education, community colleges are asked to bear an increased number of enrollments. Compounding this challenge is the fact that many institutions are finding these students are underprepared and need basic developmental courses (Kasper, 2003; T. E. Williams, 2002). The increase in enrollments has not been met with an increase in financial support; in fact, the opposite is true. Institutions are being asked to serve a greater number of students with less funding from state and federal sources (T. E. Williams, 2002). Finally, as more students are looking for educational opportunities with flexible time and place, institutions are trying to determine how to best maintain their missions of access while providing quality educational opportunities to those not on traditional campuses.

Each of these factors has lead community colleges to begin embracing online education and online student services as tools to meet many of these demands. As enrollments increase, campuses look to online services as avenues to avoid the high cost of building new class rooms and service areas. Then, as funding decreases, administrators see online service as a way of continuing support with hiring new staff. Also, as the demand for access increases, higher education looks to online offerings to provide immediate access to services and course work regardless of the time or place of the students. However, it is important that institutions examine the true investment of both time and resources when developing their online environment. This
dissertation will explore many of these challenges and outline ways for institutions to be successful.

*Online Education and Community Colleges*

Online education offers the promise of access to education regardless of time and place. This mirrors directly the mission of most community colleges within the United States, and, therefore, it is predictable in many ways that these institutions would take the lead in the development and implementation of online course offerings. Bower & Hardy (2004) articulated several reasons that this is the case. First, as noted earlier, community colleges are driven by their distinctive missions, which often emphasize the importance of serving a high number of underprepared students. Technology has assisted community colleges in meeting this challenge effectively. Second, community colleges have also reached out to the workforce and provided opportunities for working adults to attend college on a part- or full-time basis. Distance learning technologies have offered these working adults an opportunity to fulfill their educational goals by allowing them to take courses that are more adaptable to their schedules and to their lives. Third, community colleges have partnered with business and industry to bring the classroom to the workplace, and to customize courses for specific workforce needs. Current distance learning technologies offer new opportunities to provide workplace and workforce education. Finally, with the growing number of educational opportunities for students, many community colleges see online education as an opportunity to stay competitive and increase enrollments.

All of these factors have lead to community colleges taking the lead in the online market. Bower & Hardy (2004) reported that according to a recent national study (U.S. Department of Education, 2003), 90 percent of public two-year institutions offered distance education courses in 2000-01. In addition, 95 percent of these institutions used asynchronous Internet technologies as
the primary mode of delivery, compared with 87 percent of public four-year institutions. Public two-year institutions accounted for the majority of distance education enrollments in 2000-01 (48 percent of all enrollments were in two-year colleges, compared with 31 percent in public four-year institutions).

*Comparison of Traditional and Online Students*

**Traditional Students**

Since the early 1970s, the student demographics at community colleges have shifted significantly (Ryan, 2003). As Pineda and Bowes (1995 p.152) noted, "older, part time students; full time workers; evening students; commuter students; and women represent a significant population in today's community colleges.” In 1970 for example, women constituted 40% of students attending community college, whereas they comprised 59% in 1999 (NCES, 2003). Additionally, the enrollment status of students has changed as part-time students now account for 61% of all those enrolled (NCES, 2003). Community colleges are becoming more ethnically diverse. Minority students constituted 19% of those who attended two-year institutions in 1971, and they now account for 33% of the population (NCES, 2003). Finally, the community college has seen a rise in the number of students who are older, first generation, immigrants and single parents (Phillippe & Patton, 2000).

**Online Students**

Halsne (2002) broke down a profile of the typical distance-learning student. She reported that the majority of online learners are a combination of working adults, students with access issues, and those looking to transfer to a four-year institution. Furthermore, she found that the typical online leaner tends to be over the age of 26 and unable to attend a traditional classroom setting. Supporting her work, the Distance Education and Training Council Survey (2004)
results indicated that the average age of students was 34, with slightly over half being female. These students indicated that 81 percent were employed.

The comparison between the demographics presented above, indicate that traditional community college students and online community college learners may share many similarities, however, they retain several unique qualities. In a recent study examine the characteristics of online and traditional students Halsne (2008) found that online learners were typically White/Caucasian, not of Spanish/Hispanic origin, and 26 to 55 years of age. In comparison to traditional students, the average online learner’s total family income was higher than that of the traditional learner. Furthermore, the online learners were typically full-time workers, and their professional status was as a professional, educator, or "other" occupational category. Finally, the online learners signified a higher education level than their traditional learner counterparts, who had part-time student status (Halsne, 2008). These findings are congruent to some earlier research that found distance students have characteristics that are unique to the online environment (Tucker, 2002). Age and gender percentages both demonstrate an older student returning to school, with female students making up a slight majority. Both groups indicated that the majority worked while attending class. The unique quality of the online student therefore seems to be the desire to take online courses in order to gain the benefits they perceive the online environment offers.

Benefits of Online Education

Online distance education offers the potential of higher education without the boundaries of time or space. Hofmann (2002) described the ability of online education to offer asynchronous learning opportunities at the convenience of the students. The online environment also offers the opportunity for students to explore educational opportunities at intuitions that they
otherwise would not have had the resources to be part of. However, access is not the only benefit found in the online environment. In fact recent study demonstrated that, “less than one-fourth of the positive aspects of online classes related either to not commuting or not having to go to campus, while three-fourths of the positive responses had to do more with the format of online learning (e.g., working at their own pace, more time to reflect, and less pressure). As might be expected, over half of the challenges of traditional face-to-face classes were identified as the commute to campus and parking issues” (Hughes & Hagie, 2005 p.55).

Furthermore the online environment offers many students the flexibility and a venue through which they can ask questions directly of the instructors that they may have otherwise felt unable to do. Chester and Gwynne (1998) found that, “students commented in their journals that they were more confident and contributed more online. Two-thirds of the students rated their participation in the subject as greater than in face-to-face classes” (Lessons from Experience I: The Delights of Pseudonymity, para. 1). This is important, as one of the major criticisms of online education is the loss of face-to-face interactions.

The unique aspect of the online learning environment also has the ability to promote learning outside of the standard curriculum. In a recent study, Hughes & Hagie (2005) noted that, “participants found that the asynchronous online discussion promoted personal and professional self-reflection. Moreover, some of the students reported that they actually learned more course content than outlined in the syllabus objectives. This was due in part to the content learned from interacting with classmates using the discussion component of the online course” (p. 52).

This developing body of knowledge begins to help us understand that the students taking distance courses are not the technologically advanced, high achieving group that one might
think. As earlier noted, demographically, online students are very similar to their traditional counterparts within the community college system. In fact, this group has even more needs than traditional students (Distance learning student services: An interview with CTDLC executive director Ed Klonoski. 2004). This is not surprising in that institutions are asking students with traditional challenge, such as work, family, and educational underpreparedness, to take on the burden of learning and navigating a complex virtual educational environment. To add to this challenge, many institutions have not established the framework of support either within the course structure or within the online student support systems that students may need in order to be successful.

_Institutional Structure_

Several key elements within the institution must be present in order to develop a fully developed online student services system. First, the community college must understand the importance of focusing efforts towards all students. Second, the institution must change the frame of reference from which it approaches student support services. Current service methods for traditional students must be examined to ensure these services are available to online users and any future development processes must incorporate the online process as part of a frame of reference. Third, the breadth and quality of online services must be equal to if not greater than those offered to traditional students. Fourth, in order to change student support services to incorporate distance learners, institutions must develop and require professional development and in-service training of both instructors and staff. Fifth, to be effective, distance learning support services must be integrated into a college's mainstream activities. Finally, an institution's funding priorities must be aligned with the commitment to distance learning student success.

Each of these will be examined more extensively in the following chapters; however, it is
important that an institution embrace each of these aspects if it is to develop a fully integrated system of online support.

Examination of Literature

An examination of the literature demonstrates that until recently little research has been done to understand student services within the online environment. The limited historical literature that is available on student services and online education has begun looking at areas of technological preparedness, understanding the makeup of the distance learning student, and the effectiveness of distance delivery in the educational environment (Distance learning student services: An interview with CTDLC executive director ed klonoski.2004; Langhorst, 1997; (Lever-Duffy & And Others, 1996; Parisot, 1997).

Recent research has begun to examine issues within online student services from a variety of perspectives. These range in focus from the changing educational environment of community colleges, to issues surrounding service to diverse student groups, to economic issues facing student services departments, as well as to the growing need for student transfer and articulation support. Even with this growth in research their remains a gap in identifying the foundation from which online student service departments are being developed and what level of service is actually being provided to students. In order to help bridge this gap in research, this dissertation will examine the development of one program and apply the theory of technological frames to that system. Through this examination, both a greater understanding of the decision making process during the development stages and a clearer analysis of the end results of online programs may be achieved.
Conceptual Framework

Technological Frames of Reference

The theoretical framework for this study derives from the examination of technological frames and frames of reference. Orlikowski and Gash (1994) developed a conceptual framework for the study of technological frames of reference (TFR). This framework allowed for a systematic approach to the analysis of the development and implementation of information technology systems.

The concept of technological frames provides a mechanism to identify and analyze a range of perspectives associated with technology interaction. Analyses of the development of online student services through this framework allows for clearer understanding of the role that the perception of technology plays. The concept of technological frames refers to the cultural and societal values, beliefs, and disciplinary assumptions made by individuals in regards to the construction and use of technology (Forsythe, 1997). In a most basic sense, technological frames examine how individuals view, interact with, and relate to technology. While much of the work done around technological frames has focused on communication and technology (Cook, 2002; Kastman Breuch, 2002). The concept has also bridged to understanding online integration tools in the medical field (Forsythe, 1996). The concept of technological frames helps examine the cultural assumptions embedded in online interaction by both programs and instructors (Forsythe, 1996). The concept also is key to understanding what frame of reference students are coming from in regards to their online education.

While the concept of technological frames does not provide a functionalized breakdown or stage development in regards to an individual’s frame, it does provide structure for the examination of an individual’s social construction of technology. This study uses the examination of both student service providers’ and students’ social construction of technology to
examine the role and effectiveness of online student services. This in turn will guide policy
development and implementation by student services providers.

Objective

This dissertation will examine the student services aspect of the online process and the
key elements that are necessary to help ensure student success. It is critical that we understand
what the key issues are and address them as the number of online learners continues to explode.
For example, at the case institution for this study, the number of online learners has grown over
300 percent to reach over 4000 students in the last three years. College wide they have more
than doubled in the last two years (Appendix A). With numbers like these, it is clear that
community colleges must work to better understand this cohort of students and the services they
require to effectively serve students’ educational needs. Knowing that all students within this
new online cohort will face a unique set of challenges, the institution must examine what its role
will be in supporting these students.

Statement of the Problem

Within the current discourse, the literature fails to completely address several key areas
surrounding the online environment. First, with much of the literature, the research fails to
examine the role community colleges play in this expanding medium of online education.
Second, there is a gap in describing what role student services must play to address the needs of
distance education students. Third, the literature fails to examine how students are being
impacted by the online student services’ experience, the differences in the challenges they face
and the benefits they receive compared to traditional on campus students. Finally, there has been
no in depth analysis of the process through which an institution has developed its online student
service program.

Statement of Purpose
Using a qualitative approach, this dissertation contributes to the literature by utilizing an in-depth case study approach to better understand both the relationship between online student services providers’ technological frames of reference and the impact of student services on online users. Second, an online survey was developed to obtain feedback from online learners in regards to their experiences surrounding online courses. Questions focused on the challenges and benefits of the online student services that they receive. Follow-up interviews allowed for greater insight into the impact of the online student services. Both the survey and follow-up questions generated a better understanding of the student’s technological frame of reference within the online environment. From the qualitative perspective, this research utilized two primary methods of inquiry: in-depth interviews and a review of student responses both within the survey and in follow up emails. The purpose of these interviews and response evaluation is to better understand and describe the issues surrounding the development and utilization of online student services at the community college. The guiding questions for this research are:

1. What is the satisfaction level of online student service support that students feel they receive in comparison to traditional methods?

2. How does the technological frame of both community college students and student services providers influence the ability of community college students to access and receive services from student development support?

This research builds on the theory of technological frame first introduced by Orlikowski and Gash (1994) of how people interact with and perceive technology. Students; “frame” of reference directly impacts their ability to access, utilize, and receive services from online education. It is critical that community colleges understand both the frame of the student service
providers as well as the frame of students so they may focus their limited resources to best serve this rapidly expanding cohort.

Second, using a detailed student survey this dissertation examines the satisfaction and decision making process of students when they choose to utilize online services. The survey was designed by the author of this study to directly address the online student services at the case institution. The survey was implemented through the online Webct teaching environment to reach a high level of online users and better determine their level of satisfaction in comparison to more traditional methods of student services.

Significance of Study

This chapter has presented the background issues surrounding online student services within community colleges. Specifically, it has demonstrated the increased move towards and reliance upon online services as a way to address critical higher education issues. Among these are issues of open access, increased enrollments, and decreased funding. Within the current research there has been a failure to address the necessary online support mechanisms essential for student success.

The significant contribution to research that this dissertation brings forth is in addressing this gap in two ways. First, in regards to the benefit provided for student affairs practitioners, this dissertation examines the process through which an institution has developed its online student support system. Through this examination insight can be gained as to the benefits and challenges of the development process as well as a clearer understanding of the perceptions of student users. Based on these findings, institutions will be able to develop a clear plan for online student services design and implementation to gain the advantages of access for their students while avoiding many of the challenges faced by the case study institution.
Second, from theoretical perspective, this work applies the theory of technological frames to online student services systems. The original work by Orlikowski and Gash (1994) examined the congruency of frames but did not examine how an individual’s frame may impact the development of a technology such as an online student services system. Furthermore, this dissertation expands the development of technological frames by designing cohorts within the frame analysis. This process not only allows for greater understanding into the technological development at the case study institution but may be applied to alternate institutions both within and outside of the higher education field.
CHAPTER TWO: REVELANT LITERATURE

While academic preparation remains the primary goal of community colleges for their students, there are several challenges to this goal due to the colleges’ changing role within the academic community. This change derives in part from a movement towards greater job training, contract development, and vocational training (Kasper, 2003). Changing demographics are forcing student services to meet the needs of an increasingly diverse student population, both demographically and in terms of educational goals. Community colleges are also being forced to shoulder the burden of a society in need of an increased level of developmental education (T. E. Williams, 2002). Finally, as society moves towards an age of online education, community colleges are working to incorporate this new medium while balancing the needs of the institution and the students. With each of these changes come new challenges for student services providers. While it is critical that community colleges examine each of these challenges and their impact on higher education, this dissertation will focus on the most rapidly growing area, that of online education.

In order to better understand the impact of online education on community college students and the role student services plays, one must first examine the literature surrounding community colleges, online education, and student services. This examination will lead to a better understanding of the issues and a more grounded approach to the research methodology.
Section one will examine the issues surrounding the role of student services within community colleges and their connections to online education. Section two will examine the role of theory and the concept of technological frames within the development of online student services. Specifically, an examination of works by Orlikowski and Gash (1994) and by Barrett (1999) regarding the theory of technological frames provides a historical foundation for application to this study.

**Role of Community Colleges**

This literature review focuses on four major sections and provides the context in which the study was conducted. The first section examines the development and role of community colleges within today’s higher education system. Second, a discussion as to the demographics of both traditional and online of community college students is presented. Third, the role of student services within community colleges is explored from a historical context up to and including today’s online environment. Finally, the development of online education and online student services is explored. Within this exploration, issues of implementation, of benefits and challenges, and of motivating factors for developing an online program are examined. Each of these issues provided the foundation for this study and directly relate to the study of online student services.

**Historical Context**

Summarizing the works of Kasper (2003) and Moneta (1997), the following is a brief historical perspective of community colleges. The community college system began as an extension of high schools. In 1901, Joliet Community College in Illinois added a fifth and sixth year of courses to a high school curriculum. However, the growth through the 1920’s was slow, focusing primarily on general liberal arts programs.

During the 1930’s, however, community colleges began to address the needs of the
country which was battling through the Great Depression by providing job training programs as a way to ease widespread unemployment. This trend toward job training continued through the 1940’s and 1950’s. In the 1960’s, Baby Boomers began reaching college age, and the number of community colleges grew rapidly. Many new public community colleges were built during the decade. This growth coincided with a large increase in student enrollment, from about 1 million students in 1965 to about 2.2 million by 1970.

During the 1970’s, community colleges became a major part of the American educational system, with enrollments almost doubling again from 2.2 million in 1970 to 4.3 million by 1980. The enrollment increase resulted from three factors: Baby Boomers continued to come of age, more parents desired a postsecondary education for their children, and students sought draft deferment during the Vietnam War (Kasper, 2003). During this time, community colleges also broadened their economic development to include growth in the area of contract development. In many larger cities metropolitan campuses developed, serving a wide population of the inner cities.

The community college boom slowed in the latter part of the century, with enrollment growing only 23 percent between 1980 and 1999. Total enrollments were about 5.3 million in 1999. As of the 2000-01 academic year, there were 1,076 community colleges. More recently, the contract partnerships between community colleges and business have accelerated (C. G. Williams, 1998). Traditionally these partnerships with business were seen as benefiting students by allowing them access to direct employment opportunities. More recently, community colleges have seen these partnerships as an opportunity to gain outside resources through financial support from the industries receiving direct benefits from employment training.

*Role of Community Colleges Today*
From this historical perspective, community colleges have grown into a diverse collection of institutions focusing on a wide range of missions. The community college has taken on multiple characteristics depending on the needs of the community it serves. Institutions often find themselves pursuing many different and sometimes conflicting missions. Moreover, community college missions differ among geographic regions and the emphasis community colleges have placed on any particular mission has varied over time (Dougherty & Townsend, 2006, p.5). While colleges work through this complex issue of mission and purpose, they continue to develop new areas of learning in vocational, transfer, and degree programs. As costs for traditional four-year institutions continue to climb (Shannon & Smith, 2006), low and middle income students look to community colleges to play the vital role of making higher education a reality. Community colleges continue to offer the opportunity for a higher education for many students. For many, community colleges are the primary if not only means of expanding opportunities for college education. They provide opportunities for technical and occupational training, while meeting the needs of those aiming for a bachelor's degree. Unfortunately, this ideal of bridging the gap between those of varying incomes has not been proven to be a reality.

Critics, however, argue that the fact remains that in spite of the programs offered by the majority of community colleges, many already disadvantaged students do not receive a degree. Furthermore, if these students are able to make it through the community college system they will still be less rewarded than those with a four-year degree (Pascarella and Terenzini, 2005). “Moreover, students with baccalaureate aspirations who enter community colleges are statistically less likely to realize their ambitions than students similar in background, high school preparation and aspirations who enter four-year colleges” (Dougherty, 2006, p. 7). The critics argue that these effects are not accidental but pervasive, a product of the community college's
role in maintaining social inequality as well as providing college opportunity. Others argue that now more than ever it is critical that community colleges continue the positive role of educational access and vocational and transfer preparatory education that they have played within higher education. “Today's community colleges educate millions of first-generation college students, minorities, women, and students with remedial needs. The community college must live out its access mission in order for our nation to reach its full potential” (Shannon and Smith, 2006, p.20), including serving as an entry to higher education for millions of students.

Community College Students

Within this context of changing missions and challenges, a new student population is emerging. This population is increasingly diverse in terms of age, gender, economic status and educational aspirations. A recent breakdown done by Laden (2004) indicated that in 2000, students of color represented 34 percent of all students enrolled in public two-year colleges and 38 percent of all students in private two-year colleges. More specifically, in at least half of all two-year institutions, racially diverse students made up between 25 and 90 percent of all students enrolled. Women continue to constitute more than half of all community college students, a finding that is consistent across all racial groups. As well, at least 55 percent of all community college students are at least twenty-four years old. Regardless of age, over 80 percent of the students are employed, and, of these, almost 54 percent work full time and over 30 percent work part time. In addition, over a third (34.5 percent) are responsible for dependents; of these, over 16 percent are also single parents. In light of these characteristics, it is not surprising to learn that 64 percent of all students enrolled in community colleges attend part time. “This diversity presents complex challenges and opportunities not only for the design and delivery of student
affairs programs but also for all programs and service units within the community college” (T. E. Williams, 2002, p. 68).

Community College Students Demographics

Since the early 1970’s, the student demographics at community colleges have shifted significantly (Ryan, 2003). The number of students pursuing their education at community colleges continues to increase. According to Sullivan (2005), over six and a half million students looked to community colleges in 2002 as their avenue for higher education. This represented an 18.6 percent increase since 1998. As Pineda and Bowes (1995) note, "older, part time students; full time workers; evening students; commuter students; and women represent a significant population in today's community colleges" (p. 152). In 1970, for example, women constituted 40% of students attending community college, whereas they comprised 59% in 1999 (NCES, 2003). Additionally, the enrollment status of students has changed as part-time students now account for 61% of all those enrolled (NCES, 2003). Community colleges are also becoming more ethnically diverse. Minority students constituted 19% of those who attended two-year institutions in 1971, and they now account for 33% of the population (NCES, 2003). Finally, the community college has seen a rise in the number of students who are older, first generation, immigrants and/or single parents (Phillippe & Patton, 2000). This changing student body is not simply taking courses; they are integrating into the environment of the community college. Grandmothers are becoming homecoming queens and forty year old military personnel are student body presidents. At the same time, traditional age National Honor Society members are taking one class a semester and working full time (Culp & Helfgot, 1998). Student services personnel must recognize the needs of these changing demographics if they are to be able to provide services to the entire college community.
Beyond the racial, age and gender demographics, community college students are also unique in regards to the socioeconomic backgrounds from which they come to higher education. Most students entering the community college system are working to support themselves and possibly family members. Schmid (2003) describes the typical community college students as being at risk due to several factors including the fact that they are often under prepared for college and also because they are working 30 or more hours a week. The multiple demands on students can increase time pressures and make successful completion of higher education more difficult.

Many of the students entering college for the first time are also facing the challenge of not having the cultural capital to understand the system in which community colleges operate. This, combined with a lack of support from family members and the burden of often being a first generation college student, can lead to greater chances of dropping out of higher education. This impact can be multiplied in the online environment where students need external support and internal confidence to stay motivated and active throughout the semester.

**Student Services in Community Colleges**

*Historical Role of Student Services*

The exact date of conception of the idea of student personnel work seems to be a matter of opinion (Rentz, 1996). The beginning of higher education in the United States focused almost solely on male students at private residential institutions. The concept of “in loco parentis,” in other words, faculty and staff acting in a parental role, dominated the student services realm through the beginning of the 1800’s. Several major shifts in higher education disrupted this early model. Among these were the shift towards the secularization and industrialization of higher
education, the entrance of women into teaching colleges, and the emergence of traditionally black institutions.

**Role of Student Services in Community Colleges**

As the number of community colleges continues to grow and enrollments sky rocket, one may think that literature on the role of student services would be prevalent. However, only more recently has research within community colleges specific to student services become more prevalent. As recently as ten years ago, Mattox (1998) found a considerable lack of research, possibly due to the misconception that community colleges simply function as teaching colleges, lacking high quality student services. There is also the issue of community colleges failing to prioritize or even support such research.

Within the limited research found by Mattox, three primary works were noted: Culp and Helfgot, “Life at the Edge of the Wave: Lessons from the Community College” (1998), Upcraft and Schuh, “Assessment in Student Affairs: A Guide for Practitioners” (1996), and Schuh and Upcraft, “Assessment Practice in Student Affairs: An Applications Manua” (2001) (Key literature, 2002). Each of these focuses on the key roles played by student services practitioners within community colleges.

Culp & Helfgot (1998) discuss a variety of different issues impacting community colleges and how these in turn may impact future success. The issues include recognizing the current reality of community colleges, both their challenges and offerings, recognizing the need to organize professional practices within community colleges, recognizing the connection between theory and practice as well as with student services and academic affairs, and finally taking a look at how to make a difference with students in light of what the future student body may look like (Culp & Helfgot, 1998).
Schuh & Upcraft (2001) applications manual and guide for practitioners focuses on assessment and practical tools that student services providers can use. Specifically, it provides a series of tools to assess individual areas, including assessment of dropouts, alumni, and group educational programs. It goes on to examine selected student services and programs, such as first-year programs, recreation programs, financial aid, admission, residence life, college union, health services, career services, counseling services, judicial affairs and Greek life.

An additional factor discussed by Williams (2002) is the need for student services to develop a clear mission in this time of change. He argues that by developing a clear and focused mission, student services providers are able to more clearly express the goals of student services. This, in turn, allows the dissemination of information to all student services staff and to the larger college community and demonstrates a commitment “to a set of core beliefs and values: students and their success” (Williams, 2002, p. 69). While each of these articles is helpful in the overall understanding of student services, only Culp and Helfgot (1998) clearly focus on community colleges. Furthermore, none of these works clearly addresses the relationship of student services to online education.

Research Developments in Student Services

A more current examination of the literature demonstrates an explosion in the amount and breadth of research being done on student services within community colleges. A brief search of research regarding community colleges and student services that was done within the last seven years generated 243 articles. These ranged in focus from the changing educational environment of community colleges, to issues surrounding services to diverse student groups, to economic issues facing student services departments, as well as on the growing need for transfer
and articulation support. Each in its own way articulated some facet of change that student services practitioners need to be aware of in an ever changing educational environment.

*Student Services in Evolving Educational Environments*

In their 2006 article, “It's Not Just a Job Anymore: The Influence of Cultural Change on Student Services Staff in a Community College,” Locke & Guglielmino (2006) describe how the rapid change within the complex educational system of higher education directly impacts the way practitioners provide and need to conceptualize student services. This changing environment often entails less student time on campus; “many students' physical time on campus has become virtually nonexistent as community colleges have expanded their distance learning programs. Hence, two-year colleges are challenged to find new ways to provide high-quality support services to both traditional and distance learners” (Floyd & Casey-Powell, 2004, p 55). The key for many institutions will be developing services for online learners while still maintaining a high level of services for traditional students.

*Serving Diverse Population Needs*

As noted earlier, the population of students seeking higher education continues to grow and to become more diverse. Historically, community colleges have served a diverse student population. However, only recently has research examined the role of student services and how they meet the needs of this diverse population. State and local governments are increasingly demanding that higher education institutions and specifically community colleges make education more available to nontraditional students, specifically older, working adults (Halsne, 2002). For many of these students the traditional educational paradigm of onsite classes from nine to five simply will not work with their outside commitments. This diversity of student populations, presents complex challenges and opportunities not only for the design and delivery
of student affairs programs but also for all programs and service units within the community college (Culp & Helfgot, 1998). Community colleges need to examine alternative class structures, including delivery methods and times to serve these students.

As noted by Williams (2002) the design and delivery of student affairs programs must be flexible and adaptable, in keeping with the needs of increasingly diverse students. To meet the needs of students with varying schedules and learning styles, programs and services need to be offered at different times of the day and night and in different formats. For example, having orientation at only one time during the day, restricting hours of registration, or only offering financial aid support during regular business hours will not serve the diverse needs of students. Furthermore, many students are approaching learning from a first language other than English. It is critical that institutions recognize this and adjust support to best meet the needs of these students (Williams, 2002).

Economics and Student Services Support

As economic challenges continue to plague institutions of higher education, all areas have been forced to deal with decreasing economic support. These challenges have forced student services departments to demonstrate both how they can serve students with reduced resources and how their support is making an impact on the educational outcomes of students. While student support staff may recognize the importance of their work within the higher education setting, in a time of restrictive budgets they will need to be able to demonstrate their value to the institution. Demonstrations of how the support of students influences their ability to be academically successful are critical for both faculty and administration to understand and support student services programs and their continuation without budget restrictions (Williams, 2002).
Student services staff have had to look to both alternative funding and alternative delivery methods to continue their services to a diverse student population. Outside funding sources such as grants may be helpful in the implementation of new programs, but it is difficult to rely upon these as sources for steady revenue. Funding for new retention and academic success initiatives must come from program establishment grants or other temporary funding sources which are not guaranteed (Sheldon, 2003). Providing online education and services is one way institutions are addressing budgetary issues, “many colleges have looked to distance education as a way to save the expense of building new facilities while still accommodating an expanding student population” (Bower & Hardy, 2004, p.9). It is yet to be determined whether or not online systems actual provided an economic incentive to the institution. “Currently, the experts do not agree whether online learning is cost-efficient or costly, so it is important to review the growing number of careful research studies that are helping to unravel where and when and how online learning can be cost-efficient” (Meyer, 2005, p. 20). There continues to be a definite need for further research that examines the online environment and services to students. Only nine of the 243 articles surveyed for this study addressed any issues connected to online services.

**Distance Education**

While the focus of this dissertation is on the online student services environment and how it impacts the educational process, a basic understanding of the issues surrounding online education is important. It should be noted that distance learning can take many forms and has been around for many years. The original distance education developed in the form of mail correspondence schools in the mid-19th century. Students would receive and return work via the mail. While mail correspondence still exists, televised courses grew to take the lead in distance
education. Many institutions, including the case study community college, continue to use this media for distance education. However, with the advance of the internet, online education has taken the dominate role in providing education regardless of location (O’Lear, 2000). Unlike its predecessors, online education offers a greater level of interaction both between other students and between students and faculty. Through this advancement and through high standards of curriculum, online courses have been able to challenge the historically held idea that distance education is inferior to traditional methods. Historically, the educational establishment itself has questioned the effectiveness and value of distance education. This has been true especially with faculty, who have been ambivalent toward distance education, because it replaces and devalues face-to-face, classroom-based teaching (O’Lear, 2000). While many might argue that these attitudes have changed with the development of the online environment, initial research shows that this might not be the case.

**Development of Online Education**

The shift from correspondence and tele-courses to the online environment has been an ongoing and developing enterprise as institutions both work to reap the real and perceived benefits of online education and work to stay competitive in the higher education environment.

**Movement to Online Learning and Service**

The shift towards online service and education has been motivated, according to many administrators by the access provided to students (Hofmann, 2002; Hughes & Hagie, 2005). However, it could be argued that alternative forces are motivating institutions to adapt to this new technology. In her 2005 article, “Online Education as Institutional Myth: Rituals and Realities at Community Colleges” Rebecca Cox argues that there are three major themes that are dictating the movement of institutions to go online. These three themes are access, competition,
and technology. The concept of access is explored fully throughout this dissertation both in terms of benefits both perceived and real. However, Cox argues that the institutions she examined have not realized access, in terms of increase in enrollments. This may have been the case at the case study institution. Over the past two years the institution has seen large increases in online enrollments but decreases in traditional courses. It is not clear if these are directly related due to the fact that most recent enrollment numbers show increases in both traditional and online enrollments.

The second motivating factor mentioned by several authors is that of competition. As higher education sees the growth of private sector providers many administrators have voiced concern as to ways to remain competitive. “This new source of competition has ratcheted up the fear of losing future enrollments, resulting in the inevitable isomorphism as community colleges identify and adopt the distinctive features of the new post-secondary providers” (Cox, 2005, p. 1770). This concept directly relates to earlier works by DiMaggio & Powell (1991) who examined the ways in which institutions mirror one another through both real and perceived forces. In order to remain, in the higher education field’s perspective, competitive, many institutions feel they must move towards online systems. Whether this movement will be a true benefit for each institution is unclear.

The third motivating factor is that of technology. Several authors have argued that students need to become technologically literate in order to be successful in today’s world (Gaide, 2004; Miller, Pope, & Steinmann, 2005; Shaffer, 2004). Institutions view the online education environment as a way to help make students more comfortable with online services. In order for this to be a true benefit for students the level of skills they are actually gaining from an online course or online student services must be ascertained. If in fact, students are gaining
skills that they could take out of the educational environment, then institutions should take this benefit into account when deciding whether or not to implement an online system. Each institution must examine if the online environment will be a benefit for both the college and their students. For many community colleges the concept of access for their students has been the deciding factor to go forward with an online system.

*Online Education and Community Colleges*

Online education offers the promise of access to education regardless of time and place. This mirrors directly the mission of most community colleges within the United States and therefore it is predictable in many ways that these institutions would take the lead in the development and implementation of online course offerings. Bower & Hardy (2004) articulated several reasons that this is case. First, as noted earlier, community colleges are driven by their distinctive missions, which often emphasize the importance of serving a high number of underprepared students. Technology has assisted community colleges in meeting this challenge effectively. Second, community colleges have also reached out to the workforce and provided opportunities for working adults to attend college on a part- or full-time basis. Distance learning technologies have offered these working adults an opportunity to fulfill their educational goals by allowing them to take courses that are more adaptable to their schedules and to their lives. Third, community colleges have partnered with business and industry to bring the classroom to the workplace and to customize courses for specific workforce needs. Current distance learning technologies offer new opportunities to provide workplace and workforce education. Finally, with the growing number of educational opportunities for students, many community colleges see online education as an opportunity to stay competitive and increase enrollments.
All of these factors have lead to community colleges taking the lead in the online market. Bower (2004) reported that according to a recent national study (U.S. Department of Education, 2003), 90 percent of public two-year institutions offered distance education courses in 2000-01. In addition, 95 percent of these institutions used asynchronous Internet technologies as the primary mode of delivery, compared with 87 percent of public four-year institutions. Public two-year institutions accounted for the majority of distance education enrollments in 2000-01 (48 percent of all enrollments were in two-year colleges, compared with 31 percent in public four-year institutions) (Bower, 2004).

### Online Education

The number and breadth of online courses being offered by community colleges has increased rapidly over the past years. Online education presents the potential to offer learning opportunities to students regardless of time, space, or physical location. While this new delivery system offers a vast area of expansion for community colleges and greater access for many students, the high dropout rate Nash, (2005) calls into question the effectiveness of online education (Stumpf, McCrimon, & Davis, 2005). The challenge is for colleges to understand the shift and proactively prepare for both the challenges and potential that online education may offer (Bergquist, 1998).

**Benefits of Online Education**

Online distance education offers the potential of higher education without the boundaries of time or space. Hofmann (2002) described the ability of online education to offer asynchronous learning opportunities at the convenience of the students. The online environment also offers the opportunity for students to explore educational opportunities at institutions that they otherwise would not have had the resources to be part of. However, access is not the only
benefit found in the online environment. In fact, a recent study demonstrated that, “less than one-fourth of the positive aspects of online classes related either to not commuting or not having to go to campus, while three-fourths of the positive responses had to do more with the format of online learning e.g., working at their own pace, more time to reflect, and less pressure” (Hughes & Hagie, 2005, p. 55). This is key for institutions to understand, that students are looking to online education for different reasons, and assumptions should not be made as to the services they want or need. Many of these students may still prefer the face to face student support from a traditional system even though they prefer the online educational environment.

Furthermore, the online environment offers many students the flexibility and venue through they can ask questions directly of the instructors that they might otherwise have felt unable to do. Chester, A., & Gwynne, G. (1998) found that, “students commented in their journals that they were more confident and contributed more online. Two-thirds of the students rated their participation in the subject as greater than in face-to-face classes” (Lessons from Experience I: The Delights of Pseudonymity, para. 1). This is important as one of the major criticisms of online education is the loss of face to face interactions. The above quoted study finding demonstrates that for some students, the reserve is actually the case. For whatever individual reason; social awkwardness, language barriers, or other issues, students in the online setting are able to share more and feel more connection to their classmates and faculty than they do in face to face class settings.

The unique aspect of the online learning environment also has the ability to promote learning outside of the standard curriculum. In a recent article (Hughes, 2005) noted that students were able to take the personal time needed to reflect and develop their ideas in a way that allowed them to gain more from the course than a traditional class bound by a certain time or
setting. Many students also reflected that the greater interaction they found with classmates in the form of online chats actually promoted a degree of learning greater than the traditional classroom and often beyond the confines of the stated curriculum. This may be due in part to the freedom mentioned earlier that students feel they have in an online environment, but it also grows from the diverse group of students able to take an online class. When a student based in Germany is able to share a perspective in a World War II history course, the class as a whole may benefit.

Within the virtual classroom, online education forces a greater level of interaction with the instructor and with classmates. By design, students must submit questions and posts both directly to the instructor and to their fellow students, whereas a traditional classroom can often allow students who do not want to participate the chance to simply sit back avoid any interactions (Hofmann, 2002).

Institutional Challenges of Online Education

The research for this dissertation explored several issues, including the challenges faced within the arena of online student services. However, based on research by Bower & Hardy, (2004), Cox, (2005) and Locke & Guglielmino, (2006) the following provides an overview of additional challenges in implementing and sustaining distance education in community colleges.

Resistance to Change

The need to adapt to new methods of service has never been greater. However, the need to change has been resisted by many within the traditional structure. “Many intuitions are finding that their internal cultures are unreceptive, even hostile, toward adopting needed changes” (Locke & Guglielmino, 2006, p. 216). Technological advances such as the Internet and its wealth of resources have changed higher education dramatically. These innovations, however, bring new and unfamiliar issues and concerns (Bower & Hardy, 2004). In order for community colleges to
grow and remain competitive, these challenges must be overcome and educators must be flexible and open to change.

**Stakeholder Support**

In every college, it is likely that one or more stakeholder, including administration, faculty, staff, and governing boards, will argue that distance education is a passing phase and will never replace the traditional classroom. Meanwhile, many more will recognize that this method of learning has irrevocably revolutionized education. Despite these differing opinions, if distance learning is to be a successful method of delivering education, all stakeholders—including faculty, staff, students, and administrators—need to accept it as a practical and effective instructional method. Most new methods of instruction meet with mixed or even negative sentiments, but most gradually come to be accepted as part of standard educational delivery.

**Changes in Teaching Styles**

One of the key stakeholder groups that institutions must address is the faculty. Many faculty members have concerns as to how the transformation to online education is going to impact their teaching environment. These concerns can often be valid but also may be created by misperceptions about what it is like to teach online (Vail, 2006). To address these concerns, institution must work to educate faculty and ensure that they are part of the development process. “Distance education, and Web-based instruction in particular, has changed a number of aspects of teaching, including course content, teaching roles and methods, assessment strategies, interaction, and communication” (Bower & Hardy, 2004, p. 10). Research has shown that teaching online requires different skills and pedagogies from those needed in the traditional, face-to-face environment (Fetherston, 2001). The fact that many instructors have concerns about the shift to online courses is not surprising. With the magnitude of change in instructional style
and format that faculty face in the move from the traditional classroom to the distance education
environment, “it is only natural that many instructors have reservations about this new method of
educational delivery” (Bower & Hardy, 2004, p.10).

Staff and Faculty Training

Staff and faculty will need the training necessary to deal with the new challenges they
may face if distance education is to be successful in community colleges. Administrators have
found that they need to help faculty gain technological expertise and instructional design skills.
Establishing a marketable presence in the rapidly expanding online education environment
requires a team approach to teaching and learning and collaboration between faculty,
instructional designers, and programmers. Administrators must provide their faculty and staff
with the resources they need to be creative, productive and more efficient through the use of
technology. When adequately implemented, these efforts can result in the development of
entirely new departments dedicated to supporting faculty who teach distance education courses.

Change in Institutional Culture

In order for an institution to fully integrate online education into the educational process
some level of cultural change must occur.

The need to integrate new models of service delivery, data-driven approaches to
enrollment management, greater accountability for student retention and success,
stronger emphasis on customer service, and provision of “anytime, anyplace”
services through technology are readily evident. Yet, many institutions are finding
that their internal cultures are unreceptive, even hostile, toward implementing
needed changes. (Locke & Guglielmino, 2006, p. 216)
All areas of the institution must be ready to adapt to this new mode of online instruction and service. “Faculty members are not the only individuals whose lives will change as a result of distance education; administrators, too, must understand the impact that associated technological advances will have on the culture of their institutions” (Bower & Hardy, 2004, p. 11). There also must be continued communication to ensure that; assumptions are not made about the willingness to adapt or willingness to accept change by any given group. Cox (2005) found that while many faculty were struggling with the online environment, administrators at the school were unaware of this challenge. Administrators often viewed the online educational opportunities as furthering the access to education mission of community colleges. They often were not aware of or discounted the challenge posed to both faculty and the institution in adapting to this new delivery method of education and service. In fact, many administrators articulated their support of online education by connecting online education and services to the access promise of community colleges. They linked online involvement of the institution to the college's role in enabling postsecondary access to nontraditional student (Cox, 2005).

New procedures and policies need to be developed, but faculty, staff and students also need help in adapting to these changes. It is crucial that community college leaders provide support for distance education programs, because it is impossible to enact change without their support. Community college leaders can help both faculty and staff become comfortable with distance courses and services by providing them with professional development opportunities that address the technology as well as the changes in their roles.

**Increased Inequality for Students**

Cox (2005) noted that, “many critics foresee dire consequences for faculty and students and predict a future for higher education that is marked by increasing social stratification and
inequality” (p. 1754). Online education by its very nature requires that users have a technical knowledge that is outside many students’ reach. Furthermore, in order to enjoy the most often noted benefits of educational access, users must have the technology readily available to them. Many students lack the computer hardware or appropriate internet technologies to provide adequate levels of access, necessitating travel to campus or to an alternative site.

**Key Components of Online Programs**

No matter the approach or stages put forth by these scholars, several universal points are recognized as key in regards to support and to student success. Among these are instructional support, technical support, campus buy-in and student services support. The following is a synthesis of several key authors, including Gaide, (2005); Floyd & Casey-Powell, (2004); Reeves, Herrington, & Oliver, (2004) and Vail (2006).

First, the community college must understand the importance of focusing efforts towards all of the students. It is not necessary that the college develop an entire separate support structure (Floyd, 2004). This could be overwhelming in terms of both time and money. When changing the existing structures, the institution must work to include stakeholders from all areas of the college and must stress the need to embrace online learning. Faculty are among key stakeholders and often are among the most reluctant to change. However, if faculty can be shown that, successful online support services aid both the students and the faculty they may be more likely to support the change (Floyd, 2004).

The institution must change the frame of reference from which it approaches student support services. Institutions must recognize that all students, regardless of how they are approaching education, need the support of student services to be successful. All services must be designed and implemented around a commitment to the learner, regardless of delivery system.
This may appear fundamental, yet traditionally institutions have designed systems that focus on services geared toward the traditional learner on a brick and mortar campus rather than the distance learner (Gaide, 2001). Students are then given the option of online education but still have to make physical connections to the campus, thus defeating one of the major benefits of the online system.

Second, the breadth and quality of online services must be equal to if not greater than those offered to traditional students. Distance learners should have access to the same resources as on-campus students. To accomplish this, student services providers need to redefine their roles, as faculty have done, to accommodate distance learners.

Third, changing student support services to incorporate distance learners requires professional development and in-service training. A community college counselor who has worked primarily on campus, for example, may feel uncomfortable working with students online. Such feelings can be addressed, along with technical issues, during in-service training. In-service training can also help student services providers better understand the distance learner population and learn current theories and intervention strategies for this group of students.

Fourth, to be effective, distance learning support services must be integrated into a college's mainstream activities. Although most campus Web sites include links to such essential information as applications, registration, and course catalogues, many still do not provide interactive links to all services.

Finally, an institution's funding priorities must be aligned with the commitment to distance learning student success. Community colleges must commit financial resources to develop technology for student services. Technology should be budgeted as a fixed cost, similar
to electricity and insurance, and colleges should fund distance learning support services as an integral part of the institution.

Implementation Models of Online Education Programs

Within the current discussion surrounding online education there are several suggestions as to the process through which an institution must go to develop a successful online education system. It is important to examine these different approaches to both lay the ground work for the case study examination within this dissertation as well as to examine the role, if any, of student services within these different perspectives.

Restauri (2004) discussed two major models that describe current institutional support for online instruction. The first can be described as a head first approach, in which the institution dives into online education without the creation or funding of additional resources, personnel or an overall college strategy for implementation. Here institutions are so eager to be part of and gain the benefits of online education that they fail to put in the key components that will make the program successful. Research demonstrates that, “both students and instructors perceive low-resource online courses as less satisfactory and less beneficial to student achievement” (Restauri, 2004, p. 32) than higher-resource courses.

The second model, called group/team development approach, described by Restauri, (2004) has shown greater success and resiliency. Administrations from the institutions using this type of policy demonstrate greater buy-in to online process. This in turn generates a great deal more support for the faculty in the development of their courses. Furthermore, new IT personnel are often hired to support not only the technical aspects of the online process but also the instructional development. This eliminates the faculty member serving in the “multiple roles of content developer, instructional designer, technical support staff and administrative student
services” (Restauri, 2004, p. 33). This additional support allows instructor to concentrate on the delivery and educational outcomes of the course, leading to greater student success (Restauri, 2004).

**Online Distance Education and Student Services**

*Characteristics of Online Students*

Halsne (2002) examined a profile of the typical distance learning student. She reported that the majority of online learners are a combination of working adults, students with access issues and those looking to transfer to a four-year institution. Furthermore, she found that the typical online learner tends to be over the age of 26 and unable to attend a traditional classroom setting. Supporting her work, the Distance Education and Training Council (2004) survey results indicated that the average age of students is 34, with slightly over half being female. These students indicated that 81 percent were employed.

While many of the characteristics of online learners are similar to those of the general community college population, there are several specific elements that set apart the “successful” online learner. Bocchi, Eastman, & Swift (2004) defined a successful online learner as one who has “the self-discipline, initiative, motivation, commitment, time management skills, and organization skills to work independently and to finish the job without need of prompting” (p. 247). Self-motivated and self-disciplined students are most likely to succeed in online learning (Hongmei, 2002). While many students see the online environment as a simpler way to access education opportunities, those who are successful realize that there is still a significant commitment of time and resources.
Although an online course saves students the time of commuting and sitting in class, they still must spend approximately 10 to 12 hours per week on an online graduate course. It is a misconception to think that a student can learn the online course material in less time than would be required in a traditional class or that online classes are less intellectually demanding than traditional classes. Finally, students must be willing to participate in the online class. (Bocchi, Eastman, Swift, and Owens, 2004, p. 247)

To succeed in an online class, students must be able to express themselves clearly and succinctly in written form and have a basic competency with computer technology (Devi, 2001; Ryan, 2001). Students also must be comfortable reading a large portion of the materials, such as discussion posts, onscreen. Ramos (2001) encouraged the use of printed materials, instead of digital texts, to reduce eyestrain. Specific technical requirements include computer access, a fast Internet connection speed, sound, and some software; firewalls may interfere with accessing an online course (Kearsley, 2002; Ryan, 2001). Finally, a student must have a quiet study space (Ryan, 2001).

**Student Services and Online Students**

Even with all of these factors in place, institutions are finding that online students struggle to complete their courses. Educators continue to report course drop out and failure rates among distance learners that are significantly higher than those for traditional, campus-based students (Nash, 2005). Student services providers must step in to address this retention issue. In their article, “New Roles for Student Support Services in Distance Learning,” (Floyd & Casey-Powell, 2004) indicated that a successful online student possesses self-discipline and self-confidence and has the ability to work independently and overcome frustration and confusion. In
addition, successful online students must have access to required software and technological services. Yet providing access to technology for all students creates several challenges for community colleges, especially in light of the diverse clientele that most of them serve.

Colleges must also support faculty and create learning environments and campus cultures that support the teaching of online classes: "Successful distance learning institutions support their faculty who, in effect, become both students and users of the technology tools they will use to deliver the courseware" (RDR Associates, 1998, p. 17). Positive integration of student and faculty support, as well as the use of effective technology, encourage meaningful interaction between students and college professionals and can provide a successful model for effective teaching and learning that helps to ensure student success.

Student services providers are struggling with understanding the needs of these distance students and developing ways to address them. Too often, institutions assume that distance learners are computer literate and able to navigate the system both online and academically, with little support from the institution. “Institutions then focus all or most of their attention on delivering course material to the student, but fail to offer other college services that help on-campus students with successful articulation, persistence, and degree completion” (Rinear, 2003, p. 3). These students are facing the usual challenges, including economic hardship, work and family demands and personal challenges, including little support and lack of academic understanding (Williams T. E, 2002). Researchers have found that students taking online courses are not necessarily technologically inclined (“Distance Learning Student Services: An Interview with CTDLC executive Director Ed Klonoski,” 2004). The research also indicated that many of the students taking online courses chose to do so due to access issues rather than the desire to be online. Many staff discovered that the students taking online courses need even
more time and assistance (Mannix, 2000). “They were going into distance learning because we weren’t providing higher education to them in a convenient, accessible way traditionally, and they were willing to put up with a lot of difficulty, including low-quality courses, as we got out act together” (“Distance Learning Student Services: An Interview with CTDLC Executive Director Ed Klonoski,” 2004). This quote clearly demonstrates the need for increased student services both to traditional students and online learners.

Rinear (2003) articulated five areas of support critical for the success of an online delivery system. These include reliable technology and technological support; instructional, business and student support systems and programs; on-going communication with faculty and support staff; career counseling and transition assistance, and interactive learning opportunities. Once again, the idea of ongoing communication and support are cited as critical for success. This further raises the question as to whether or not community college leaders and front line student services providers are adequately preparing and delivering service to distance learners.

Institutions must also address the fact that faculty may be resistant to changing to an online format. Parisot (1997) found that many faculty question the benefit to and success of online students. Others argue that faculty would be served by a well-developed comprehensive training program in order to best serve the students (Stumpf et al., 2005). Student services providers need to be proactive in developing these types of training programs in to address faculty concerns and assist students.

**Current State of Online Service**

A recent survey done of highly technical community colleges (Digital community colleges and the coming of the ‘millenials’, 2004) indicated that (68%) of responding colleges had automated all or most of their intake processes for prospective students, while 39% of
colleges reported that students were able to apply for admission online, including the ability to access and submit admission forms and payments electronically. Once admitted, students at two-thirds (66%) of the colleges were able to register and pay for classes online, while another 24% provided self-service registration without payment.

The survey went on to state that 73% of responding colleges have created self-service options for students to view their current class schedules, view open and cancelled classes, and add or drop classes online. In addition, 43% of the colleges reported that they provided students with secure online access to their transcripts, while 81% of the colleges offered online access to their library resources. While these percentages represent a significant amount of services being developed, there many colleges still indicated that they did not currently offer these services. Furthermore, these colleges were self selected as being technologically focused, thus it is unclear as to the state of online service being provided by traditional institutions.

Innovation in Student Services

With the shift to online education, “many students’ physical time on campus has become virtually nonexistent as community colleges have expanded their distance learning programs. Hence, two-year colleges are challenged to find new ways to provide high-quality support services to both traditional and distance learners” (Floyd & Casey-Powell, 2004, p. 55). Institutions have been forced to examine all areas of student services from advising to library services, as well as admissions and registration, to determine how best to support online and users. There has been some support in terms of guidelines for this development. “Many accrediting agencies are creating guidelines for the development of community college support systems for e-learners” (Bower & Hardy, 2004, p. 10). Other groups such as the Western Interstate Commission for Higher Education have developed a web site for institutions to look at
ways to develop their own online services (Carnevale, 2001). Institutions at all levels are
working to cope with these new changes and the expectations they bring with them. Institutions
must find new resources for the development and support of online students while not
compromising the traditional services.

*New Online Tools*

With the rise of online student services many technologies have been developed to
transfer traditional service to the online environment. These technologies range from large
educational platforms such as WEBCT to in-house advising email systems. Each area of student
services has the option of working with a wide range of systems depending on both the needs of
the students and the resources available to each department. Admissions and registration
department are able to integrate online registration and application processes through the student
information systems such as Banner Online (Digital community colleges and the coming of the
‘millenials’.2004). They are also able to invest in programs that allow for electronic transcript
evaluation and transfer, as well as online graduation requests. Advising and counseling services
have the capability to not only answer questions through email but also can incorporate online
degree audit checks, where students can confirm their academic standing, and live chat sessions
to answer students questions directly (Vail, 2006). Library systems are evolving both to offer
most of their collections online as well as to provide instant online service (Karplus, 2006).
Libraries are even looking into Facebook as a way to connect with students (Charnigo & Barnett-
Ellis, 2007). Financial aid systems have been developed that allow students to apply, accept, and
utilize funds without every stepping foot in an office.

The online student services technologies have developed along three major lines of use.
The first is opening lines of communication through a wide range of tools. Basic email
communication allows for basic question and answer support, online chat rooms offer a real-time support system, and video conferencing allows for the interaction of traditional methods with no barriers as to distance (Carlson, 2002). However, as institutions progress through these three, the cost and time necessary for the institutions grows. Students also face a growing responsibility in terms of technological knowledge needed to operate in these platforms as well as a greater technological hardware as they move from basic emails to video conferencing (Gaide, 2005).

The second area of technology growth is that of self-service systems. These are areas where students are now able to utilize online tools to find the answers to questions that they may otherwise need support from a staff person. Examples of these including degree audit systems, which allow students to determine how many and what courses they still need for a certain degree or a financial aid check system that allows student to apply, check the status, and see the award of their funding. These systems tend to be more costly and require a higher level of technology knowledge from the students in order to be successful. They also limit the contact between an advisor and student, at a time such as checking degree completion, when additional support maybe beneficial (Carlson, 2002).

The third area is that of independent service. These tools allow student to complete processes that they would otherwise need to go through a traditional campus to do. Examples include ordering official transcripts, requesting degree be sent to alternative institutions, or requesting enrolment verifications for financial aid purposes. These often take less technological knowledge on the side of the students and may improve the satisfaction of students by making services more readily available (Dahl, 2005). Due to the fact that these systems are allowing students to access resources without support, they maybe more cost effective for institutions, depending on the resources needed to implement the programs.
While each of these systems may benefit students and staff in the level of access and service that can be provided, each also requires institutions to commit a large amount of resources for technologies to be successful. Financially, many of these programs can cost tens of thousands of dollars. Institutions must also be aware of the cost in staff both for maintenance and training (Meyer, 2005). Each process should be analyzed to determine if the benefits received by the college and their students balances with the large investment. The institutions must also determine if these systems will help meet the challenges put forwarded earlier in this dissertation or if they are going to add more financial and time draining projects to an already strained system.

While many of these changes may seem overwhelming, community colleges are in a unique position to face these challenges. Proponents of community colleges argue that, “as the relative newcomers to American higher education, community colleges lack the academic traditions and excess organizational baggage that constrain many senior institutions” (Langhorst, 1997, p. 58). Community colleges have a tradition of meeting the changing needs of their communities. In an academic marketplace that is in a constant state of change, mere improvement of current educational practices is not sufficient. Stumpf (2005) discussed the need to frame technology not simply as a new tool but as a “vehicle to develop new approaches.” Given the demands of the information age workplace, the relative inflexibility of senior institutions and shifting societal expectations, the momentum for change is clear (Langhorst, 1997). Community colleges must examine the challenges they are facing to make such change a reality.
Theoretical Framework

The theoretical framework for this study derives from the examination of technological frames and frames of reference. Orlikowski and Gash (1994) developed a conceptual framework for the study of technological frames of reference (TFR). This framework allowed for a systematic approach to the analysis of the development and implementation of information technology systems.

Technological Frames

First introduced in their paper, “Technological Frames: making Sense of Information Technology in Organizations,” Orlikowski and Gash (1994) laid the groundwork for the examination of technological frames. The theory of technological frames helps provide a mechanism to identify and analyze a range of perspectives associated with technology interaction. Furthermore, the theory of technological frames refers to the cultural and societal values, beliefs, and disciplinary assumptions made by individuals in regards to the construction and use of technology (Forsythe, 1997). In a most basic sense, technological frames examine how individuals view, interact with and relate to technology.

While much of the work done around technological frames has focused on communication and technology (Cook, 2002; Breuch, 2002), this concept has also expanded to understanding online integration tools in the medical field (Forsythe, 1996). The concept of technological frames helps question the cultural assumptions embedded in online interaction by both programs and instructors (Forsythe, 1996). The concept also is key in understanding what frame of reference students are coming from in regards to their online education.

Frames of Reference
Fundamental to the theory of technological frames is the individual’s frame of reference. Jack Mezirow (1997) defines an individual’s frame of reference as, encompassing cognitive, and emotional components, and is composed of two dimensions: habits of mind and a point of view. Habits of mind are broad, abstract, orienting, habitual ways of thinking, feeling, and acting influenced by assumptions that constitute a set of codes. These codes may be cultural, social, educational, economic, political, or psychological. Habits of mind become articulated in a specific point of view--the constellation of belief, value judgment, attitude, and feeling that shapes a particular interpretation (p. 6).

Technological Frames examine how these habits of mind and points of view are impacted by and react to issues surrounding technology.

Development of Technological Frames

With the explosive growth of technology in today’s society, one may assume that the theory of technological frames has been highly developed since its first introduction in 1994; however, that is not the case. In a recent examination of the literature, Davidson and Pai; (2004) found only eight scholarly works directly building on Orlikowski and Gash’s (1994) original work. Within these eight are some interesting findings, which are relevant to this dissertation.

Technological Frame of Reference (TFR) Definitions

The original foundation put forth by Orlikowski and Gash (1994) defined technological frames as the organizational frames that concern the assumptions, expectations, and knowledge individuals use to understand technology in organizations. While recognizing that frames exist on an individual level, they also theorized that groups within organizations may form with similar collective frames of reference. However, within these groups, individuals would retain
their specific TFR. These groups often formed shared TFRs along key elements, such as similar structures and common values (Davidson and Pai, 2004). Furthermore, they found that conflict, contradictory actions, resistance and skepticism may result when groups of differing TFRs were not aligned (Orlikowski and Gash, 1994).

The original work by Orlikowski and Gash (1994) articulated three general areas of study. These are nature of technology, technology strategies and use of technology. Future research, building upon these concepts, has redefined the domains to suit the area of study. Davidson and Pai (2004) found that the TFR studies that they reviewed suggested no common or general frame through which the individual research projects were focused. Each paper had, in fact, used unique titles or domains to meet the specific research goals. This dissertation continues this tradition by allowing the structure of TFRs to develop from the qualitative interviews.

Building on the work of Orlikowski and Gash (1994), Barrett (1999) expanded the original work to “incorporate analysis of cultural elements, to address institutional and structural influences on TFRs on actors’ interpretation and action around IT adoption” (Davidson and Pai, 2004, p. 480). The concept that the institutional culture and previously established structure may impact the TFR of an individual had been mentioned earlier but not fully explored. This exploration allows for a fuller understanding of not just the TFR of an individual but what forces shape and ultimately may change the individual’s TFR.

As mentioned previously, Orlikowski and Gash (1994), did not thoroughly examine the process through which a change in an individual’s TFR may occur. There were two authors who explored this process in unique ways. Lin and Cornford (2000) looked at past frames by, “reconstructing past frames using retrospective interviews and written project archives”
The second author, Davidson (2002), combined retrospective interviews, project documentation and longitudinal site observations. These longitudinal studies allowed for a longer time frame to analyze frame changes that typically would be difficult to ascertain in a time limited onsite study.

Finally, Shaw, Lee-Partridge, and Ang (1997) targeted their research to examine the impact of technological frames of reference (TFR) on end-user satisfaction. The authors found that,

“triggers” (e.g., new system releases, frustration with existing systems, exposure to new ideas) can open a window of opportunity that will allow existing technology to be re-examined and modifications made to the level of adaptation and implementation patterns currently in use. (Shaw, Lee-Partridge, and Ang 1997, p. 457)

This examination within this dissertation continues the shift from the theoretical to the practical application. This dissertation expands upon the process by developing individual frames and examining how those frames view and impact practice.

Theory to Practice

“The practice of science inviting cultural as well as social analysis is still rather new within science and technology studies” (Forsythe, 1996). However, in attempting to examine the development and implementation of an online education and support system it is critical to understand the frame from which both developers and front line users are viewing the process.

While the concept of technological frames does not provide a functionalized breakdown or stage development in regards to an individual’s frame, it does provide structure for the examination of an individual’s social construction of technology. “Understanding how frames
develop, diffuse, and change within organizational fields could inform our understanding of technology-related change...within particular organizations” (Davidson and Pai, 2004, p. 488). This study examined both student service providers’ and students’ social construction of technology to consider the role and effectiveness of online student services. This in turn will offer guidelines to policy development and implementation by student services providers.

**Summary**

This literature review has laid the groundwork for this dissertation by examining the literature surrounding both community colleges and, more specifically, online education and online student services. First, an examination of the historical development of community colleges and their mission within higher education was articulated. Second, a breakdown of student services within these institutions was examined, both historically and in today’s educational environment. Third, an examination of the development of distance education, specifically online education, occurred. Finally, an examination of the role of online student services was presented. Each of these areas is essential to understand the context in which this study took place and the issues that needed to be addressed.

In order to have a grounded approach for the development of this dissertation, the theory of technological frames was applied. In the second section of the literature review, a comprehensive examination of the theory and its development was presented. The original concept presented by Orlikowski and Gash (1994) was articulated, as well as an examination of research building upon their theory. The strengths and weaknesses of the theory were presented in order to further the understanding of how it may be applied to this research project and the issues surrounding online student services.
The development of any structure within a community college setting will be influenced by multiple factors. Nowhere has this been shown to be more the case than with the development of an online student services support system. In an attempt to understand this development and the factors that stakeholders are using when making their decisions, several different approaches may be utilized. The theory of technological frames provides a unique perspective for analyzing the development of online systems because it takes into account not only the position from which individuals are making decision but also their relationship to the technology itself. This relationship can strengthen or weaken existing power status, widen or limit online service options, and help or hinder implementation processes. By applying this theory to the case study institution this dissertation examines the role technological frames has played in the development of institutional online support systems and demonstrates both the positive and negative role different frames of reference can have. In doing so, this dissertation lays the groundwork for the case study institution and other colleges to develop the online support systems that will be most effective in serving students.
CHAPTER THREE: RESEARCH AND DESIGN METHODOLOGY

Research Questions
This study is guided by two primary research questions, which were designed after examination of the current literature and previously mentioned theories.

1. What is the satisfaction level of online student service support that students feel they receive in comparison to traditional methods?

2. How does the technological frame of both community college students and student services providers influence the ability of community college students to access and receive services from student development support?

Question one examines the satisfaction of online student services in comparison to both the level of in person services available at campus locations as well as the level at which students perceive they are being served through the online environment.

1.1 What factors influence the level of satisfaction that students indicate they are receiving?

1.2 What areas of student service are students gaining the greatest satisfaction from and why?

Question 1.1 examines the demographic and educational factors for each student to try and determines which areas may influence students’ level of satisfaction with online student services support.

Question 1.2 examines the areas of student support themselves and tries to determine if individual areas are stronger what factors increase their favorability rating by students.

Question two examines the connection or disconnection between the technological frames of the student services providers and that of the students. Furthermore, it indicates how
that relationship impacts the students’ ability to receive services from online student services.

The following secondary questions are also examined:

2.1 What are the assumptions that are made by online student services providers in regards to the technological frames of community college students?

2.2 Does the framework differ between traditional student services providers such as advisors and counselors and new providers such as online technology designers?

2.3 Do these assumptions impact the development of online student services within the institution?

Question 2.1 examines the assumptions made by online student services providers to gain a clearer understanding of the technological constructs that these individuals are basing their service development and implementation on.

Question 2.2 looks at how new online student services providers may or may not have a unique perspective and technological frame in regards to online services.

Question 2.3 examines how these assumptions impact the development of an online student services system within the institution.

Overall Approach and Rationale

This research examined the impact of online student services on community college students as well as the relationship between the framework of student services providers and online distance education students. Two areas were studied in order to better understand the relationship. First, I examined how students perceive the level of service that they are receiving via online student services. This process took place in the form of an online survey and follow up discussion. Second, the online student services developed and provided by student services staff was analyzed through in depth interviews, student emails, and student records. This
examination was grounded in the theory of technological frames. Further information was developed by analyzing the service to online students through observations of administrative meetings regarding online education policy development and service. The overall intent of this study was not to merely identify what formal and informal processes are being used but to inform practice in regards to the impact of online services on community college students. In order to obtain a comprehensive picture of the issues involved, a qualitative case study approach was utilized.

**Qualitative Case Study Approach**

In order to develop a deeper and more extensive understanding of the issues surrounding online student services, a case study approach was utilized. “The quintessential characteristic of case studies is that they strive towards a holistic understanding of cultural systems of action. Cultural systems of action refer to sets of interrelated activities engaged in by the actors in a social situation” (Tellis, 1997, Case Study Methodology, para. 19). The use of the case study allowed this dissertation to explore, not only, the interactions of the online student services providers and the students but also the educational environment in which they operate.

By their nature case studies tend to be selective, focusing on one or two issues that are fundamental to understanding the system being examined. “Case studies are multi-perspective analyses. This means that the researcher considers not just the voice and perspective of the actors, but also of the relevant groups of actors and the interaction between them” (Tellis, 1997, Case Study Methodology, para. 17). The use of a qualitative case study enables researchers to better understand the issues and complexities surrounding a particular setting or issue. Through careful interpretation of information gathered by such methods as interviewing and participant observation, qualitative case study researchers can approximate the perspectives of those
representing the object of study in various contexts (Mendaglio, 2003). By better understanding the perspective of individuals within the case study setting, qualitative case study research can deepen our understanding of critical issues surrounding the research.

Merriam (1998) distinguished among several types of qualitative case studies by using the following categories: disciplinary orientation, overall intent or function, and multiple or comparative. She indicated that case studies found in education can be categorized by the disciplines from which the methods are borrowed. Sociology, history, anthropology, and psychology, with their respective types of case studies, were noted: sociological, historical, ethnographic, and psychological case studies, respectively. With respect to the function of case studies, descriptive, interpretive, and evaluative case studies were identified. Purely descriptive case studies are theoretical, not intended to generate hypotheses. They simply describe the phenomenon under investigation. Interpretive case studies also provide "thick description" (p. 38), but their aims are analytical: This may range from developing conceptual categories used to suggest relationships among variables, to developing theory. Evaluative case studies may serve the functions of description, explanation, and judgment, though judgment is the core function. This study has a multiple case study perspective in regards to its focus on first a descriptive characterization of the case in question, followed by an interpretive analysis of the role of technological frames within the case participants, and concluded with an evaluation of the functions and development of online student services.

Several factors must be observed in order to ensure that reliable data may be obtained from a case study setting. Cutler (2004) outlines eight key areas that case study research should be focused on to ensure reliable results: (1) described themselves explicitly as case studies in their title; or (2) in their abstract; (3) whether they contained a methodology section; and (4)
whether the methodology section recognized case study method; or (5) other methodological
tools such as data gathering, coding techniques, content analysis, and so on. The work then must
examined: (6) if a theoretical basis for the case was identified; (7) if a hypothesis or research
questions were described; and (8) if the article attempted a contribution to the development or
refinement of theory. This research addresses each of these areas to provide the clearest results.

*Technological Frames*

The theoretical framework for this study derives from the examination of technological
frames and frames of reference. Orlikowski and Gash (1994) developed a conceptual framework
for the study of technological frames of reference (TFR). This framework allowed for a
systematic approach to the analysis of the development and implementation of information
technology systems.

The theory of technological frames helps provide a mechanism to identify and analyze a
range of perspectives associated with technology interaction. The concept of technological
frames refers to the cultural and societal values, beliefs, and disciplinary assumptions made by
individuals in regards to the construction and use of technology (Forsythe, 1997). In a most
basic sense, technological frames examine how individuals view, interact with, and relate to
technology. While much of the work done around technological frames has focused on
communication and technology (Cook, 2002; Breuch. 2002), the concept has also bridged to
understanding online integration tools in the medical field (Forsythe, 1996). The concept of
technological frames helps question the cultural assumptions embedded in online interaction by
both programs and instructors (Forsythe, 1996). The concept also will be key in understanding
what frame of reference students are coming from in regards to their online education.

While the concept of technological frames does not provide a functionalized breakdown
or stage development in regards to an individual’s frame, it does proved structure for the
examination of individual’s social construction of technology. This study uses the examination of both student service providers’ and students social construction of technology to examine the role and effectiveness of online student services. This in turn will guide policy development and implementation by student services providers.

**Site and Population Selection**

This study focused on a southwestern community college in Arizona. The college serves approximately 75,000 students annually and has 168 transfer and occupational programs. A detailed breakdown of the educational and demographic characteristics of the chosen site can be obtained in [Appendix B](#). This site was chosen primarily due to the accessibility of both student and staff and the focus the institution has taken on developing online courses. A community college was chosen for two primary reasons. First, due to the researcher’s current position at one of these institutions, I had access to much of the documentation that help supported the research. Second, little research has been done on student services within community colleges and even less specifically in the arena of online student services. Third, in an attempt to join in the race for online education many community colleges are moving forward without the proper guidelines for the needed student support that must accompany a successful online program. This dissertation will help inform practice to develop a more comprehensive student support system.

**Data-gathering Methods**

In order to develop a greater understanding of online student services and their relationship to community college students, this dissertation utilized a case study approach based on qualitative research. Two primary tools were developed to facilitate the case study approach. First, an in-depth online student survey was developed to ascertain the use and level of
satisfaction students perceived from the current online student services system. Second, a multi-faceted qualitative approach consisted of twenty-one face to face interviews with both administrators and frontline student services support personnel, observations of staff and policy development meetings, and analysis of documents including student data base records and student email responses. Each of these tools will be developed further in their relationship to the primary research questions. The research utilized this wide range of sources as a means of increasing the validity of the study and developing a more comprehensive picture of the issues involved.

Survey

In order to gain insight into the impact of online student services an in-depth online survey was developed and implemented. A copy of the survey in (Appendix C) demonstrates how each area of the current online student services environment at the case study institution was broken down for analysis. The survey first asked students to provide basic personal and education demographic information. This allowed for a better understanding of the perspective from which students maybe viewing the online environment. Second, students were asked to evaluate each area of student services and how individual aspects of each area either positively or negatively impacted the students overall satisfaction. For example, within the counseling and advising sections students were asked to evaluate the virtual advising center as to usage of the service, satisfaction with that usage, and satisfaction in comparison to traditional advising support they may have received from the college. Through this process a more detailed description of the satisfaction and usage level of online services was obtained.

Survey Respondents
This survey was presented to all online users for the Spring 2007 semester. The reason for the selection of this population was to obtain feedback from students working in and familiar with the online environment. The assumption was made, and proven correct that many of the student taking online courses would have used both the online as well as the traditional forms of student services. They would therefore be in a place to provide a clear perspective of the level of satisfaction they had received from each method of delivery. Incentives in the form of a random drawing for book coupons were awarded to increase participation. After low initial responses repeated contact was also made with the instructors of online courses to ask for assistance in encouraging participation.

Survey Returns

The results of the survey provided a wide range of data from which to work. As noted, the survey was sent to all online course users for the Spring of 2007. Out of a possible 3364 students 488 students completed and submitted a response. While this constituted a large response the percentage was not as high as hoped. There are several factors that most likely influenced this response rate. First, the online environment is self-contained; therefore access to students within the system needed to go through the instructors of the course. They in turn were asked to post the information on how to access the survey. Most likely there were a significant number of instructors who were unable or unwilling to take the time to send the information out to their students. Second, as discussed earlier in the literature review community college students are facing a wide range of challenges in completing their educational goals. It is feasible that many did not have the time or energy to complete an additional survey on top of their regular course work or outside commitments. Finally, a few students contacted their instructors with technical challenges in accessing the survey. This was most likely due to the
student's individual computer capabilities rather than the survey itself. Attempts to address these issues and allow the students to complete the survey were usually successful however a few students selected to not complete the survey after understanding the computer process they would need to follow.

Below is a demographic breakdown of the survey respondents (Table 3.1). The majority of responses fall within previously outlined national descriptions for online users. Significantly more women than men responded which corresponds to a higher number of women both attending community colleges in general and taking more online classes (Halsne, 2002; Pineda and Bowes, 1995).

Survey Respondents vs. Overall Student Population

As can be seen below, the percentages within the student survey responses mirror the district totals within the case study community college with a few notable exceptions. The number of female students within in the college continues to be greater than the males, however within the survey this discrepancy was increased by an additional 17 percent. By age, student responses also followed the same general trends as the college. However, a significant increase in response within the survey was presented from the 31-50 age range. This is surprising considering that most of literature focuses on younger students being the primary users of technology. Finally, within ethnicity the significant difference between the two samples was with the white identifying students. There was a 15.5 percent increase from the general population to those completing the survey. This increase maybe due to economic factors or familiarity with technology that allows white students greater access to the online environment. Each of these areas was discussed further in the discussion chapter of this dissertation.

Table 3.1
### Demographics

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<th>Frequency of District Totals</th>
<th>Percent of District Totals</th>
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*7 Unanswered *516 Unanswered

### Age

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<th>Percent of Survey Results</th>
<th>Frequency of District Totals</th>
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<td>.2</td>
<td>6,700</td>
<td>23</td>
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<tr>
<td>18-22</td>
<td>128</td>
<td>26.2</td>
<td>14,022</td>
<td>48</td>
</tr>
<tr>
<td>23-30</td>
<td>178</td>
<td>36.5</td>
<td></td>
<td></td>
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<tr>
<td>31-40</td>
<td>96</td>
<td>19.7</td>
<td>3,792</td>
<td>13</td>
</tr>
<tr>
<td>41-55</td>
<td>74</td>
<td>15.2</td>
<td>2,506</td>
<td>9</td>
</tr>
<tr>
<td>&lt; 55</td>
<td>9</td>
<td>1.8</td>
<td>2024</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>488</td>
<td></td>
<td>29,069</td>
<td></td>
</tr>
</tbody>
</table>

*2 Unanswered *25 Unanswered

### Ethnicity
<table>
<thead>
<tr>
<th></th>
<th>Frequency of Survey Results</th>
<th>Percent of Survey Results</th>
<th>Frequency of District Totals</th>
<th>Percent of District Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native American</td>
<td>7</td>
<td>1.4</td>
<td>630</td>
<td>2</td>
</tr>
<tr>
<td>Indian/Alaskan Native</td>
<td>14</td>
<td>2.9</td>
<td>1,174</td>
<td>4</td>
</tr>
<tr>
<td>Black/ Non-Hispanic</td>
<td>330</td>
<td>67.6</td>
<td>15,041</td>
<td>52</td>
</tr>
<tr>
<td>White/ Non-Hispanic</td>
<td>19</td>
<td>3.9</td>
<td>1,055</td>
<td>4</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>112</td>
<td>23.0</td>
<td>8,167</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>488</td>
<td>100.0</td>
<td>29,069</td>
<td>*3,002 Unanswered</td>
</tr>
</tbody>
</table>

*6 Unanswered

**Student Satisfaction with Online Service**

The development of the survey was designed to answer the first research question. This question examines the level of satisfaction students reported that they received from online services compared to traditional methods. Each respondent was asked to rank the level of satisfaction they had experienced with the online environment as it compared to their experience in a traditional educational setting. Respondents were given the opportunity to disregard a question if they had either not used the online experience or the traditional service thus having no base line to compare the experience.

Each area was than further examined to better understand what aspect or aspects of the online service were either beneficial or frustrating to the student. The breakdown of areas varied slightly by department due to the focus on department specific functions. The overall level of
satisfaction of online services in comparison with in person interactions is broken out below. After each numerical examination, opened text box comments and interviews were examined to determine if responses supported or contradicted the findings from the survey.

Finally, the SSPS graduate pack 13.0 data analysis tool was utilized to run correlations measurements between areas of response and demographic factors of age and gender. Further comparisons were run between factors influencing the choice of an online system and satisfaction of online student services. These results were then analyzed to determine if any significant connection was reported.

**Student Emails**

To gain greater insight into the level of satisfaction students were facing in the online environment; student emails to the virtual advising Center (VAC) were examined. These emails were not examined for specific ideas due to privacy concerns; rather they were examined for general trends in regards to the nature of the questions. Through this breakdown a general sense of frustrations and satisfaction for different areas developed. The specifics of which are discussed in the findings section

**Observations**

The primary focus of the observations was to further my understanding of the environment within which student services personnel are situated as well as how the processes and procedures they utilize for online students were developed. Two primary environments were focused on as part of this study. The first are student services managers meetings and the second, student services policy updates session. Each of these were recorded and transcribed in an attempt to gather as much information as possible as to the development of online support services.
Over the Spring 2007 academic term eleven meeting observations were observed. The breakdown and description of these meetings is described in the findings section. For each of these observations, key issues were followed to ensure the clearest possible results. Mason (1996) outlined several key issues that need to be addressed when conducting observations. Among these are the roles one will play, the location, what notes to focus on, how to gain access, and how a relationship will be developed. The observation protocol included detailed note taking of both reflective and descriptive notes. Access was obtained through my connections with the campus. However, this access may have meant that the participants knew what I was doing and may have been impacted in the honesty or breadth of their conversations.

Approval was gathered from both the University of Arizona Human Subjects Review Board as well as the case study institution’s review board to ensure all ethical standards are upheld. Finally, a clear record of all documents was kept to ensure accuracy of information collected.

*Interviews*

Twenty-one interviews were conducted over the fall and spring of the 2006-07 academic year. These interviews were conducted of a wide range of staff, administrators, IT professionals, and instructors. A clear break down of interviews can be seen below. These candidates were selected for several reasons. First, a wide a range of work levels within the institutions were identified in order to secure an array in perspective from front line staff to upper administration. Second, within the different staffing levels an attempt was made to interview at least one individual from a campus working directly with technology and another working at an alternative campus focused on traditional service. Third, after examining the development process for both online education and online student services, individuals were selected for role
within the college as key decision makers. Finally, several candidates were identified within earlier interviews as having primary roles in early online student services development and were therefore asked to participate.

Permission to interview all candidates was obtained by first gaining approval from the case study institution for the overall study and specifically the interviews of staff. Second, interviewees were approached directly and asked to participate. Each was given a brief description of the research project and given an overview of what the interview would entail. The interviewees were then asked to sign a release form preapproved by both the University of Arizona and the case study institution. Every individual asked to participate agreed to do so and was scheduled for an interview. With the permission of each individual, interviews were recorded and later transcribed for further analysis. The interviews occurred over the course of the 2006-07 academic calendar year.

To ensure correct procedures are being utilized I followed the protocol for data collection set forth by Creswell (2003). Interviews were structured with an opening statement, general instructions, and an understanding between the parties that the interview will be recorded electronically. The decision to use interviews was based on the multiple aspects of information that they allow a researcher to gain access. Interviews provide an opportunity to see the lives of others through their eyes, gain insight into their inner thoughts, and a window into the past (Weiss, 1994). For this study, interviews provided a clearer picture of the complex world of student services providers, their interactions with online students, and the technological framework that they are working from. The details of these interviews and their connection to the research questions posed in this dissertation will be discussed in greater detail in the finding
section. The twenty-one interviewees and their relationship to technology at the case study institution are presented below (Table 3.2).

**Table 3.2**

**Interviewee Descriptions**

<table>
<thead>
<tr>
<th>Position Description</th>
<th>Primary Relationship to Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dean of Student Development Traditional Campus DTC</td>
<td>Indirect input into development process. Oversees staff beginning to transition into online support</td>
</tr>
<tr>
<td>2. Dean of Student Development Technology Campus</td>
<td>Direct input into development process. Directly oversees online support development and primary lead for online support staff.</td>
</tr>
<tr>
<td>3. Dean of Instruction Technology Campus</td>
<td>Front line input into development process. Directly oversees online course management and primary lead for online faculty.</td>
</tr>
<tr>
<td>4. Campus President</td>
<td>Senior administrator overseeing all online course development and most online student services development</td>
</tr>
<tr>
<td>5. Registrar</td>
<td>Lead developer of online admissions and registration support</td>
</tr>
<tr>
<td>6. Bursar</td>
<td>Lead developer of online financial support</td>
</tr>
<tr>
<td>7. Technology Advisor</td>
<td>Lead and until recently only online advisor</td>
</tr>
<tr>
<td>8. Program Advisor</td>
<td>Lead advisor for online program</td>
</tr>
<tr>
<td>9. Counselor Technology Campus</td>
<td>Lead counselor overseeing online advising</td>
</tr>
<tr>
<td>10. Counselor Traditional Campus</td>
<td>Minimal interaction with online support systems</td>
</tr>
</tbody>
</table>
11. Director Admissions/registration – traditional campus
   Direct oversight of frontline staff. Day to day email and telephone support of online admissions and registration services

12. Frontline Admissions/registration staff – technology campus
   Day to day email and telephone support of online admissions and registration services

13. Frontline Admissions/registration staff – traditional campus
   Daily admissions and registration services support with no support of the online services

14. Frontline Financial Aid Coordinator
   Limited support of both campus and federal online services

15. Online Webct Support Staff
   Daily trouble shooting of student issues with online educational environment

16. Online Course Program Coordinator
   Direct oversee of all online course development

17. Online Instructor
   Teaches multiple courses in the online environment

18. Curriculum Designer
   Direct oversight of district wide curriculum design, including online courses

19. District Admission Director
   Daily trouble shooting of online admissions and registration processes.

20. Outreach Coordinator
   Daily interaction with perspective students, connecting them to district home page for initial application and registration

21. Dean of Student Development
   Indirect input into development process. Oversees Traditional Campus DTC
   staff beginning to transition into online support
Data Analysis

Survey Analysis

The data collected from the online survey was analyzed in two ways. First, all numerical answers were examined for frequency to gain insight into the perceived satisfaction students indicate they are receiving in comparison to traditional in-person service. The numerical responses were also examined to determine what areas of the online services environment were rated more positively and which areas were not. The level of satisfaction indicated by the students was then compared to the level of development the institution has devoted to a particular area of online student service to determine if any connections existed. The results of this examination are provided in the findings section.

The second method by which the survey was analyzed was by breaking down the open-ended responses. This process occurred in order to both understand the students' reaction to the online services being provided and better understand how their view of technology might be impacting their responses. Again, using the concepts of technological frames, an open-coding method was used to analyze the language and ideas presented by student respondents to better understand their basic technological frame of reference. Codes were developed into several areas including access issues, ease of use of technology, levels of support, and areas of benefits/challenges. From this breakdown, a clearer picture into the students' perspectives surrounding technology and the development and delivery of online student services was obtained. The students' overall familiarity with technology and the online student services system was then taken into account to determine if connections exist between the technological frames of the students and their interactions with the online educational environment. The
results from this examination are provided in the findings and discussion sections of the dissertation.

**Qualitative Analysis**

All qualitative research tools, including observations and interviews were coded to develop a clearer understanding of the key issues. Specifically, qualitative results were examined to help develop the concept of technological frames and how this concept relates to the online student services environment. Interviews were transcribed and an open coding method was applied to the data. The coding categories were built around the theoretical perspectives of technological frames and developed around central themes. These themes surrounding technology included, proximity to work, degrees of interaction, level of understanding, and view of benefits/costs. These ideas emerged from the basic foundations of technological references articulated by Orlikowski and Gash (1994). Coding was flexible to allow for any potential categories to emerge that were not expected. As new categories emerged, some previous interview material was recorded to reflect the appropriate area.

While the theory of technology frames Orlikowski and Gash (1994), documented earlier, was the foundation for the initial question development and interview design, due to the fact that the theory had not been previously applied, as in this dissertation, a separate system was designed. After analyzing the responses and backgrounds of the interviewees four unique frames of reference where articulated. These four were designed to better analysis each response and how those responses related to one another (**Table 3.3**). The four are:

**Table 3.3**
### Technological Frames

<table>
<thead>
<tr>
<th>Title</th>
<th>Understanding of technology within Student Services</th>
<th>Use of technology within student services work environment</th>
<th>Primary positions</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(HH)</td>
<td>High Level Of technology Understanding and Development</td>
<td>High Level of Use as front line user or ongoing in development/oversight</td>
<td>Some Deans IT frontline staff</td>
<td>One director who had self selected to learn and become involved with technology development</td>
</tr>
<tr>
<td>(HL)</td>
<td>High Level Of technology Understanding and Development</td>
<td>Low Use of technology, may have some input into development but not on a regular basis</td>
<td>Most Deans and upper administration</td>
<td>Online course department director – limited daily technology interaction</td>
</tr>
<tr>
<td>(LH)</td>
<td>Low understanding of Technology Use and Development</td>
<td>High Level of Use as front line user or ongoing in development/oversight</td>
<td>Frontline staff in areas of advising, admissions, and financial aid</td>
<td>None</td>
</tr>
<tr>
<td>(LL)</td>
<td>Low understanding of Technology Use and Development</td>
<td>Low Use of technology, may have some input into development but not on a regular basis</td>
<td>Frontline staff at traditional service focused campuses</td>
<td>One counselor – self selecting to avoid technology use</td>
</tr>
</tbody>
</table>

**Technological Frames by Position**

As noted in Table 3.3, the technological frames were primarily composed of similar staff positions. For example, most (HL) frames were upper administration or directors. This was not surprising given the nature of the work that each of the individuals do on a daily basis. When employees were required to work with the online system on a daily basis but were not given any opportunity to be part of the development or planning stage they found themselves in the (LH) frame. The exception to the norm seemed to be individuals who had made a conscious effort to
either remove themselves from the online process entirely or work to become actively involved. It was therefore critical to examine each individual’s responses rather than rely on their position within the institution.

Pilot Study

A pilot study including several interviews and a brief test of possible survey questions was completed prior to the initial proposal process of this dissertation. Initial testing revealed several major concepts and themes that emerging from the multiple methods. Overarching themes include effectiveness of online student service being provided, the impact of the service, level of policy development in regards to service and online learners, the level of faculty involvement, and the impact on developmental students. These themes are further developed and expanded in the findings and discussion sections.

Pilot Study Findings

While the full survey for students was still being developed at the time of the pilot study, an initial series of interviews with student services providers was completed. Furthermore, several student/staff were asked to complete the draft survey to test for ease of use and basic understanding by students. The results of these survey tests did not provide a large enough data pool for great analysis, however they did serve their objective of pointing out minor structural and wording concerns. Several areas of open text response were added to allow for more unstructured feedback from the students. Furthermore, in response to concerns, institutional terms such as the VAC were either eliminated or explained to avoid confusion. Each of these concerns were addressed before the actual survey was administered.

Pilot Study Interviews
The primary research method for the initial pilot study consisted of four academic advisors’ and counselors’ interviews. The findings of this study focused on a series of themes including; level of service being provided, the impact of the service, policy development in regards to service and online learners, the level of college participation, and the impact on high risk students. Each of these gave insight into the role and impact of advising and counseling on online students.

**Level of Service Provided**

All of the staff interviewed expressed concern about the level of service being provided to our online learners. All of those interviewed pointed to the online advising email system as the only clear tool currently being used to address the advising and counseling needs of online learners. However, when asked what tools or services could be provided most respondents were either unsure of alternatives or had a vague idea of possible tools that could be used. One of the advisers did have a few suggestions including online chat rooms, creating a more welcoming environment, and direct follow up with all online students.

**Impact of Service**

There was a disconnect between staff in regards to the impact of the service currently being provided by advisors and counselors to online students. The disconnect seemed to relate to how directly the staff interacted with online students. Several interviewees who did not work directly with the online support systems indicated that the level of service was lacking and needed improvement. However, this was in contrast to a staff member who was in charge of the VAC (virtual advising and counseling) service. She indicated that while challenging, she still felt they were providing a high level of service. This was interesting because the expected outcomes entering the research process were actually the reverse. It was expected that those
closer to the service would see that we really were not meeting the needs of students with the limited resources available to them, while those farther from the issue may think abstractly that we must be providing some sort of service. This outcome raised the question as to why those more knowledgeable with a system would frame the service in a better light then those only superficially aware of the service. It may have been that those closest to the online system had the greatest level of personal investment and therefore would want to portray the service in the best possible light.

Policy Development

Many of the interviewees detailed the fact that, in their perception, there had been no formal online service development process. Formal policy development in regards to online education seems minimal if not completely missing. When asked about the informal meetings, and if students were involved so their input could be gained the respondents resoundingly stated no.

The primary development of policy in regards to online advising and counseling seemed to come from the front line practitioners just trying to serve students. One counselor expressed her concern with the administrations lack of support in policy development around the issue.

Administration doesn’t really seem to care. They build the online courses with really no thought as to how we are supposed to offer these students any services. To top it off, now we have hundreds of students and the college hasn’t hired any additional staff to help with coverage. I don’t know what they are thinking.

(Counselor Technology Campus)

Here the staff member is expected to speed up and tack on increased workloads to support the new online service. This frustration crossed over to most of the other participants both in
administrative staff support and lack of overall planning. This theme of lack of coordination and communication was further examined in the final research.

*College Participation*

The issue of college wide participation and involvement in the online service environment was raised as a concern by many of the interviewees. Each expressed concerns as to the level of support being offered by each campus. This concern was not only with staff but also focused on the need for faculty interaction. As was noted earlier the need for faculty buy-in is critical for a successful online program, however was surprising how the respondents articulated this need when it came to advising and counseling. Several staff indicated that due to the daily interaction that faculty had with students, it was critical that they were trained and encouraged to provide online student service support. While there was some concern as to the level of support faculty maybe both willing and able to do, consistently interviewees felt that faculty could provide entry level support that would be beneficial to students.

The connection with faculty developed as a consistent theme both from the interviewees and the student surveys. The full findings of these are explored fully in the discussion and findings sections.

*High Risk Students*

One unexpected outcome was the responses in regards to the impact online services may have on high risk students. These concerns focused both on the educational and financial level of students entering the college. Several interviewees expressed their concern in regards to the shift towards providing online developmental courses. With the increasing number of student requiring development courses, the concern was raised as to whether the online environment would be appropriate and supportive enough for this cohort of students. Concerns were also
raised as to the financial demands placed on students with the integration of technology into the educational environment. Several interviewees noted that student that students without computer access would not be able to benefit from the online services the college was trying to develop.

Pilot Summary

While these preliminary findings gave some insight into the relationship of student services and online education, the true impact on online learners was only understood after completion of this study. The results will inform practice so that community colleges can effectively serve this ever growing online cohort of students.

Validity and Ethical Consideration

Throughout this research every effort was made to ensure that reliable data collection and analysis are conducted. Utilizing a triangulation approach I worked to increase the validity of my findings. By capturing data from multiple measures and methods including interviews, observations, and documentation analysis, a study can overcome many of the weaknesses in any one method (Denzin, 2001). By building on of the multiple qualitative methods, data was examined to ascertain whether common threads emerged giving a clearer understanding into state of online service within the institution.

This project proposal was presented to the Human Subjects Committee of the University of Arizona. In compliance with the rules of the committee, Subject Consent forms were signed by each interview participant. As noted earlier, subjects were also notified that the recordings will be taped for future transcription and coding. In order to encourage honest feedback the identity of all involved was kept confidential.

Positionality
An important factor that impacted this research is that of my position within the case study institution. While this position allowed me to gain access to many individuals and resources, it also has the potential to adversely impact the findings. I have been an employee of the case study institution for five years. My current position is that of Director of Enrollment Services at the technologically focused campus. I have been in that role for three years. During that time I have worked directly or indirectly with each of the interview subjects. I have also been an active member of the planning committees for several areas of online student services including the web page design, and admissions and registration. Currently, I am helping to analyze the college’s online assessment possibilities. Using previously discussed methods I have attempted to limit my influence on the research findings but recognize that some bias may exist.

Limitations

There are several limitations to this study. First, my decision to conduct a single case study limited the generalizability of the study but at the same time provided a greater depth of knowledge to the issues at hand. Second, the number (488) of responses that was gathered from the online survey was not nearly as high as originally hoped. Though incentives were offered to encourage participation, the risk that I might get a limited or unbalanced representation from the student population was found. A further discussion of both the challenges this posed as well as the remaining benefits is presented in the results section. Third, as far as I have been able to determine, the concept of technological frames has not been previously applied to online student services. Finally, while I made every attempt to try to remain as unbiased as possible, I am an employee of this institution and it is unknown how my knowledge of both the institution and staff participants may have influenced the responses. However, my position as an insider also allowed for access to staff meetings, and institutional statistics that may not have otherwise been
available. Furthermore, a personal knowledge of the institution gave me insight into who the key stakeholders were, specifically to the development of the online environment.
CHAPTER FOUR: FINDINGS

This chapter presents the findings of this qualitative study, the purpose of which was to better understand the impact of online student services on community college students. An analysis of the survey and interview results are presented, followed by a discussion of their relationship to the primary and secondary research questions. The first research question examined was, how does the level of student satisfaction compare between online student services support and the level of support students feel they receive from traditional methods? To better understand the complexity of the interaction between students and student services, several defining questions were also posed. These questions included, what factors influence the level of satisfaction that students indicate they are experiencing and what areas of student services are students gaining the greatest satisfaction from and why?

Survey Results

Survey Issues

For each area within student services, online student respondents were given an opportunity to rate their level of satisfaction in comparison to in-person services they had previously received. These comparisons do not generate responses that indicate one method of delivery is superior to another. However, they do provide insight into the level of satisfaction in regards to students’ online experience. Those who had not used the online method of service were given the opportunity to opt out of a given question by selecting N/A as an option. The ramifications of such a high number of N/A responses are discussed in the conclusion of this dissertation. However, for each of these students, a comparison between traditional and online service was not possible.
Admissions/Registration

The first area of examination was that of admissions and registration. Though unique in their functions, the two areas are treated as one department within the case institution. Within the institution, the most integrated approach to online student services has been done in the area of admissions and registration. Over the past three years, the district registrar’s office as well as on-campus sites have prioritized the integration of online services into the overall student services available to students. This has contributed to the high number of positive student responses reported within the survey. As seen in Table 4.1.1, admissions/registration results showed 376 out of 488 (77.1 percent) of student respondents who had used both forms of service, indicated that they were either satisfied or very satisfied with the level of online service in comparison to traditional in-person contact that they had received. According to district administrators, efforts have been made to create a completely online system through which a student may apply, be accepted, and register for class without ever setting foot on campus. One leader within the online development process stated,

We have really tried to get students online as much as possible. Early on we moved to an online application and more recently have added the student portal which allows students to access almost everything they would on campus online.

(Technology Support Staff)

This online development effort may be a factor in the high level of satisfactory responses students reported from their online services experience.
Within the admissions/registration section of the survey, respondents were asked about their level of satisfaction in regards to individual aspects of their experience, such as online payments and registrations. One particular area to note was that of the online application system. As seen in Table 4.1.2, of the 488 students surveyed, 347 had used the online application process. Out of those 347, only ten indicated that they had a negative experience with the process.
Table 4.1.2

Satisfaction with the Online Application Process

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>120</td>
<td>24.6</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>178</td>
<td>36.5</td>
</tr>
<tr>
<td>Satisfied</td>
<td>159</td>
<td>32.6</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>10</td>
<td>2.0</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>488</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*21 Unanswered

The online registration section of the survey also reflected an overall high level of satisfaction by students. As shown below in Table 4.1.3, 321 out of the 364 respondents (88.2 percent) who had used online registration indicated it was a very positive or somewhat positive experience. However, in comparison to online admissions, there was a slight increase; 43 students in comparison to 10, of those who had had a negative experience. 43 out of 247 respondents (17.4 percent) who had used online registration services indicated that they had a less than positive experience.
### Table 4.1.3

#### Quality of Registration Feedback

<table>
<thead>
<tr>
<th>Quality</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>114</td>
<td>23.4</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>109</td>
<td>22.3</td>
</tr>
<tr>
<td>Satisfied</td>
<td>207</td>
<td>42.4</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>32</td>
<td>6.6</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>11</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>488</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*15 Unanswered

### Age and Gender Correlation

For each area of online student services a descriptive analysis was run to determine if any correlation existed between the age or gender of the students and the level of satisfaction with a given online service. For admissions and registration no significant correlation was found with either age or gender.

### Table 4.1.4

#### Registration Online Vs In-person

<table>
<thead>
<tr>
<th></th>
<th>*Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.060</td>
<td>.076</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.195</td>
<td>.097</td>
</tr>
<tr>
<td>N</td>
<td>472</td>
<td>477</td>
</tr>
</tbody>
</table>

*Gender: 1=Female, 2=Male
Registration/Banner Text Responses

When given the opportunity to submit additional comments, six students stated directly that the ease and convenience of the registration and the online student information system or (Banner system) was the most beneficial aspect of online student services. Here again, access played an issue, “registration for classes and paying my tuition online is convenient and makes it much easier to take classes.”

Admissions/Registration Impact on Online Experience

Beyond asking each student to compare his online experience to in-person services, students were also asked to evaluate the level of significance each area of online student services support had on their overall online experience as a student. Demonstrated below in Table 4.1.5, the online admissions and online registration processes, though sometimes viewed collectively within higher education, had very different impacts. The scale ranged from one, having the least level of impact, to seven, having the greatest impact. Respondents presented a wide range of perspectives, with the largest number, 157 out of 473 (33 percent), rating registration as having had the greatest impact, while the largest number of responses for admissions, 109 out of 467 (23 percent), indicated that admissions had the least level of impact.
Table 4.1.5

Impact of Admissions on Overall Satisfaction

<table>
<thead>
<tr>
<th>Level of Impact</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least 1 – Greatest 7</td>
<td>488</td>
<td>100.0</td>
<td>488</td>
<td>100.0</td>
</tr>
<tr>
<td>1</td>
<td>21</td>
<td>4.3</td>
<td>15</td>
<td>3.1</td>
</tr>
<tr>
<td>2</td>
<td>109</td>
<td>22.3</td>
<td>51</td>
<td>10.5</td>
</tr>
<tr>
<td>3</td>
<td>32</td>
<td>6.6</td>
<td>20</td>
<td>4.1</td>
</tr>
<tr>
<td>4</td>
<td>41</td>
<td>8.4</td>
<td>30</td>
<td>6.1</td>
</tr>
<tr>
<td>5</td>
<td>75</td>
<td>15.4</td>
<td>72</td>
<td>14.8</td>
</tr>
<tr>
<td>6</td>
<td>60</td>
<td>12.3</td>
<td>63</td>
<td>12.9</td>
</tr>
<tr>
<td>7</td>
<td>57</td>
<td>11.7</td>
<td>80</td>
<td>16.4</td>
</tr>
<tr>
<td>8</td>
<td>93</td>
<td>19.1</td>
<td>157</td>
<td>32.2</td>
</tr>
</tbody>
</table>

Advising/Counseling

In the area of online advising, results demonstrated a much lower level of satisfaction. While the majority, 154 out of 190 (81 percent), of students who had used this online service still ranked the experience as either very satisfactory or satisfactory, the percentage of somewhat dissatisfied and dissatisfied respondents increased dramatically to 36 out of 190 (19 percent), in comparison with other areas of service, such as registration, that showed only 43 out of 359 (12 percent) in the negative range.
Table 4.2.1

Counseling Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>284</td>
<td>58.2</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>53</td>
<td>10.9</td>
</tr>
<tr>
<td>Satisfied</td>
<td>101</td>
<td>20.7</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>23</td>
<td>4.7</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>13</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>488</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

* 14 Unanswered

A distinct finding in the responses regarding online services and counseling/advising was the disconnect between respondents indicating that they had used online counseling services and those who had used the virtual advising center (VAC). As seen below, 113 students indicated that they had used some form of online support other than the formal VAC system. Students may have been using the VAC simply not knowing the formal title of the system or may have bypassed the system altogether and focused on e-mail or other online support to receive counseling/advising help.

In whatever form the respondents were using online advising, the results a high number, 247 out of 285 (86 percent), of the users ranked the experience as positive, while 38 out of 285 (13 percent) ranked their experience as negative, and a large number, 185 never used the service.
Table 4.2.2

<table>
<thead>
<tr>
<th>VAC Online vs. In Person</th>
<th>Use of VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Did not use</td>
<td>185</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>87</td>
</tr>
<tr>
<td>Satisfied</td>
<td>160</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>31</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>488</td>
</tr>
</tbody>
</table>

*18 Unanswered *16 Unanswered

Advising/Counseling Text Responses

Open ended comments from students also expressed concern with the level of satisfaction they had experienced in regards to advising and counseling.

Sometimes it is difficult to get an answer quickly; I find it’s easier to go in or call directly. (Student Response)

They don’t always get what I am asking, they usually figure it out after a few times, but it can be a hassle. (Student Response)

The greatest area of concern, as mentioned previously, continued to be the lack of access when needed,

the only thing that would make it better would be to not shut down the system when I need it. (Student Response)
Advising and counseling services within any institution of higher education and specifically community colleges are a critical area of student services support. Given their high risk population, community colleges must ensure that students are getting the advising services necessary to be successful. The comments quoted above support the observation that currently they are not receiving adequate support from the online services of the case study institution.

**Age and Gender Correlation**

In the area of counseling and advising, there was again, as can be seen in Table 4.2.3, no significant correlation between either age or gender and the findings.

**Table 4.2.3**

VAC Online Service Vs In Person

<table>
<thead>
<tr>
<th></th>
<th>*Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.001</td>
<td>.038</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.977</td>
<td>.415</td>
</tr>
<tr>
<td>N</td>
<td>465</td>
<td>470</td>
</tr>
</tbody>
</table>

*Gender: 1=Female, 2=Male

**Advising/Counseling Impact on Online Experience**

The overall impact that advising and counseling had on students’ satisfaction was again fairly diverse. As with admissions, the largest number (129) of respondents in Table 4.2.4 fell in the category of least level of impact on the overall student experience. However, as with admissions, this may be due to whether or not a student actually used the online services available.
### Table 4.2.4

**Advising Impact**

<table>
<thead>
<tr>
<th>Level of Impact</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23</td>
<td>4.7</td>
</tr>
<tr>
<td>2</td>
<td>129</td>
<td>26.4</td>
</tr>
<tr>
<td>3</td>
<td>47</td>
<td>9.6</td>
</tr>
<tr>
<td>4</td>
<td>63</td>
<td>12.9</td>
</tr>
<tr>
<td>5</td>
<td>76</td>
<td>15.6</td>
</tr>
<tr>
<td>6</td>
<td>56</td>
<td>11.5</td>
</tr>
<tr>
<td>7</td>
<td>37</td>
<td>7.6</td>
</tr>
<tr>
<td>7</td>
<td>57</td>
<td>11.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>488</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Student Activities/Leadership**

One area of student services that is just being developed by the case study institution is that of student activities/leadership. Online serves such as activities announcements and ways for students to sign-up or receive additional information have been implemented only over the past two years. It was, therefore, rather surprising to note that almost half of the respondents indicated that they had used some area of online student services connected to student activities/leadership. In Table 4.3.1, out of a possible 488 individuals, 228 indicated that they had used some of the areas that they regarded as pertaining to student activities or leadership.
Out of those who had sought out and used the services, the responses were very positive.

However, the opportunities within the online services of this area did not have the impact of others.

**Table 4.3.1**

**Student Activities Online Vs In person**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>241</td>
<td>49.4</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>66</td>
<td>13.5</td>
</tr>
<tr>
<td>Satisfied</td>
<td>143</td>
<td>29.3</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>13</td>
<td>2.7</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>6</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>488</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*19 Unanswered

There were also discrepancies between the number of students stating they had used online student activities and those rating the level of response. 228 indicated they had some interaction with online services; however, only 146 indicated responses from the student activities events and 103 from quality of response indicated any level of satisfaction. This could again relate to what students are qualifying as online services within student activities.
Table 4.3.2

<table>
<thead>
<tr>
<th>Student Activities and Events</th>
<th>Student Activities Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Did not use</td>
<td>323</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>38</td>
</tr>
<tr>
<td>Satisfied</td>
<td>81</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>18</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>488</td>
</tr>
</tbody>
</table>

*19 Unanswered

*23 Unanswered

*Student Activities Text Responses*

The institution has recently moved to offering more resources online for students looking to become involved with the campus as well as resources supporting clubs or individuals already active within the campus community. In fact, due to the short existence of support, one of the directors of enrollment services was hard pressed to articulate what online services there were,

We have some services for students online…I guess you could say the online activities calendar is one and um….. well we do have web pages where students can get info and ways to get a hold of staff. (Director Admissions/registration)

While staff struggled to articulate the opportunities and challenges of online student activity support, students failed to indicate any strong feelings towards the area. The open ended questions provided no direct responses toward student services and activities on either a negative
or positive level. One implication is that while some of the respondents had used the service and generally felt positive about it, the impact was not strong enough to result in a conscious effort to comment on their experience. An alternative explanation is that the students may not be aware of the impact at all.

Age and Gender Correlation

In the area of student activities, there was a significant correlation found between the gender of the respondent and the findings in Table 4.3.3, but, as with previous areas, no correlation with age was evident.

Table 4.3.3

<table>
<thead>
<tr>
<th>Student Activities Online Vs In Person</th>
<th>*Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.097(*)</td>
<td>-.087</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.037</td>
<td>.061</td>
</tr>
<tr>
<td>N</td>
<td>464</td>
<td>469</td>
</tr>
</tbody>
</table>

*Gender: 1=Female, 2=Male

Financial Aid

One area of critical importance to many students of higher education is that of financial aid. What level of support students are seeking in terms of financial aid is unknown; however, 42.9 percent indicated that they had had some online services experiences with financial aid. Again, possibly due to limited services currently available, the negative response was higher in this than in other areas. As can be seen in Table 4.4.1, 19.2 percent of student respondents
indicated that they had a less than satisfactory interaction in the online environment of financial aid in comparison to in person support that they had received in the past.

Table 4.4.1
Financial Aid Online Vs In Person

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>275</td>
<td>56.4</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>48</td>
<td>9.8</td>
</tr>
<tr>
<td>Satisfied</td>
<td>105</td>
<td>21.5</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>25</td>
<td>5.1</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>17</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>488</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* 18 Unanswered

Many institutions have struggled with what tools they can offer in an online environment due to the confidential and unique nature of the financial aid process. The case study institution is no different. Until recently, the limited online support was in the form of general frequently asked questions, contact information, and the base level support from online academic advisors. More recently, the institution has begun utilizing an online chat system staffed by members from multiple areas of student development. The addition of a financial aid coordinator to this support team has increased the level of service that may be offered through the online environment.
Age Gender Correlation Issues

In the area of Financial Aid, there was, again, no significant correlation to be found between either age or gender and responses in this area (Table 4.4.2).

Table 4.4.2

Financial Aid Online Vs In Person

<table>
<thead>
<tr>
<th></th>
<th>*Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.010</td>
<td>.004</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.826</td>
<td>.923</td>
</tr>
<tr>
<td>N</td>
<td>465</td>
<td>469</td>
</tr>
</tbody>
</table>

*Gender: 1=Female, 2=Male

Student Information System

Higher education institutions across the country use various student information systems to help process the vast amounts of information that need to be maintained for each individual student. As defined earlier, the case study institution has utilized the student information system Banner for the past seven years. A very high level of survey student respondents, 406 out of 488 (Table 4.5.1), indicated that they had a satisfactory or very satisfactory experience with the Banner online system in comparison with in-person services that they had received. One of the advantages of this system is that it has the capacity to allow students to access their own accounts online to interact with and update their own personal information. Additionally, Banner assists them in connecting to fellow students, staff, and faculty.
Table 4.5.1

Banner Online Vs In-Person

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use</td>
<td>31</td>
<td>6.4</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>159</td>
<td>32.6</td>
</tr>
<tr>
<td>Satisfied</td>
<td>247</td>
<td>50.6</td>
</tr>
<tr>
<td>Somewhat Dissatisfied</td>
<td>28</td>
<td>5.7</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>3</td>
<td>.6</td>
</tr>
<tr>
<td>Total</td>
<td>488</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*20 Unanswered

Age and Gender Correlation

Finally, in the Banner online services, there was, again, no significant correlation between either age or gender and the responses (Table 4.5.2).

Table 4.5.2

Banner Online Vs In-person

<table>
<thead>
<tr>
<th></th>
<th>*Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.042</td>
<td>.028</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.370</td>
<td>.544</td>
</tr>
<tr>
<td>N</td>
<td>463</td>
<td>468</td>
</tr>
</tbody>
</table>

*Gender: 1=Female, 2=Male
Open Ended Responses

The most substantive information about the level of satisfaction that students felt they were receiving from the online experience came from the open ended questions included in the survey. Here students were asked broad questions concerning the most beneficial areas of online student services and about areas that needed the greatest level of improvement. Answers relating to specific areas of student services have been mentioned previously. General comments from students focused on a wide range of issues, but they did tend to fall into several categories, including access, faculty/staff interactions and areas needing improvement.

Access

In regards to areas students considered most beneficial, several common themes emerged. The most prominent of these was access. The initial question posed to students was, what were the influencing factors that lead students to utilize the online student services and educational opportunities. Ranked as most important to the interviewed students was the flexibility of access, both in regards to transportation and to working around outside time commitments. Several students summarized this idea in their open ended statements,

The flexibility was the most important for me. I have a hard time fitting the rest of the things I want to do in a week, so online is perfect. The ability to get support whenever I need it from home without having to commute allows me as a student to obtain the greatest possible educational value from the course. (Student Response)

Another student wrote of the opportunity to take courses presented through the online environment,
I live 60 miles away and could not attend if it were not for online courses. In general everything seems to be set up well and there is adequate time for students to make plans and research options in courses, books, etc. The school does a better job than many. (Student Response)

The fact that access was the most significant issue to student respondents is not surprising. Several authors, including Hagie and Hughes (2005), found that the most frequent positive comments (65% or 35 out of the 54) related directly to issues of access or to the timing aspects of learning online.

*Faculty/Staff Interaction*

One of the areas of greatest concern voiced by critics of online education is the loss of interaction between students and the campus faculty and staff. However, for at least some of the student respondents, staff interaction was singled out as being the most beneficial area to their educational experience.

I get the information I need very quickly. (My advisor) has always been great getting back to me quickly. I have had really great teachers and staff that are great about responding to my questions/concerns. (Student Response)

For some students, the anonymity of the online environment also provided a more comfortable arena in which they could express themselves.

I don’t usually like to talk much in class, but I have no problem typing an e-mail to a teacher or another student. It makes it much easier to ask questions. (Student Response)

It is clear that for some students the online support from faculty can have a positive impact, even more so than the traditional classroom may offer.
Areas of Improvement

The open ended responses also provided a wide amount of detail into what students would like to see improved within online student services. Overall, the largest area of concern fell into the prominent theme of access, while a smaller number of students looked for improvements in areas including faculty/staff interaction and technical support.

Access

The greatest area of concern expressed by students was access. For online students, the limited timeframe that the online student system was open restricted the level of support that students could receive. The case institution only offers personal support from 7:00 a.m. to 7:00 p.m.

If I have a problem at night there usually isn’t anyone to help. It is really frustrating because I work all day and thought it would be easier to take a class at night. (Student Response)

The issue of continuous support was brought forth by many students as their major concern.

The service is great; the thing that could be improved would be to not shut down the system at all. (Student Response)

This lack of support from the institution, lead to increased frustration among students and to the loss of potential benefits provided by the online environment.

Another area of access that students expressed concern with was technical support. Several students found the computer connections too slow or that they did not work for them at all. Others, with different computing platforms, such as MAC, also struggled,
I wish they had more support for MAC users. Connecting to the system was a real challenge. I have been successful with a little finagling, but I am not sure the novice MAC user would be so lucky. (Student Response)

At the case study institution, students using the online system must first use a computer to access and activate their connection to the system. Students sometimes found that even once they were in the system they could have difficulties;

   The (student services support portal) does not always work properly. It often logs out after a few minutes and I have to try and re-log in and send e-mails again.  (Student Response)

Others looked to the school to invest more in the technical support,

   The school has failed to pay for full subscriptions of online services such as turnitin.com, making it difficult for our typed assignments to flow freely from student to instructor and back. (Student Response)

The concerns voiced by students in regard to access issues and technical support are significant, due to the fact these concerns cancel the potential benefits in online education.

*Faculty/Staff Interaction*

   While noted by many students as one of the strengths of the institution’s online services, many other students also found the interaction with staff to be very frustrating.

   Some teachers provide little to no feedback.” Others tried to work with staff online and found they were unable to resolve their issues, “I have been going for almost five semesters and have never had a single one (request for assistance) that did not require me to actually go into the financial aid office. (Student Response)
In this area, it is clear that the level of satisfaction in many cases was dictated more by the individual experience rather than by the system itself.

Technical Support

As this is the early stage of development for this institution’s online support system, it is not surprising that another area of concern was that of technical issues. Several students had concerns with their inability to submit questions over the internet to teachers and advisors.

The main reason I was dissatisfied with advising was the two times that I tried to use that feature, I can never submit (through the online process) my question. I have not tried since, afraid it will happen again. (Student Response)

Others struggled when the system was down for repairs or due to technological challenges,

I have assignments due at midnight and the system goes down at 11:00pm; the whole thing was really frustrating. (Student Response)

This demonstrates the challenge of an online system that has not developed fulltime online technical support.

Admissions/Registration Staff Self Evaluation

A separate survey was done to gain insight into the experience and mindset of frontline staff. While the survey only targeted the admissions and registration area within student services, the information provided a unique look into the case study institution. Respondents were asked to rate the different areas in Admissions and Registration, including admissions services, records, registration, veterans services and graduation services. The “Very Satisfied” or “Satisfied” responses ranged from 55.1% (Admissions service - Online) to 96.6% (Class registration - In person). Key individual results from Table 4.6.1 were:

- Admissions service - Online, 55.1% were “Very Satisfied” or “Satisfied”
- Admissions service - In person, 82.8% were “Very Satisfied” or “Satisfied”
- Student records - Online, 79.3% were “Very Satisfied” or “Satisfied”
- Student records - In person, 92.8% were “Very Satisfied” or “Satisfied”
- Class registration - Online, 64.3% were “Very Satisfied” or “Satisfied”
- Class registration - In person, 96.6% were “Very Satisfied” or “Satisfied”
- Veterans services, 55.2% were “Very Satisfied” or “Satisfied”
- Graduation services, 78.6 were “Very Satisfied” or “Satisfied”
- Overall service rating (Admissions, Registration, Student Records, Veterans and Graduation), 82.8% were “Very Satisfied” or “Satisfied”

**Table 4.6.1**

**Admissions/Registration Staff Self Evaluation**

<table>
<thead>
<tr>
<th></th>
<th>Very Satisfied N</th>
<th>Satisfied N</th>
<th>Neutral N</th>
<th>Dissatisfied N</th>
<th>Very Dissatisfied N</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions - Online</td>
<td>5 17.2%</td>
<td>11 37.9%</td>
<td>7 24.1%</td>
<td>6 20.7%</td>
<td>0 0.0%</td>
<td>29 100.0%</td>
</tr>
<tr>
<td>Admissions - In Person</td>
<td>10 34.5%</td>
<td>14 48.3%</td>
<td>4 13.8%</td>
<td>1 3.4%</td>
<td>0 0.0%</td>
<td>29 100.0%</td>
</tr>
<tr>
<td>Student Records - Online</td>
<td>5 17.2%</td>
<td>18 62.1%</td>
<td>5 17.2%</td>
<td>1 3.4%</td>
<td>0 0.0%</td>
<td>29 100.0%</td>
</tr>
<tr>
<td>Student Records - In Person</td>
<td>9 32.1%</td>
<td>17 60.7%</td>
<td>2 7.1%</td>
<td>0 0.0%</td>
<td>0 0.0%</td>
<td>28 100.0%</td>
</tr>
<tr>
<td>Class Registration - Online</td>
<td>5 17.9%</td>
<td>13 46.4%</td>
<td>6 21.4%</td>
<td>2 7.1%</td>
<td>2 7.1%</td>
<td>28 100.0%</td>
</tr>
<tr>
<td>Class Registration - In Person</td>
<td>10 34.5%</td>
<td>18 62.1%</td>
<td>1 3.4%</td>
<td>0 0.0%</td>
<td>0 0.0%</td>
<td>29 100.0%</td>
</tr>
<tr>
<td>Veterans Services</td>
<td>4 13.8%</td>
<td>12 41.4%</td>
<td>7 24.1%</td>
<td>5 17.2%</td>
<td>1 3.4%</td>
<td>29 100.0%</td>
</tr>
<tr>
<td>Graduation Services</td>
<td>4 14.3%</td>
<td>18 64.3%</td>
<td>6 21.4%</td>
<td>0 0.0%</td>
<td>0 0.0%</td>
<td>28 100.0%</td>
</tr>
<tr>
<td>Overall Service Rating</td>
<td>6 20.7%</td>
<td>18 62.1%</td>
<td>5 17.2%</td>
<td>0 0.0%</td>
<td>0 0.0%</td>
<td>29 100.0%</td>
</tr>
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Observations

Over the Spring 2007 academic term eleven meeting observations were conducted. Two primary environments were focused on as part of this study. First were student services managers meetings, and second were student services policy update sessions. Each of these was recorded and transcribed in an attempt to gather as much information as possible as to the development of online support services.

The first set of meetings observed were student services managers meetings. These consisted of managers from all of the campuses throughout the district. Meetings were usually held at the district offices and were coordinated by an administrative lead staff member. During these meetings, issues surrounding ongoing programs, implementation of new ideas and current problems were addressed. Two significant findings came forth from the observations of these meetings in regards to the online student services environment. First, the meetings demonstrated that each of the managers had a uniformly high level of understanding of the online environment. This understanding was characterized by detailed discussions of online processes. However, the second finding was that even though this high level of understanding existed, each of the campus managers looked to either the district office or to the campus with a higher level of technology usage to take the lead with development or with addressing student issues. This seems to be a disconnection, since, if the knowledge exists on all campuses, one might logically expect that managers would not transfer issues to other areas.

The second set of meetings that were observed were student services policy update sessions. These consisted of a lead administrator and frontline admissions/registration/counseling/financial aid staff from the high technology use campuses. The observations from these meetings provided insight into both the frontline services being
offered and the perspectives between and among campuses being generated by the current structure. In regards to frontline services, reports were presented indicating the continued growth in services Table 5.1

Table 5.1
Virtual Advising Center Responses

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</table>

Percent Increase  1.7%  Increase  22.8%  Increase

While these numbers only reflected changes in online advising, this table captured the reoccurring theme of increased demand for services in all areas. This growth was supported verbally by frontline staff in admissions and registration.

I know we have a lot more people trying to register online, even for noncredit classes. They are constantly calling with problems. (Observation 1, Frontline Staff Comments)

Even though the significant increase in online services was accepted by the departments, no additional staff members were brought on to support the online services. This led to the second observation to be made from the meetings, that of frustration between campuses. Several staff indicated,
I can’t understand why other campuses transfer calls to us, can’t they help students online. (Observation 1, Frontline Staff Comments)

Another staff member voiced her concern as to the lack of increased support,

I mean they have talked about having other campuses help with the VAC; so far it’s just me. (Observations 1 and 2, Frontline Advisor)

These concerns have lead to an overall feeling of isolation in regards to supporting online students.

Interviews

The sample consisted of twenty-one interviews of staff, administrators, technology professionals and instructors. These interviews also demonstrate how the technological frame from which individuals are approaching online services impacts the development, level and quality of the online services students receive. The focus of these interviews was to better understand the second research question. Specifically, how does the technological frame of both community college students and student services providers influence the ability of community college students to access and receive services from student development support? Secondarily, what are the assumptions that are made by online student services providers in regards to the technological frames of community college students and does the framework differ between traditional student services providers, such as advisors and counselors, and new providers, such as online technology designers? Finally, do these assumptions impact the policy development of online student services within the institution?

Technological Frames

As stated previously, the concept of technological frames refers to the cultural and societal values, beliefs and disciplinary assumptions made by individuals in regards to the
construction and use of technology (Forsythe, 1997). In a most basic sense, technological frames examine how individuals view, interact with and relate to technology. Through the interview process, several major themes were identified that helped examine the technological frames of reference through which the subjects were viewing online student services. The responses from individual interviewees were examined in two ways. First, they were examined for the level of knowledge they presented in regards to the use of technology within higher education. Second, responses were examined to determine the level at which an interviewee used online technologies. For analysis purposes, these two characteristics were broken into four areas; high knowledge and use of technology (HH), high knowledge low use of technology (HL), low knowledge but high use of technology (LH), and low knowledge with low use of technology (LL).

Subjects displaying characteristics of the technological frame high knowledge and high use of technology (HH) came from all areas of the college except frontline staff. HH individuals were able to articulate characteristics of online services on both the practical and overall theoretical level. An example of an answer from this level was the following,

"We do e-write testing for the teacher’s certification, so I am just about at the point of getting approval for Write Placer. It’s the difference between, you have to come to our campus versus we can figure out a way for you to do this in your locality. (Online Course Program Coordinator)"

From this quote one can tell that the subject clearly grasps some of the online concepts the college is using to serve students.
However, in order to fall into this first category (HH), the subject also needed to articulate how he personally was involved in day to day usage. For this subject this requirement was fulfilled in the comment,

The work I have done administering the Accuplacer, even if only as a pilot, has been very successful. (Counselor Technology Campus)

This comment demonstrates a hands-on knowledge and use of day to day technology that gave the individual a unique perspective to the online student services environment.

The next technological frame of reference, high knowledge but low use of technology (HL), came almost exclusively from administrators. For the majority of these individuals, there was a great deal of knowledge, not only of current practices, but also of possible future directions the college may take. This was demonstrated through comments that articulated a wide range of technical aspects of the systems,

WebCT, we utilize about 80% of the capabilities of it, where a lot of institutions use 30-40%, and then who cares. But we figured if we were going to do it right, we were going use full capacity and, of course, we’ll be moving on to Vista.

(Campus President)

However, whereas the previous subjects (HH) spoke of hands on experience, there was no personal interaction with the system at this individual’s level (HL).

On the other end of the spectrum, the respondents were primarily the front line users whose responses registered as low knowledge but high use of technology (LH). These individuals articulated the use of online services in their daily support of students; however, knowledge of the system or other possible technologies was limited to hands on experience.

While many could articulate what processes worked well to assist students or those that did not,
they had no knowledge of what could be done with the current system or what alternatives were available to better serve students.

   In term of things like retention and those (online support) types of issues, I’m not really privy to any of that. I know that I’ve been getting more questions that are coming through the Virtual Advising Center. (Technology Advisor)

Here we see how the day to day impact of the high number of users is the focus of the frontline employee, while outside systems or possible improvements to current systems are not critical to the front line user.

   The only individuals who were classified as low knowledge and low use of technology (LL) were those who specifically avoided the use of technology in their service to students. While recognizing that some students may benefit from online support, these individuals felt that the benefits of traditional in-person connections outweighed these benefits.

   I just feel that you lose something when you are not face to face with a student. I mean not being able to see their body language..you know their facial expressions…can be a real loss. I am sure online helps some students but I really try to have all of my interaction in person. (Counselor Traditional Campus)

These concerns have been shared by other researchers as noted in the literature review and must be addressed for the college to gain full acceptance of online goals.

   Assumptions

   As predicted, the assumptions surrounding online student services varied greatly among the individual interviewees depending on their technological frame. The disconnect between TFR interviewees usually focused on the role of online student services, the level of services the college is providing and the impact that these services may have on students.
Online Education

In order to examine the perspectives of the interviewees regarding issues surrounding online student services, it was essential to have a clear understanding of their individual views and assumptions specific to online education. Nineteen of the twenty-one interviewees articulated a positive attitude towards online education. The remaining two, while able to describe possible benefits of online education, did not see these benefits as outweighing the negative impact on students.

Advantages of Online Education

The advantages articulated by the interviewees usually fell into familiar categories that have been previously mentioned by students. The key factor being one of access, “I think that it’s a value to society to have more distance technology and innovative programs coming out in a distance format, so I think that’s definitely an advantage. I think the other advantage is that you can do it at your own pace, on your own time.” Another advantages noted by one administrator was that of the impact on the college’s enrollment.

Clearly, if you see the enrollment and where it builds, and you can look at school after school, students are saying this is what they want. My former school, their enrollment on ground is down dramatically, but they’re being rescued by online enrollment. If we stripped away online enrollment (at the case study institution), some of those students would migrate toward the classes, but I think our enrollment, overall, would be down. (Dean of Student Development Technology Campus)
This notion that online education produces gains in the overall enrollment picture was echoed by other interviewees as well. A clear assumption was made that online is the direction students want to go,

We are still behind the curve on that and we could be doing a lot more because we have many new students. The new millennium student – online, that’s what they want. (Curriculum Designer)

While the author of this statement recognizes the need for the institution to develop its online offerings, several assumptions must be examined. First, the concept of the new millennium student refers to the youngest segment of the college population, 18-25. It is true that many of these students are using the online environment. However, several studies, including Bocchi, Eastman, Swift, and Owens (2004), have indicated that the online student is typically older, a mean age of 30 years, compared with 24 years for the student attending face-to-face classes. Second, due to the rise in the use of technology, many individuals, including this interviewee, believe that students want all aspects of their education environment available online. While several students within the survey commented that they liked the availability of online services, several commented that they preferred meeting face to face with a staff person.

Finally, when asked if students could get a quality education through the online environment, nineteen of the twenty-one interviewees replied with some level of affirmative response. However, many of these answers were provided with conditional notes,

I believe that they can (get a quality educational experience). I think some of it’s gonna, I mean a lot of it’s going to have to do with how motivated the student is to begin with and what choices they make. (Dean of Instruction Technology Campus)
One administrator framed his affirmative answer in terms of curriculum,

    I think that we’re getting better at it. I still have some reservations about things like Biology, some things that require hands on. You can’t do a Nursing Clinical online, things like that. I think that we’re getting better at delivering high quality education via distance methodologies. (Curriculum Designer)

Finally, a third respondent focused on the delivery methods being developed,

    One of the things that I’ve been really impressed with, I’ve been taking the Web CT instructor and design course, and there’s really a lot built into the systems now that allows you to really focus on delivering educational materials and then evaluating students’ understanding, comprehension, competencies effectively. I don’t think that we had that a few years ago, and I think that there still are improvements that need to be made in that because we don’t have a foolproof system, but we’re getting better. (Online Webct Support Staff)

Unlike some of the generalities examined previously, here respondents were able to more clearly articulate some of the issues surrounding the online experience. They recognized that providing an effective educational experience online is possible, but there are factors that need to be addressed.

Disadvantages of Online Education

    All of the interviewees were able to describe areas of online education that they saw as disadvantageous to students or to the institution. The majority of these concerns fell into the three categories: an unclear understanding of the demands of an online course by students, the lack of online support provided by the institution and the development process of online education by the college. The two respondents who had an overall negative view of online
education focused their concerns on the first two areas. In regards to the lack of understanding of the demands within an online course, one interviewee stated,

   An online course isn’t always the best fit for a student. They need to be really disciplined and be able to do well in a class that doesn’t have the kind of face-to-face interaction that a traditional classroom offers. (Counselor Technology Campus)

While recognizing that some of this responsibility fell on the student, they both believed the institution did not do enough to prepare students for the process.

   We highlight online education, and encourage students to try it but we are not really preparing them for how hard it can be. I think we send them a letter or something but that’s about it. I know these students are supposed to be good with computers but this seems a bit harsh. (Technology Advisor)

Furthermore, the two interviewees were able to describe how the assumptions that are often made about online students are often not true.

   I have talked with several students who are having trouble in online courses and I ask why they would sign up for one. The answer I usually get is it was the only one they could fit into their schedule. (Technology Advisor)

This quote demonstrates that students often do not realize what an online educational experience really entails. They are not aware of the demands in terms of time and energy, only that it is an easy fit into their busy schedules. Furthermore, it demonstrates that the institution has failed to educate students as to what is expected in the online environment.

   The final area of concern mentioned by several of the interviewees, was how the college had developed their online education both in terms of speed and motivation. In terms of speed,
We are making strides forward but we’re still behind the curve because a lot of the institutions got started a lot sooner than we did. (District Admission Director)

While speed was an issue, a more pressing issue was that of the reason behind the push towards online education,

The motivation...it’s my observation, the motivation was to build enrollment and not necessarily serve students and maintain high academic standards, serving students for convenience but not necessarily for academic integrity. (Dean of Student Development)

Again, concerns were being raised both as to how the institution has developed the online programs and why. This underlying concern as to the motivation for the online environment can be detrimental to the educational process of students. First, faculty and staff who are questioning the reasoning behind the development may be less likely to support the changes that the college is attempting to make. Second, if enrollment is a driving force, then building course offerings and enrolling students often takes precedence over developing and providing the online support necessary for these students to be successful.

Roles of Online Student Services

The disconnect between technological frames and the role of online services was primarily one of how encompassing the role should and could be rather than whether it should exist at all. Almost without exception subjects indicated that online services could benefit students; however, a unique perspective was presented by those with different frames of reference. Those with the higher level of knowledge in regards to technology, HH and HL, were
more likely to recognize that not all students would choose or would be able to benefit from online student services support. Those at the LH level made such comments as,

If the college made things a little smoother I think most students would go online.

I mean there would be no need for them to make a trip to campus if they didn’t have to. (Frontline Admissions/registration staff – technology campus)

However, the HL group recognized that factors such as economics and a lack of familiarity with technology may hinder some students from benefiting from the online support.

I think that we’re still living in an age where there are the haves and have-nots, and you’ve got the people who need education the most who have the least ability to access technology because of price, structuring, or just lack of information and knowledge of how to buy a computer or how to get online. (Dean of Student Development Traditional Campus DTC)

The disconnect between technological frames can be viewed from several different perspectives. First, the HH/HL groups have a higher level of knowledge in regards to technological issues and the complexity of the online tools. Whereas, even though the LH group works with the direct interface with the technology on a daily basis, they may not understand the variables behind the scene. Second, HH/HL groups were often represented by individuals who were involved in studying issues in higher education to better understand which tools may best serve their students. Through their study, HH/HL individuals often have become aware of larger issues such as economics and personal background that may influence the ability of a student to access the online environment.

*Level of Service Provided*
All of the subjects interviewed expressed some concern about the level of service being provided to the case institution’s online learners. However, the level of concern varied both by technological frame and area of online service. For subjects from the LH frame of reference, higher levels of concern were expressed with the overall technology usage within the college. This was especially so with advising and counseling.

We really don’t have extensive services for our online learners… beyond the online advising I am not sure what we are doing. (Technology Advisor)

However, when asked what tools or services could be provided, most LH interviewees were either unsure of alternatives or had only a vague idea of possible tools that could be used. This could again relate to the level of knowledge provided to frontline users or to the educational background the group has obtained. This again represents a concern for the institution; if staff are not made aware of the tools available and of the possible direction the college is moving, they are less likely to be invested in the process and more resistant to change.

As subjects shifted to a level of HL frame, they were able to articulate not just the limited current online support but some sense of where the college could go to improve. One of the advisers had several suggestions, including online chat rooms, creating a more welcoming online environment and direct follow-up with all online students. When asked where the individual had seen or heard of these, the reply was,

I attended an online best practices workshop. They had some good ideas…you know in how to make the online students feel more a part of the campus. Help them feel more integrated. (Frontline Financial Aid Coordinator)

The interviewee had no feedback as to why the case institution had not implemented some of the suggestions. This lack of staff integration into the development process again raises concerns as
to how the institution is communicating its overall development plan. If frontline staff are not aware of what tools are being implemented or how their ideas are being addressed, they may be resistant to supporting any future change.

The HL and HH respondents were able to not only describe in much more detail the array of current online services that were available but also had a clear sense of where the college was going or could go with technology.

I would like to see a broader implementation of our student self service degree audit. Things like the synchronous advising, that kind of thing I think, would be really useful. I think we probably could do more with articulating curriculum, not only among sister institutions but between K-12 and universities. (Dean of Student Development Traditional Campus DTC)

Another interesting point made by the interviewees was that the focus for almost all HH and HL was on the role new or current technologies play within online student services and the different things students would be able to do with these new tools. The LH interviewees, however, were more focused on making the current system easier and more user friendly. This was most likely due in part to the support frontline staff find they are called upon to give to those students trying to utilize the online services.

I spent half an hour talking one student through the online payment process, I mean, come on, they might as well have come in and saved us both a lot of time.

(Frontline Admissions/registration staff – technology campus)

This dialogue raises two important factors. First, it is clear from the frontline staff comments that students are struggling with current online services tools. It is therefore critical that the intuition work to educate students as well as make the process more user friendly. Second, the
fact that the college has not worked to improve the process, in the eyes of frontline staff, has caused them to develop a feeling that the online process not only is not helpful to them or to students but actually is more challenging than using only traditional service methods.

**Rhetoric vs. Reality**

One of the most striking results in comparing interviews and survey results was the disconnect between the HL’s rhetoric about online education and the reality found through the responses of both students and front level LH staff. This study is not alone in realizing this finding. In her study of fifteen community colleges, Cox (2005) found,

> At a fundamental level, every online program has manifested a significant disconnect, which separates the curricular and programmatic details of the college's actual online practice from representations of the online program. As a rule, this disconnect manifested itself in a jarring contrast between the rhetoric of online education among college administrators and the depth of the program's structural components (p. 1755).

While Cox’s research focused on the disconnect between administration and faculty, another disconnect was found in the research for this dissertation between HL respondents within the same institution. Interviews representing HL frames demonstrated a difference in perspective between the administrators themselves. This disconnect was multilevel and diverse, usually separating the technologically focused campus from the more traditional campuses. The areas of variation focused on the reason behind the development of online student services, the general sense as to the quality and state of student services and the future direction of services.

In regards to the development of online services, the technology focused administrator (HH) saw the initial development as one driven by outside factors and not necessarily good ones. It’s my observation, the motivation was to build enrollment and not necessarily serve students
and maintain high academic standards, serving students for convenience but not necessarily for academic integrity.” While this comment focused on the economic reality of issues other HL administrators took a more heuristic approach.

I think the college saw the online environment as an opportunity to serve more students and provide greater access. They certainly provide a lot of opportunity for students who either can’t attend or who have schedules that would prevent them from attending in a more traditional manner. (Dean of Student Development Traditional Campus DTC)

The difference here may be between the reality the higher users work with compared to the knowledge and assumptions made by the administrator with little front line user experience.

Impact of Service

On a larger scale, all technological frames except LL agreed that the online services had an overall benefit for students. Within an individual area, however, there was a difference between subjects in regards to the impact of the services currently being provided. For example, within advising and counseling, the difference seemed to relate to how directly the staff interacted with online students. One of the staff who fell into the LL frame and who has little connection with online students, stated,

I don’t believe we are having really any impact on online students. I mean how are you really supposed to counsel someone when they are not in front of you?

The process is just too dynamic. (Counselor Traditional Campus)

However, this was in contrast to a staff member in the LH frame who was in charge of the VAC (virtual advising and counseling) service. This employee indicated that while challenging, she still felt they were providing a high level of service.
It can be hard. A student might e-mail me a question without any details...no indication of outside issues. However, once I am able to e-mail back and forth and get some clarification I can answer their questions. At least point them in the right direction. (Technology Advisor)

This was an unexpected area of response due the level of experience. The prediction was that those closer to the service would indicate that the institution was not meeting the needs of students with the limited resources available to them and that those working farther from the issue would think abstractly that the college must be providing some sort of service. The comments quoted above point out exactly the opposite.

*Technological Frames of New vs. Traditional Providers*

The second part of the research question addressed whether or not the technological frame of reference of the subject was impacted by how new the individual was to online student services support. For example, would someone hired to provide virtual support within financial aid have a different perspective than someone who had worked in the traditional format and now was incorporating online service into their position. The respondents demonstrated that while there was a tendency for those hired into technology specific support roles to fall into a higher level of knowledge frame, this was not true for all subjects.

We are currently hiring two people to help in advising, one will work with the VAC almost entirely, and the other when needed, but what I am looking for in both is a good advisor who can write. Whether they work with computers really doesn’t matter. (Dean of Student Development Technology Campus)

This seems to be the case in several of the recent hires for frontline staff. The exception, of course, was those hired for strictly technology based positions, such as course design and Webct
support. By making this assumption that staff would be able to build the skills that they lacked when hiring for IT positions, the institution restricted the ability to bridge the technology education gap. While it may be helpful to have someone with a high level of student services experience to bridge the areas of technology and student services, this was not the case.

My background is in IT; this was my first chance to work in education but I have really enjoyed the challenge. (Online Webct Support Staff)

Without the connection to educational services, those staff in a position of high technological knowledge are, at times, unable to make the connection between technology and the services provided. This, in turn, may lead to technological tools being implemented that do not best serve the student or frontline staff.

Policy Development

The last point within the second research question examined the development of policy surrounding online services and the impact the technological frame of those controlling this development may have. What the interviews showed was that this area demonstrated the greatest level of disconnect between the frames. HL respondents, those often responsible for the larger decisions surrounding online service, saw the evolution of online services as a critical part of the movement towards online education. However, they often recognized the challenge of getting the support needed,

That was really one of the most difficult things. And we have been adamant from the beginning development, of every thing, you don’t set up a program unless the student support is there. Although the support is now coming on, the entire institution has to move on this. It has been just at our Campus, and we’re holding up the ship on this right now. But gradually the training is starting to happen.
Gradually the other campuses came on board, but this has to be for all students.

(Campus President)

While the comment from HL and HH frames often echoed larger issues, LH subjects responded with what they dealt with on a day to day basis.

There was never any real discussion about how we were going to provide service.

What happened was a few of us got together and said hey this is something we need so let’s put it together. (Curriculum Designer)

This quote captures many similar thoughts expressed throughout the interviews. From the perspective of the LH respondent, formal policy development in regards to online student services seemed minimal if not completely missing. When asked about the formal meetings and if front line staff were involved so their input could be gained, the respondents resoundingly stated no. While there were issues such as this that crossed multiple areas of service, the interviews also showed how differently the development of each area of online service was viewed.

**Advising and Counseling**

The primary development of policy in regards to online advising and counseling support seemed to come from the front line practitioners (LH) trying to serve students. One counselor expressed concern with the administration’s lack of support in policy development on the issue.

Administration doesn’t really seem to care. They build a ton of the online courses with really no thought as to how we are supposed to offer these students any services. To top it off, now we have hundreds of students, and the college hasn’t hired any additional staff to help with coverage. I don’t know what they are thinking. (Counselor Technology Campus)
Those involved with the day to day online support also expressed their concerns.

The number of questions coming in online has nearly tripled in the last two years; however, I am still the only one responsible to answer them. I know they are working to add more support but this is something they should have planned for.

(Technology Advisor)

This frustration was repeated by most of the other participants both in terms of staffing support and lack of overall planning. These quotes demonstrate how frontline staff are caught trying to serve the online student population while not only being excluded from any development process but also provided no additional support as the number of online students seeking help continues to grow. This frustration may lead to staff resisting any further changes or being unwilling to be part of online support.

Faculty Involvement

The issue of “faculty buy in” and involvement in online education is not new; however, it was surprising how the respondents, especially those from frontline high technological use frame of reference, articulated this need when it came to advising and counseling.

I wish that faculty would work with us. They are really the ones who know when a student is in trouble and could guide them to our services. (Technology Advisor)

One counselor (LH) who also is an online instructor indicated that she found herself doing a high level of advising within the online class room environment.

If this is the case for me then we really need to be training our faculty so they are giving out correct information or at least sending the student to us. (Counselor Technology Campus)
Again, it will be critical that all staff, including faculty, have the training necessary to offer strong support in the online environment. In the online environment, students are expecting faculty to support them in traditional student services roles, such as advising, regardless of their official title.

*Developmental Courses*

One unexpected finding was the responses in regards to developmental courses. Several interviewees from both the LH and LL frames expressed their concern in regards to the shift towards providing online developmental courses.

These developmental students need more assistance than anyone. I just can’t see online education having a positive impact on them. (Counselor Traditional Campus)

These are highly at risk students. An online, unsupervised environment…well I just think it is going to be a poor combination. (Counselor Technology Campus)

Further research is needed to determine if the advantages of the online education environment, such as freedom of time and location, overcome any disadvantages. It is clear from the responses of front line staff that they are concerned that the benefits will not be enough and that this struggling cohort of students will have an increasingly difficult time in an online environment. One possible solution suggested by one staff member would be increased interaction and mandatory advising.

If we could make sure that someone is connecting with these students (developmental) and making sure that their needs are being met, then may be we could offset some of the challenges that online courses present. (Counselor Technology Campus)
As the community college system is forced to take on a greater role within the developmental education field, the needs of this under prepared cohort must be addressed. The responses from staff indicate that online education may not be the best tool for this growing segment of the student body.

Admission and Registration

The policy development within admissions and registration was driven from a different perspective. Piloted primarily out of the central office of the college, there was greater planning and knowledge behind the evolution of the online systems.

Once we had Banner in place we decided to look at what things we could put online for students. I knew of a lot of schools who were doing a whole lot more with Banner than we were so it just made sense to see what would work for us.

(District Admission Director)

When asked what the impetus for online student services was within admissions and registration, there seemed no central guidance.

Well, the college was talking a lot about getting things online, and they kept cutting my budget for paper supplies, so anything we could do to get students online was good for us. (District Admission Director)

However, again there continued to be a divide between developers and front line staff and therefore between frames of technological reference. When asked if there had been any discussions with staff and students in the development of these processes, the answer fell into a similar pattern as before,

Well, we have asked for feedback, but no, I don’t think they were part of the planning. (District Admission Director)
What was interesting and unique in comparison with the previous discontent of the frontline advisors was that LH front line staff of admissions and registration were rather content with the online processes available to students.

I think it’s great that students can go online and register, I know it makes my life easier….I mean sometimes it’s a pain if they can’t read and get stuck and have to call in but otherwise I think it helps. (Frontline Admissions/registration staff – technology campus)

This difference between the two areas may be due in part to the fact that the developers of the online processes, while not consulting LH users, were also HH users themselves. The developers (HH) seemed to have a clear grasp of the issues that frontline users may need and attempted to address those in the developmental process. There was then a concerted effort to educate all frontline users as to the online processes and to ensure that the frontline users had support from the district office if issues arose.

Financial Aid

Financial aid is one of the departments that was just beginning to develop its online student support when this study was conducted. Whether this late development was due to the restrictions of federal guidelines surrounding financial aid or simply that no one had taken the lead seems to be a matter of perspective. HH and HL subjects outside of financial aid indicated that they thought it was the mindset of the financial aid department that was hindering their online student services development rather than any outside restrictions.

There are several areas that I think we need to be developing…in particular financial aid really has no online support right now. I think the federal site has something, but here at the college a student is forced to call in or come to campus.
But with everything else they are dealing with, I think it’s low on their priorities right now. (Program Advisor)

Financial aid front line support or LH/LL indicated that they saw the issue as much more of a restriction of personal student information.

Most students that we work with need individual attention. We don’t give out financial numbers over the phone or e-mail. The student needs to come in and meet with us. (Frontline Financial Aid Coordinator)

It is unclear which perspective is correct or if both perspectives are valid. While an overview of other institutions may give greater insight into possible online services options within financial aid, the current state of different perspectives has lead to frustration and animosity between the two cohorts.

New Directions of Online Student Services

All of the interviewees were asked to share their perceptions of both current practices that the institution was not utilizing and what future directions online student services could take. Each of the interviewees, regardless of their familiarity with technology, was able to give some ideas as to future directions. Of those, HH and HL levels were able to articulate more focused responses on issues such as online chats, streaming video and updated advising capabilities.

Things like the Synchronous Advising, that kind of thing I think, would be really useful. I’ve heard good things about having live chat sessions with staff. I think that we could probably incorporate a really high quality online orientation that doesn’t take three hours to do. (Dean of Student Development Traditional Campus DTC)
Another stated,

I think we’ll start looking at software that’s more adaptable to our needs such as Ewrite and accuplacer. These are true online tools that we can use to serve students anywhere. (Dean of Student Development Technology Campus)

Other interviewees in the LH and LL groups were able to think of general areas without specific examples.

I think we could improve things online, I think other schools are doing more with advising. I am not sure what they are but I am sure there’s something out there that could help. (Technology Advisor)

This lack of specific examples demonstrates; the lack of knowledge of frontline users in regards to new or emerging technologies. However, more importantly, it demonstrates that the frontline staff members have not been part of the discussion in developing new ideas. Their first hand knowledge of student challenges in the online environment can be crucial when the institution is trying to determine what services need to be invested in and developed.

*Challenges to New Directions*

Interviewees also voiced their frustration with the challenges facing the development of the online services.

We really are trying to take technology and fit it in to this antiquated medieval system that education grew up in, out of the old Oxford, Cambridge kind of model, when we really should be using technology to shape the future of education. (Dean of Student Development Traditional Campus DTC)

Concerns regarding the way the institution was approaching the online development process were also voiced.
We’re not doing that very well right now, but I think that there’s a lot of possibilities. No one person right now has the time to actually sit down and just kind of think of them and develop them, but if we put our heads together and combine resources, we probably could do a great job. (Counselor Technology Campus)

Finally, there was concern with obtaining the support needed in order to make a positive change,

When you’ve got the folks in positions of authority and influence who can’t see beyond the systems that they have always known, then it’s going to be very difficult to transform education. (Curriculum Designer)

There was also concern that faculty and staff on campuses not directly working with the online services really did not understand or buy into the overall concept.

You know, there’s an idea, Oh yeah, let’s do an online orientation, or yes, let’s do an online this-or-that, but I don’t think there’s a serious effort to make that a college-wide approach. If you look at the Deans of Student Development at the other campuses, some of them see the wisdom of doing this, but I don’t think all of them do, and I don’t think the ones that don’t get it are making any effort to pursue it because they’re more concerned with the on-ground students who come to their offices, and you know, they actually see everyday. They are not focused on the students they don’t see or the enrollments that they can’t grasp. (Dean of Student Development Technology Campus)

The quote expresses a disconnect between high level administrators in regards to the responsibility of each campus regarding online services. It also questions the level of
investment each campus has in providing online services. As noted earlier, this
imbalance in support between campuses has begun to create animosity between staff and
a lack of service to students.

Future

In regards to the future of online student services, the technology administrator (HH) had
a clear idea of the direction the institution may go,

With regard to the online services, I think it’s (the state of online student services)
a lot more sophisticated, but we need to make use of more software than we
currently have, explore more software that is out there being developed, and then
we need to devote staff to actually think through what our approach is, and I don’t
think we do enough of that. (Dean of Student Development Technology Campus)

It will depend on the commitment of the college both in terms of resources and dedication from
all campuses to develop a comprehensive program to serve students to the utmost extent of the
potential of online services.
CHAPTER FIVE: SUMMARY AND CONCLUSIONS

Under a qualitative approach, an in-depth case study method was utilized to better understand the relationship between online student services providers’ technological frames of reference and the impact of student services on online users. This final chapter begins with a brief overview of the study, followed by the research findings in relationship to the research questions. Next, it examines unique issues that have emerged as well as future implications for practice. Finally, it explores possible future areas of research.

Overview of the Study

This dissertation used a case study approach consisting of an online survey, interviews and observations to better understand and describe the issues surrounding the development and utilization of online student services at the community college. The use of the case allowed this dissertation to explore, not only the interactions between the online student services providers and students, but also the educational environment in which they operate. Based on the theoretical framework of technological frames, a systematic approach was developed to analyze the development and implementation of information technology systems. Analyses of the development of online student services through this framework allowed for a clearer understanding of the role that the perception of technology plays.

Expected Outcomes

Through this dissertation I expected to find that there were disconnects between several levels of service and the needs of the students. This disconnect may have developed between the needs of the students and the actual services provided. Alternatively, there may have been a disconnect between the technological frame of the student services providers and that of the
students. I hoped to show that these disconnects demonstrated a clear gap in the development process that must be addressed in order for an institution to develop a successful online environment.

**Discussion of Findings**

By examining the findings presented in Chapter Four, a clearer understanding of the issues surrounding online services can be obtained. The following section first addresses the research question, What is the satisfaction level of online student service support that students feel they receive in comparison to traditional methods? Second, the findings answer secondary concerns as to whether or not the frame of technological reference that the students are entering with impacts their satisfaction with the online service environment.

**Student Satisfaction with Online Student Services**

The level of satisfaction that students felt they received was examined using a survey developed to better understand the unique aspects of the online support system. Through the survey, students were given the opportunity to first describe their reasons for using the online services support. Next, they were asked to rank individual areas of support, both in terms of individual impact as well as in terms of their perceived quality in relation to traditional support methods. Finally, students were asked to provide open ended responses articulating areas that were of greatest support and those that needed the most improvement.

*Comparison of Responses*

As noted earlier, the survey results were fairly reflective of the overall student body. This lends to its findings being generalized to the greater student body to some degree. However, beyond the limitations noted at the end of this chapter, the differences in age, ethnicity, and gender indicate that there is not a perfect connection between the two populations.
Specifically, increase responses from older students, questions some of the assumptions made by institutions that their online populations are made up of younger “millennium” generation students. If this is not the actual case colleges need to reevaluate some of their assumptions. However, it maybe that this population decided to take the time and fill out the responses in order to improve the online system.

The increased response rate from white students questions the proposed benefit of access to higher education. If white students are more comfortable with, and have greater access to technology; then minority students maybe further hindered in their educational goals. Further research needs to be done to determine why a lower number of minority students responded to the survey and what can be done to increase their access to technology.

Level of Satisfaction

Students were asked to describe their experience by ranking overall areas of support within online student services as well as unique characteristics of each area. As noted in Chapter Four, the feedback from students was generally positive but contained some unique characteristics. Specifically, the level of satisfaction varied between areas of service. The reasoning behind this variation was unclear; however, there was a relationship, for almost all areas, between the level of development put forth by the institution and the positive responses entered by students.

Institutional Investment

Before a conclusion could be made regarding the level of institutional investment and the satisfaction of student online support, it was important to examining the level of investment within each area of online support. As noted, the greatest level of investment in terms of technology development has been done in the areas of admissions and registration. All
traditional services have been moved to the online process. Due to the nature of services, there is minimal staff support required after the initial development. This may account for the early shift of this area to the online environment. The next area with the greatest level of development is that of advising and counseling. While this area has incorporated online email advising, they have not developed any other form of advising or online tools such as self service degree checks.

The third area examined is that of financial aid. Again, this area’s online support has been limited to email responses and online scheduling of financial aid support meetings. Further tools such as online budget developers and connection to lending guidelines have not been explored. The fourth area of student leadership and activities also has had limited development. This includes online calendaring system and email response.

As noted earlier, the level of financial investment made by the institution within the different areas of services demonstrated some level of connection with the overall satisfaction indicated within the student responses. The high level of investment with admissions and registration corresponded with a high level of satisfaction reported by students. Though the investment was promoted primarily by internal staff rather than overall institutional design is of no concern to the students who are focused on the end results. However, due to the fact that the investment came from within the department, resources were required to be shifted from traditional services. This has led to frustration from the staff and greater demands on limited financial resources.

This trend continued to be demonstrated within advising and counseling and financial aid. The exception, noted earlier, was that of student activities and leadership. Within each of these the primary development came from within the individual areas and has noted been supported with adequate resources from the institution as a whole. The challenges and
frustrations noted within admissions and registrations echoed throughout the other areas and must be addressed by the institution.

The connection between actual institutional investment and student satisfaction is therefore unclear. If investment is examined from a larger perspective to include individual department efforts then there seemed to be a connection between the two. However, as the challenges and frustrations increase within the staff of these service areas, students may find that the level of service suffers. It is also unclear what impact this strain may have on traditional services.

There are several other possible explanations for the differing levels of satisfaction beyond institutional investment. Many of the processes ranked as having high levels of satisfaction were often simple student services actions. Examples of these included online registration and admissions. These types of support require little interaction with staff and can be managed by students with little previous technical skills or ongoing feedback from staff. However, advising and counseling, often a more complex process, also received high levels of satisfaction.

Another alternative explanation maybe the level of knowledge needed to access any given system. For example, admissions and registration is a rather straight forward process. If a student has completed a previous interaction either in person or online they should be able to navigate the system smoothly. However, a system such as financial aid may have presented more challenges due to the connection with federal guidelines and websites. Further follow up with students may give greater insight into why students responded as they did.

*Admissions/Registration*
Admissions/registration, the area in which the college has developed the greatest online offerings, produced the highest level of satisfaction. Within the individual area of admissions/registration, students consistently indicated being either satisfied or extremely satisfied with the level of service. This was true for the application process, online registration, and feedback students received from staff. The positive aspects were further confirmed in the open ended responses that presented no negative comments toward the online admissions/registration process.

It is therefore not surprising that admissions/registration demonstrated the greatest satisfaction. The case institution has been able to move all aspects of traditional admissions/registration services to the online system. However, as noted earlier, one of the challenges with the online system is the loss of direct contact with a staff person at any given transaction. According to several interviewed staff, this has lead to a significant increase in the number of students appealing transactions that they had not meant to do in the online environment. A high number of these have resulted in students being entered into classes, receiving an F grade for nonparticipation, and being billed for a class they never intended to sign up for. Therefore, it is clear that even though the level of satisfaction among the surveyed students was high, there are still opportunities for improvement in the system and in educating students on how to best utilize the online services.

**Advising/Counseling**

The advising/counseling area demonstrated a more varied number and level of responses than the admissions/registration. As expected from previous studies, only 41 percent of those responding indicated they had used any form of online advising/counseling. Of those, 19 percent indicated a negative response from their experience. However, when individual aspects of the
online advising/counseling area were examined further, students repeatedly indicated a positive experience. Further analysis of student open ended responses indicated no major concerns with online advising. Students did however; indicate several instances where instructors failed to respond to inquiries. It may be that the students are connecting online advice they are receiving from instructors, with that from the formal online advising system. As noted earlier, it is therefore critical that all staff, including faculty, are educated in appropriate advising techniques and resources due to the nature of student requests for support.

Financial Aid

The financial aid area provided unique insights into how students view online services. When asked how many students had used the online support of financial aid, 44 percent indicated that they had. However, when asked about e-mail contact, the only form of online financial aid support the college currently has, only 28 percent indicated any type of response. It is therefore clear that students are connecting online financial aid processes outside of the institution with those of the college. This can be significant to the college in two ways. First, if students are unclear as to where the information they are receiving is coming from, they may not be able to find clear avenues of support if they have question. Second, it indicates that due to the lack of support the college currently has in place, students are looking to outside entities for information. The institution has the opportunity to provide students with a greater level of information to help them through the financial aid process.

Student Activities/Leadership

The exception to the trend of a correlation between the level of institutional investment and student satisfaction with service was in the area of student activities/leadership development. Here a rather minimally developed area of online support demonstrated a strong positive
response from students. It is unclear why this variation occurred. Traditionally, student activities/leadership is an area of student development that a much smaller proportions of students utilize in comparison to other traditional areas, such as advising or admissions. This was confirmed by the high number of students who had not used the services. It may be that some of the student respondents were unclear as to what constituted the area of student activities and whether or not they had actually used these services. Having no negative experience to refer to, the students may have indicated a positive feeling as a default. Further research would be needed to define why students responded as they did. However, the overall responses indicated that, as the institution invests resources in terms of both staff time and financial support, the level of service any one area can provide increases, which leads to greater student satisfaction and success.

**Student Services Impact on Online Experience**

Beyond asking each student to compare the online experience to traditional in-person services, students were also asked to evaluate the level of significance each area of online student services support had on their online experience. Responses for each of the areas tended to be dispersed fairly evenly, with the largest number of responses being found on each end of the spectrum. For example, in students responses to the impact of the online services found in the admissions area, 109 students indicated that those held the least significance for them. However, the next largest response within the admissions section was the 93 students who indicated that this area was the most significant for them. This indicates that if the respondents had a need or use for the area it became very significant to them. The general ability to access the services online was less of factor for students. However, the majority of the students fell somewhere in the middle regarding accessibility. This was especially true for the advising/counseling area,
which had the greatest range of responses. However, as noted earlier, admissions/registration continued to be identified as the area with the most positive responses. While not all students provided detailed insight into their survey choices, their open ended responses gave some insight into their thought patterns.

*Positive Impacts*

The open ended text responses provided by students offered the most substantive insights into their online services experience. In regards to the positive side of the experience, the two major areas emerged: interaction with faculty/staff and access.

*Faculty/Staff Interaction*

As noted earlier, one area that is often a criticism of online services is that of the loss of interaction between students and staff/faculty. However, for some students, the online environment actually provided a more positive form of communication. Many indicated that they were able to overcome social barriers, while others found the structured chat rooms forced students to interact when they would have otherwise chosen to only passively participate. Interaction with support staff also improved in that the online environment helped students locate information more quickly. Several students indicated that the online environment allowed them to e-mail a student services area rather than try to find a staff person on campus and then wait in line to receive the resources they needed.

This positive interaction with faculty/staff is critical for institutions in two ways. First, as colleges move to serve a growing population of students in the face of continued budget issues, online services can be a tool to offset the cost of support. Instead of investing greater resources in traditional support staff, institutions can develop online services that can maximize current staff resources and offer greater support to distance learning students.
Second, if institutions can develop online services that not only meet but in some cases exceed traditional standards, students will be better served in the support they receive. For many students, this increased support will come in the form of the opportunity to directly connect with the faculty/staff. For other students, the online environment will offer the opportunity to overcome social obstacles that the traditional education environment presents. These results demonstrate further the need for extensive professional development of both faculty and staff so they are prepared to serve students in the online arena.

Access

Throughout the literature and within this survey, access was the greatest motivating factor for students to use the online student services environment. A typical response illustrates this factor: “If I can get the same service online and not have to go to campus, of course I am going to use the online option.” The majority of students indicated that the level of service online for most areas of student services was equal to in-person service. Thus, the ability to access the service became the deciding factor in the level of satisfaction students indicated they received from the overall online service experience.

Negative Impacts

While the concept of access was noted by students as one of the strongest motivators for using online student services, it was also one of the most challenging issues. The issue of greatest reoccurrence within the negative responses from students was that of problems with the very access they were hoping to benefit from. Many students indicated that they attempted to gain service through the online environment only to run into either technical challenges or to find the system would or had shut down. The students also indicated that the level of support they
could receive during off hours was significantly less and hindered their ability to successfully work through issues at those times.

If the institution is truly committed to providing access to students, it must ensure that access to the online services is available at all times. The institution must work to ensure that the support tools it has developed are also available to students regardless of time and space. There has been an ongoing concern within the college as to the level and time of support available to students. However, it is critical that all involved in this process address this issue. One student went so far as to indicate that he would not be using the online system again due to the challenges he had faced. This research clearly demonstrates the need for increased support both in terms of time and staffing.

The student responses also indicated that the college needs to increase its internal technological support to assist all students. Many students were unable to access services due to the software they were using and the inability to access an IT staff member to help them through the process. This again speaks to the need for the college to invest in the staffing necessary to support the online systems. This investment does not have to be in new staff but could be in professional development of current staff to provide better service in the online environment.

**Influence of Technological Frames within Online Student Services**

The examination of the technological frames concept allowed for analysis of the second research question, *How does the technological frame of both community college students and student services providers influence the ability of community college students to access and receive services from student development support?* The emergence of four clear technological frames from which faculty, staff, and administration view the online student services environment gave the clearest insight into the success and/or failure facing the institution. This
research demonstrated how the four different frames of reference impacted the individual’s perspective of the role of online student services. Specifically, the differences focused on the development process, on the rhetoric used by the college vs. the reality faced by staff, on the acceptance and support presented by staff, on the role online services should play within higher education, on the level of services being offered and on who should provide that service. Each of these areas provides an opportunity for the institution to develop ways to better serve students.

*Development Process*

One of the key questions this research examined was how the technological frame of administrators and staff impacted the development of the online support systems within the case study institution. The responses indicate that the disconnect between high technology knowledge/low use (HL) administrators from front line low technology knowledge/high use (LH) students and faculty/staff lead to a development process with no one individual or area leading the process. Individuals simply created what they thought would be helpful for students without any overarching support or guidance from the institution. This development process lead to a wide range and varying levels of services within the different student services departments without any smooth connections. Students currently have to search out individual areas to determine what services are available and how to access them. The institution has begun to solidify the location of services, if not the development, through a student portal system. However, there continues to be no central coordinator for the online service system.

*Rhetoric vs. Reality*

As noted in the findings section, one of the more interesting results in the comparison of technological frames was the disconnect between the high technology knowledge low usage (HL) frames’ rhetoric regarding online services and the reality found through the responses of
both students and front level low knowledge high usage (LH) framed staff. Furthermore, this disconnect persisted between HL and LH respondents within the same institution. The areas of variation focused on the reason behind the development of online student services, on the general sense as to the quality and state of student services and on the future direction of services. It might be expected that individuals representing different technological frames would have different views of the online services environment, but when these differences continue solely within the HL level, the college must address the disconnect.

**Acceptance and Support by Staff/Faculty/Administration**

One of the key issues noted by Orlikowski and Gash (1994) was the fact that if different Technological Frames of Reference (TFR) exist within an organization, these groups may face dissatisfaction and hesitancy to change. This was clearly present as those with different TFRs expressed frustration with the commitment of other campuses and staff who had other TFRs. This irritation has lead some with high technology knowledge and high usage HH to believe that they are working alone and that there is no buy-in from their peers. Responses from some HL indicated that they were not aware of this frustration and thought the institutional departments were working together collectively to provide services. Again, this is an area that the college needs to develop, both in terms of support from all areas as well as through clearer lines of communication between staff.

**Role of Online Student Services**

While individuals from three of the frames of reference agreed on the positive impact the online services can have on students, the LL remained concerned about the loss of face to face support. This is significant for two reasons. First, as these staff members continue to serve students in the online environment, even minimally, the level of service may be diminished by
their dislike of the online medium. Second, for some students, the online services arena may be their only avenue to access support; therefore, it is critical that the concerns of these disaffected staff be addressed and that online students receive the same level of service as traditional students. Possible ways to address these issues are discussed in the future directions section of this dissertation.

**Level of Service Being Provided**

There was a significant separation between the interviewees of different technological frames in regards to their perceptions of the level of services being provided. These unique responses did not connect directly with the services levels as one might expect. For example, those with a high level of technological knowledge were not always able to articulate what services the institution was providing within the online environment. One might assume that by being well versed in the possibilities of online services, these people would have been part of the development and implementation of the college’s online support services. However, this was not the case. None of the frontline staff indicated that they had been part of any of the planning or development meetings surrounding online services. This is concerning both because these individuals, often administrators, were not aware of what the college was working on, and, second, they were not part of the development plan. Their possible contributions, therefore, were left out of the creation of services.

Another concern was the incorrect assumptions made by many staff as to what areas the college is currently supporting within the online environment. Only a few interviewees, regardless of frame of reference, were able to describe all the areas of online service that the college has explored. The closer the interviewees were to providing the service, i.e. high use technology frame, the more accurately they were able to describe the full range of service within
their individual department. However, most respondents were not able to articulate the services provided in other areas, at times even areas that they indirectly supervised.

Finally, the assumption that those closest to the service, or high technology users, would be more aware of the problems within the online service area was incorrect. Whether this was due to the perspective gained by those removed from the day to day interactions or the desire of frontline users to portray their support in a positive light is unknown. What was brought forth through this research was that valid concerns with the current services were often not voiced by high technology users. These perspectives will need to be addressed by the institution if online services are to continue to improve.

Support Providers

The issue with the greatest level of variation between respondents was that of who is and who should be providing the online student services support for online learners. The difference in responses, while still dictated to some degree by technological frame, was also influenced by the physical location of respondents. From the perspective of technological frames, those representing the high knowledge frame provided answers supporting the concept that the college as a whole should be supporting the online services mission. They also noted that the majority of support was coming from one campus out of the multi-campus system. Interestingly, they often failed to recognize other areas of support development, such as the central administrative offices. Those with lower technology knowledge frames were often unable to articulate who was taking the lead but agreed that it should be a college wide effort. The second influencing factor of college location resulted in respondents making assumptions about where support was being provided. Again, one campus was singled out and other areas ignored. The institution must
increase awareness of and responsibility for online support in all areas of the college for it truly to be successful.

Frontline staff from the technologically focused campus voiced concerns with the lack of support from other campuses as well as the lack of support from the district in regards to additional staff. This frustration has begun to generate a lack of desire to develop or implement new ideas. The concern of staff being, that they will be asked to take on more responsibilities without the support necessary to be successful.

Technological Frames of Reference and Student Responses

The level of technological knowledge for students was also analyzed to try to determine if there was any correlation between their satisfaction with the online systems and their TFR. Unlike the staff/faculty/administrator interview subjects, the responses from students did not generate a clear distinction according to their knowledge with the online environment. However, there were some unique responses that indicated some connection between satisfaction and increased knowledge of technology. This is not surprising in that those students who are more comfortable with the online environment may be more at ease in navigating the system and taking advantage of the online services. However, several of these students were also able to offer greater criticisms of the system due to their technological knowledge. For example, several students were able to articulate problems with the platform or suggested other systems that might be beneficial to the institution.

Implications for Community College Practitioners

This dissertation has demonstrated several areas of service that need to be improved in order to support students’ educational achievement. There are several aspects of the online environment that practitioners must examine to fully understand the online support system. A
series of difficult questions must be asked. First, is the structure of the online environment created by the institution conducive to the development of a strong online support system? Second, what are the strengths and weaknesses of the current online structure? Finally, what areas can be developed both internally and through external resources to improve the future online services of the institution?

*Institutional Online Structure*

One of the most critical areas that must be addressed by any institution that offers an online environment is that of the online student services structure. Within the literature review, several key elements were identified as essential to a successful online services program. These include a college wide understanding of the importance of online service, a program with the breadth and quality at least matching if not exceeding traditional service, an in-depth professional development training program for staff, an integration into the college traditional activities, and, finally, funding priorities that will ensure adequate resources for online services.

As reported in the findings section, the case study institution failed to meet most if not all of these key issues. These failures were articulated by both students and staff within the survey and interviews. Many staff described how only one campus was taking the lead and that there was no clear commitment from other areas or a college wide plan for online support. As noted earlier, this has lead to faulty assumptions about the services being offered and has caused some campuses to disengage from the online process.

Second, the college has not yet embraced the concept that the online program must have the breadth and quality at least matching if not exceeding traditional services. Online services are being developed piecemeal with no structured support in terms of staffing or resources.
Many of the multi-campus staff see student services in a traditional frame of reference first and foremost, while online support is a secondary priority if a priority at all.

Third, the confusion as to what programs are offered and by whom is a clear indication that the professional development needed to educate and prepare staff has not occurred. Without this development, staff are not able to support students with the college’s current resources, nor are they able to be part of the decision making process for future online tools and services.

Fourth, as noted earlier, discussions in regards to student services often disregard the online component. An indication of this was presented in the discussion with the only online advisor, who noted how online advising is not part of the advising and counseling mindset of the institution, even though the number of students she supports continues to grow.

Finally, the institution has failed to make funding for online services a priority. Thus it is unable to ensure adequate resources for online services. This is clear from the fact that there is only one online advisor, and there is no clear plan, designated staff or proposed budget for future development of services.

**Institutional Strengths and Weaknesses**

**Strengths**

The results from the student survey demonstrate that the current online tools being utilized by the institution are having a positive impact within the online environment. Given the unstructured development of online services, it is somewhat surprising that students ranked the services as high as they did. It was not surprising that students were often unclear as to the services offered or the name of the area that they were receiving support from. The institution has the opportunity to build on its initial success by developing a clear strategy that ties the different levels and areas of service together to form a comprehensive online services program.
Weaknesses

The institution has failed to lay out a clear online services program and thus has hindered the communication between online services providers. Individual areas are developing programs and services independently, causing confusion among front line service providers and between staff and students. If frontline staff cannot articulate the services being offered by the college, then students cannot be expected to be receiving the best possible support.

Lack of Resources

As the institution looks to gain enrollment through the development of online education, it must also make funding for the online support of both these online students as well as traditional students a priority. Current practice requires individual departments to use their historically stagnant budgets to address the new demands of the online support environment. Staff are forced to accommodate new demands on their time, often to the detriment of their traditional roles. This has caused a negative view in the eyes of many traditional staff members. As noted earlier, the development of online support needs to build on traditional service, not detract from it. If the college is committed to providing online education and support then additional staff will need to be hired and trained.

Furthermore, very few financial resources have been allocated to departments to purchase many of the tools to enhance online services that are available to colleges. Noted throughout the interviews were examples of potential programs to offer increased online advising capabilities, video counseling, and online degree checks. The investment in each of these, both in terms of financial resources and staff time, would no doubt be considerable. However, if the college is committed to providing online services, the investment must be made.
Future Institutional Directions

There are several opportunities that the college has available as it looks towards the future. Among these is the opportunity to invest in many of the online tools mentioned throughout this dissertation. More importantly, the institution has the chance to develop a truly comprehensive online services program to meet the needs of its students.

Unique Student Populations

One area of concern brought forth by the research is how the move to online services may negatively impact students who are already working with disadvantages. Specifically, how will those with learning or developmental challenges be able to utilize the online services provided by the institution? If they are not able to do so, what steps will be taken to ensure that these students continue to receive the support they need? The second group of students the institution needs to recognize is those with limited access to technology, either in the use of online systems or the economics to access these systems. Assumptions are made when concepts such as access are presented as a positive motivating factor for online service. If students do not have the financial or technical skills to utilize the online environment, their ability to benefit is greatly diminished. The institution must be careful not to decrease the services to these students while trying to develop online support. Further research must be done to develop a better understanding of the impact of the online environment on these students.

Benefits vs. Satisfaction

The results from this dissertation helped to further the understanding of the satisfaction students indicated they received from the online environment. However, the level of benefit provided is remains unclear. As noted earlier, access is the primary benefit articulated both within the literature and by the student respondents. However, several questions about the level
of benefit were also raised. First, it was noted that the lack of direct connection with a staff person prevented staff from providing additional support such as advising or questioning a student’s actions. This lead to a greater number of students inadvertently signing up for courses which they then failed. Second, students often benefit in indirect ways from connecting face to face with staff. For example, a financial aid staff member may recognize that a student is not succeeding academically in a given field and could connect that student to alternative resources such as advising or tutoring. Without the direct contact the student may continue to struggle.

On a larger scale, the inaction solely within the online environment prevents the student from developing the skills necessary to access and succeed within a large organization. If students are looking to transfer to another institution, they may be unable to work through the process of locating and accessing resources in the new environment. Furthermore, those same students who earlier indicated the benefit of communicating within the online system to avoid social fears were never challenged to overcome those fears. This then establishes a system by which students are not able to communicate effectively once they enter another institution or work environment. Given the struggles that students already face in transferring from a community college to a four year institution it is important that these issues are addressed. If the college does not do so, the access they hope to provide to students through the online environment may actually be a barrier to their long term success.

**Limitations**

The limitations to this dissertation exist not only with the inherent structure of a case study examination but also with the structure of the institution itself. This section discusses these
limitations as they may impact practices, but it also sets the foundation from which these limitations can be addressed through future research.

First, the design of a case study research project aims to gain as full an understanding as possible of the individual subject under examination. Therefore by its very nature, these findings apply most directly to the specific case study institution and may be difficult to extrapolate to other colleges. Second, by asking interviewees to provide a self examination of their roles and understanding of the online services environment, there is the possibility that answers may have been less than fully objective. For some individuals, it was difficult to be truly critical of processes or people within the institution. While some respondents were able to overcome this concern, others reverted back to more generic answers. Even more extreme were the two individuals who opted out of the interviews when given the subject matter of the study.

Survey Results

In the analysis of data presented from the student survey, several significant limitations must be examined. First, only fifteen percent of the overall population of online students responded to the survey. It is unknown why this cohort chose to and was able to complete the survey while others were not.

The level technological knowledge may also have impacted both the ability of students to respond and the level of satisfaction they presented. While only a few students reported that they encountered technical challenges, other students may have struggled and decided to not complete the study rather than gather additional support. As noted earlier, the demographics of the online population was similar to the traditional student population. However, one may assume that working in an online course would give the students some level of experience with technology
that the traditional student may not have. This may have lead to higher levels of satisfaction with
the online student services experiences reported by the students.

Finally, the responses from students were given on a volunteer basis and represent
students motivated to respond for one of several reasons; the possibility of gaining the rewards
offered, the desire to improve the online system, or some positive or negative interaction they
may have encountered with the online process. Furthermore, students who had the time
available to them were probably more likely to respond. These students may have had more time
to explore and understand the online system and therefore presented more positive responses.
Each of these issues may have influenced the responses provided by students. It is therefore
unclear whether these results would hold in a more controlled survey of the general student body.

Within the results of those who responded to the survey a high number of students
indicated that they had not used the service in question. Given the fact that these students are
already working in the online environment and therefore more likely to be able to navigate and
utilize online service the high response rate raises several questions. First, if the usage rate is so
low for this technologically savvy group how does it compare to the traditional student body?
Considering the high level of investment in resources the college needs to understand what level
of service is actually being realized by the students. Second, as the college moves a greater
number of processes online, they need to consider the impact this movement will have on those
unfamiliar or unable to access the online system. Already the institution has moved priority
registration to exclusively online. Thus those who have the knowledge and resources to access
the online system are given greater access to course selections. Given the fact that economic
factors influence one’s ability to access technology; the shift to online service may increase the
disparity faced by those lacking financial resources.
In regards to the recommendation for practice section, the implementation of many of the findings will require a significant amount of resources. Traditional community colleges have not had easy access to additional resources, due to the funding nature of the higher education system. In order to develop a comprehensive online program, the college must commit itself fully to do so. This will take not only the shifting of resources to support the online efforts but also a commitment from the entire college community. Such commitment is as important if not more so as any funding put forth from administration. Key stake-holders representing both new technologies and traditional services will need to be part of the development process in order to overcome many of the obstacles put forth in this dissertation.

**Contributions to the Literature and Future Research Recommendations**

This dissertation has contributed to the literature on two primary fronts. First, the case study analysis has provided a detailed examination of an institution in the process of developing their online environment. Second, this dissertation has explained the theory of technological frames by both examining the content within frames and developing a framework for future organizational examination. Each of these contributions will help future practitioners and researchers in their understanding of the online educational environment.

**Case Study Analysis**

This dissertation has addressed the contribution to be gained by practitioners within community colleges in evaluating online services. While research has been done that articulates the possible steps a college should take to implement an online services program, this dissertation examined the realities of an institution actually attempting to build such a system. By examining the process from a case study perspective, the successes and challenges of this college can be applied by both internal practitioners to improve the college’s service and by
outside institutions looking to implement their own system. For the internal proponents of change, the findings of this dissertation provide the support to convince stakeholders that a fully developed online support system is worth the investment of resources. Furthermore, it outlines the areas that are currently providing a high level of service, those needing little change and those needing a more dramatic shift.

Theory Development

This dissertation also brings a unique focus on the concept of technological frames. By outlining a functional analysis of the way in which practitioners view the use of technology, one may gain greater insight into their perspectives. Until this point, the theory of technological frames has been focused on the impact congruencies or the lack thereof has had on the implementation of technology within organizations. This dissertation has furthered the development of technological frames theory by examining the content within the frames. The breaking down of characteristics within the framework; facilitates comparative analyses across cases.

The framework that was developed within this dissertation provides outside institutions the ability to apply the theory of technological frames to their organizations. In turn, this application will allow the organization to understand the perspective through which individuals are viewing technology. Through this identification, organizations can work to avoid challenges between different technologically framed groups by appropriately educating each cohort. Finally, by understanding each perspective, organizations can facilitate the development and adaptation of technology by ensuring the needs of each cohort are being addressed. This clearer understanding of the frames from which individuals are making decisions can therefore help
practitioners and institutions in their development of online services and online educational practices.

*Alternative Technological Frames*

This dissertation has focused on the previously articulated frames as a way to further understand the perspective individuals are approaching technology. However, several other possible frames emerged through this research. Among these were; economic benefits, issues of access, desire of students, increases in enrollment, and changing role of faculty. First, several interviewees presented different understandings of the economic benefits brought forth through the online environment. Several indicated that the movement to online would save the college significant resources in terms of staff time. However, others recognized the high cost of implementation, training, and support needed with online service. These individuals questioned whether or not any actual savings would be recognized by the college. This disconnect was also found in the literature review as well, further supporting the need for each institution to examine all aspects of the financial investment of online before the development process.

The second area of varying technological frames was that of access. As discussed throughout this dissertation access has been promoted as the greatest benefit to online education and service. However, as several interviewees noted, institutions must evaluate how moving to online may negatively impact the very students they are trying to provide service. Those students without the technological resources at home or the technological knowledge may not be able to access the institutions online environment and thus further hindering their access to higher education.

The third area of variation within frames was that of the level of desire that students have to work and learn in the online environment. Several interviewees described how technology
and being online is what students want. However, other recognized that the community college system does not serve only traditional age students and in fact the majority of their students may not be technological savvy or interested in using technology. By assuming that students are entering higher education with certain skills or desires in regards to technology the institution may make incorrect investments in regards to how best to support these students.

Fourth, there was a disconnect in how interviewees viewed the impact of the online environment on enrollments. Some interviewees and findings in the literature review discussed the benefit of increasing enrollments through online education. However, others raised the question as to how these enrollments were being generated. It is unclear as to how many of these online students would have simply taken class in the traditional method thus the institution is cannibalizing its own traditional numbers, or if these are students who would not have otherwise taken courses and thus truly new enrollments. If these are simply current students taking classes in different ways then the institution needs to ascertain whether the investment in online is beneficial enough in some other format, such as increased access, to support the increased cost.

Finally, the role of faculty and their connection to students was realized in different ways throughout the literature and within the interviews. As noted earlier, the role that faculty play within the online environment may change dramatically from the traditional classroom. For many students the only connection to a representative from the institution that they have is with the faculty. Therefore, the student may look to the faculty member for student support. Colleges must examine the new expectations that the online environment places on faculty and how to best train and support these individuals in order for them to best support students.

Each of these alternative technological frames opens the door for extensive future research. It is critical that institutions recognize the different frames from which all members of
their community are approaching the online environment if they are to develop a successful online system.

**Conclusion**

While the debate around the benefits of moving education into the online environment continues to develop, the fact is that institutions are expanding their online educational offerings. This being the case, organizations must develop the student support systems needed in order for students to be successful. This dissertation has given practitioners a better understanding of the development process and how they may apply the theory of technological frames to their institution. However, only if the institution truly commits to this development will they be successful in supporting its online student population.
APPENDIX A

CASE STUDY INSTITUIONAL ONLINE ENROLLMENTS 2002-07

FTSE for Online courses

<table>
<thead>
<tr>
<th>Year</th>
<th>Community</th>
<th>Downtown</th>
<th>East</th>
<th>West</th>
<th>Desert Vista</th>
<th>North West</th>
<th>District Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-03</td>
<td>169.13</td>
<td>11.19</td>
<td>23.44</td>
<td>38.84</td>
<td>0</td>
<td>7.47</td>
<td>250.07</td>
</tr>
<tr>
<td>03-04</td>
<td>333.48</td>
<td>14.10</td>
<td>111.23</td>
<td>68.31</td>
<td>0</td>
<td>3</td>
<td>530.12</td>
</tr>
<tr>
<td>04-05</td>
<td>460.09</td>
<td>5.47</td>
<td>229.33</td>
<td>57.25</td>
<td>0</td>
<td>3</td>
<td>755.14</td>
</tr>
<tr>
<td>05-06</td>
<td>674.67</td>
<td>5.87</td>
<td>329.46</td>
<td>63.06</td>
<td>.6</td>
<td>1.9</td>
<td>1075.56</td>
</tr>
<tr>
<td>06-07</td>
<td>830.46</td>
<td>23.60</td>
<td>105.49</td>
<td>118.58</td>
<td>0</td>
<td>12.77</td>
<td>1090.90</td>
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</table>

Enrollments for Online courses

<table>
<thead>
<tr>
<th>Year</th>
<th>Community</th>
<th>Downtown</th>
<th>East</th>
<th>West</th>
<th>Desert Vista</th>
<th>North West</th>
<th>District Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-03</td>
<td>1655</td>
<td>119</td>
<td>220</td>
<td>348</td>
<td>0</td>
<td>56</td>
<td>2398</td>
</tr>
<tr>
<td>03-04</td>
<td>3267</td>
<td>116</td>
<td>1072</td>
<td>673</td>
<td>0</td>
<td>30</td>
<td>5158</td>
</tr>
<tr>
<td>04-05</td>
<td>4596</td>
<td>47</td>
<td>2246</td>
<td>574</td>
<td>0</td>
<td>30</td>
<td>7493</td>
</tr>
<tr>
<td>05-06</td>
<td>6846</td>
<td>44</td>
<td>3208</td>
<td>625</td>
<td>6</td>
<td>19</td>
<td>10748</td>
</tr>
<tr>
<td>06-07</td>
<td>8088</td>
<td>223</td>
<td>1049</td>
<td>1221</td>
<td>0</td>
<td>123</td>
<td>10704</td>
</tr>
</tbody>
</table>

**Numbers gathered from PDA reports SYOFTCRN**
APPENDIX B

CASE STUDY INSTITUTIONAL DESCRIPTION

College Mission

The mission of the College is to develop our community through learning

Academic Programs

168 transfer and occupational programs, including Business, Health-Related, Social Service, Applied Arts Technologies, Applied Service & Trade Technologies, Engineering & Science Technologies, Transportation Services, Information Technology, Legal and Protective Service, and Education

Special Services

Child care, job placement assistance, transfer assistance, financial aid, tutoring, career planning, personal and career counseling, health and wellness support, and supportive services for individuals with disabilities

Workforce Training

Customized training for approximately 28 regional employers, training more than 11,456 employees annually.

Special Services for Business

- Customized courses, certificates and training available on-site with flexible scheduling
- Comprehensive services including needs/skills assessment, career development, return on investment analysis and more
- Companies relocating to the area can be provided with custom-trained workforces
- Free confidential consulting services for small business development, expansion and retention

Annual Enrollment (2006-2007)

62,360 credit
11,717 noncredit
74,077 combined
Student Profile (Fall 2007)

- 57% women; 43% men
- Average age: 27
- 72% part-time; 28% full-time
- 37% ethnic minorities
- 73% daytime; 23% evening; 4% weekend
- Course Enrollments: 26% Occupational and Workforce, 54% Transfer, 15% Developmental, 5% Special Interest

Faculty

- 368 full-time Instructional and Educational Support faculty
- Average class size: 21 students

Revenue (2006-2007)

- State Appropriations: $22,856,400
- Share of State Sales Tax plus State and Local Grants and Contracts: $9,114,560
- County Property Taxes: $81,545,867
- Tuition and Fees (net of scholarship allowances): $26,598,153
- Other Revenue: $9,113,589

Governance

5-member elected Board of Governors

Awards Conferred (2006-2007)

- 2,080 associate degrees
- 2,553 certificates
- 275 diplomas (Center for Training and Development)

Degrees and Certificates Offered

- Associate of Arts (AA)
- Associate of Business (AB)
- Associate of Science (AS)
- Associate of Fine Arts (AFA)
- Associate of Applied Arts (AAA)
- Associate of Applied Science (AAS)
- Associate of General Studies (AGS)
- Basic and Advanced certificates in a variety of occupational and transfer areas.
APPENDIX C

Student Survey

Introduction

This survey is a part of dissertation research conducted by Aubrey Conover at the University of Arizona. The data collected for this survey will further the understanding of the student services needs faced by online students at Pima Community College.

Your identification will be strictly anonymous. All answers will be kept strictly confidential.

Participation is voluntary, however your responses will help in designing ways to better serve you, the online student.

If you have any questions, please email Aubrey Conover at aconover@pima.edu.

Thank you for your participation.

Background

* 1. Gender:
   
   Female       Male

2. Age:
   
   under 18   18-22   23-30   31-40   41-55   over 55

3. What is your ethnic background?
   
   American Indian/Alaskan Native
   Black/Non-Hispanic
   White/Non-Hispanic
   Asian/pacific Islander
   Hispanic

4. What is your occupational status?
   
   Full-time employed
   Part-time employed
   Self-employed
   Not employed outside of home

5. Where do you live?
   
   Within the city of Tucson
Outside of Tucson but within Arizona

Within the United States

Other Country

---

**Educational Information**

6. **What is your immediate educational goal?**
   - Associate's Degree
   - Certificate
   - Job Skills
   - Personal Interest
   - Transfer to 4 year institution
   - Other (please specify)

7. **What is your educational status?**
   - Full-time (12 or more credits each semester)
   - Part-time (less than 12 credits each semester)

8. **Number of semesters completed at Pima Community College**
   - 1
   - 2
   - 3
   - 4
   - 5 or more

9. **Highest level of educational completed.**
10. Are you currently enrolled in another Higher Education Institution?

- University of Arizona
- Northern Arizona University
- Arizona State
- Other (please specify)

11. Are you currently enrolled in another institution?
   - No
   - Yes ______________

Online Educational Experience

* 1. How many Online courses have you taken at Pima?

   - This is my first
   - 2
   - 3
   - 4
   - 5 or more

2. Why did you choose an online course?
   (rate from 0-6 the level of influence each of these factors had)

   - Fit into my class schedule
   - Reduced transportation issues
   - Work around work commitments
   - Family Obligations
   - Prefer Online environment
   - Temporary or permanent disability
   - Other (open ended)
3. Please indicate the level of satisfaction with the different aspects of the online course.
Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use

Access to Webct
Interactions with other students
Interaction with Instructor

Online Student Services

1. Which of the following online student services have you used while at Pima Community College?
Admissions  Registration  Advising  Financial Aid  Student Activities/Leadership  Banner Online Student Services

2. Admissions
Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use
Ease of Application
Ability to get Feedback
Quality of Feedback

3. Registration
Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use
Ease of Application
Ability to get Feedback
Quality of Feedback

How many times a semester did you use this service?
Na  1  2  3  4  5 or more

How satisfied were you with the online service compared to in person interactions that you have had with Pima?
Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use

4. Counseling/Advising
Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use

Use of Virtual Advising Center (VAC)
Quality of responses from VAC
Speed of Responses from VAC
Use of email to contact an advisor or counselor
Quality of responses from advisor/counselor
Speed of Responses from advisor/counselor

**How many times a semester did you use this service?**

Na  1  2  3  4  5 or more

**How satisfied were you with the online service compared to in person interactions that you have had with Pima?**

Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use

5. **Financial Aid**

Online application process
Email communication with Financial Aid Office
Quality of Feedback

**How many times a semester did you use this service?**

Na  1  2  3  4  5 or more

**How satisfied were you with the online service compared to in person interactions that you have had with Pima?**

Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use

6. **Student Activities**

Information on how to get involved
Information on activities and events
Response from student activities staff/students

**How many times a semester did you use this service?**

Na  1  2  3  4  5 or more

**How satisfied were you with the online service compared to in person interactions that you have had with Pima?**

Very Satisfied  Satisfied  Somewhat Dissatisfied  Dissatisfied  Did Not Use

7. **Banner Online Services**

Access to system
Ease of Navigation of System
Access/Updating of personal information
How many times a semester did you use this service?
Na 1 2 3 4 5 or more

How satisfied were you with the online service compared to in person interactions that you have had with Pima?
Very Satisfied Satisfied Somewhat Dissatisfied Dissatisfied Did Not Use

8. Do you plan on taking another online course?
   a. Yes
   b. No
   c. Undecided

9. Please rate the following factors as to which are most significant to you when deciding to take an online course?
   a. Access issues
   b. Availability of classes
   c. Online environment

10. Please rate the following online student services' factors as to which are most significant to you when deciding to take an online course?
    a. Admissions
    b. Registration
    c. Advising
    d. Financial Aid
    e. Student Activities/Leadership
    f. Banner Online Services
    g. WebCt support

11. What has been most beneficial aspect your online interaction with Pima Community College? (open ended response box)

12. What could Pima Community College do to improve your online education experience? (open ended response box)
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