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An Investigation of Community College Students' Perceptions of Elements Necessary for Success in Online Study

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An Investigation of Community College Students' Perceptions

of Elements Necessary for Success in Online Study

by

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of the requirements for the degree of
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Dedication

For Joe, Jason, Jodi and Baxter. Thank you for your help, encouragement, patience, and

love.

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ABSTRACT

Previous studies by professionals in education have investigated the elements that are typical of the successful online student. Studies of the elements required for academic success online from the students' point of view, however, are infrequent.

This study investigated student perceptions of those elements necessary for success in online study; whether students believed differences exist between those elements necessary for success in online study and those necessary for success in traditional classes; and what factors students identify as barriers to successful completion of online courses. A comparison was made of the viewpoints of students who had and who had not previously completed an online course. The student-identified elements were contrasted to those elements identified by professionals appearing in the literature.

This study used a variety of methods. A two-part process of inventory questionnaires and interviews gathered data from twenty volunteers, half with and half without successful online experience. A thematic analysis of the data revealed that time management skills, self-discipline, the ability to work independently, motivation, commitment and adequate technology and equipment were the elements that students believed contributed to success in online study. Those elements were

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believed to be more important for success online than for success in traditional classes. Two elements were identified by 100% of the students with online experience as critical for success: the ability to work independently and time management skills. Three students (30%) without online experience indicated the ability to work independently was necessary and seven (70%) stated that time management skills were necessary. Characteristics of successful students gleaned from the literature produced by professionals in education gave both similar and dissimilar portraits. Barriers to successful online study identified by students were the loss of interaction with instructors and classmates, a lack of time management skills, and problems with e-mailed questions.

It is the conclusion of this research that greater consideration should be granted by educational professionals to student perceptions of the elements necessary to successfully complete online studies.

CHAPTER ONE

Introduction to the Study

Education in the twenty-first century little resembles the practices of earlier times.

Distance education, forms of which have been in existence for at least 100 years

(Galusha, 1997), is no longer a stagnant pencil and paper correspondence course but a

popular method of delivering real time courses via the internet. The changes in

educational technology are as substantive as the establishment of formal school, the

invention of movable type or the transition of education based on writing from that based

on the spoken word (Knapper & Cropley, 1985; Saettler, 1990). Not only have personal

computers and the internet opened new methods of course content delivery but educators

have a renewed interest in student engagement and the correlates of student success in the

electronically delivered format.

Students today are taking advantage of electronically delivered coursework;

online delivery is a fast growing segment of education. An increasing percentage of

associate degree granting schools list online instruction as a growing long-term strategy

(Allen & Seaman, 2005). In the 2000-2001 school year, an estimated 3,077,000

enrollments are shown in distance education courses at 2 and 4-year colleges.

Approximately 2,876,000 enrollments were in college credit courses, most at the

undergraduate level (Waits *et al.*, 2003).

Although many students enroll in online coursework, not all students complete the work successfully. Attrition is a serious problem. Course non-completion rate estimates exceed 50% of all students enrolled in online classes in the United States (Oblender, 2002).

Understanding characteristics of successful learners is the first step toward the goal of using information technology to improve learning and student success (Oblinger, 2005). An investigation of student perceptions of the elements necessary for success in online study offers a critical addition to that understanding.

Modern pedagogy has greatly increased understanding of student learning. The correlates of students' academic success and attrition have been investigated. The personal characteristics, personality traits, and life situation factors that contribute to student success, as well as those that might contribute to student dropout, have been the focus of investigation by professionals in education. The academic literature includes reports by faculty, advisors, administrators, and curriculum specialists that offer insight into elements necessary to be a successful student.

Online learning has also been the focus of recent study. Rarely, however, are the two subjects - characteristics necessary for success and online or internet study - combined. No studies concerning the characteristics of online students were included in the 1994 report *Distance Education: Review of the Literature* (Schlosser & Anderson, 1994) and studies reported there are now over ten years old. Further, the studies of success in classroom and online courses, defined by completion rates, student satisfaction, and intent to enroll in future online courses appear contradictory (Spampinato, 2005). The importance of the role of individual characteristics in internet

learning and the paucity of research on the topic have been recognized (Hartley &

Bendixen, 2001). Given the rapidly increasing volume of online course delivery, studies

of student perceptions of elements necessary for success offer constructive information

for colleges in curriculum planning and student advising.

In one review of the literature, Seidman noted that, although much educational

research has been completed in the United States, little research is based on studies

involving the perspective of those whose individual and collective experience constitutes

schooling (Seidman, 1998). Administrators, instructors, advisors, and other professionals

in the field of education have identified characteristics typical of successful students.

However, needs assessments are rarely conducted to determine what students actually

look for to help them achieve success (Dean, 1998). Rare in the literature are studies of

student perceptions; what the students themselves believe are necessary personal traits or

life situations that contribute to success in traditional or online classes. The students

themselves recognize the need for a better understanding of elements necessary for online

success.

Studies reflect student misconceptions. Descriptions appear of students who,

before taking an online course, claimed to possess the maturity and discipline to succeed

without supervision. The same students, at the end of the semester, indicated that they

lacked the self-discipline to commit the necessary time and energy to attain success in

their online coursework (Oblender, 2002). Knowledge of student misperceptions or

misunderstandings of the effort necessary for success in online study enable educators to

better direct students and prepare them with a more accurate idea of the effort necessary

to succeed in online coursework. Better understanding of the student perspective aids in

identifying those students who could most benefit from direction or advising, assists in

reducing frustration of those students who misunderstand or underestimate the effort

necessary for successful study, facilitates the reduction of online attrition rates, helps

identify methods to improve effectiveness and aid in detection of misconceptions so that

clearer guidelines for student class choice can be publicized. Teachers, administrators

and curriculum planners need to know what the students believe about success online.

More research is needed to better identify misconceptions of both students and

professionals. This study focuses on the perceptions of students at a community college.

Statement of the Problem

In the design of higher education, student opinion and perception are relevant but

appear underrepresented. Student input into the definition of success and the elements

necessary to succeed in an online class is rare in the literature and student identified

barriers or obstacles that impede online study are rarely published. Definitions of student

success generated by non-students, such as instructors, administrators, and advisors, are

available and some contain lists of traits and characteristics representative of successful

students. Demographic data in the research literature occasionally profiles the typical

successful student. Lists of the criteria believed necessary for overall academic success,

representing the students' perceptions, however, seldom appear. This study of student

opinions of elements critical for success in online coursework gives voice to the student

opinion of elements necessary for successful online study.

Studies may use a contrived definition of success (Schonwetter *et al.*, 1993) such

as specific grades or course completion within a certain timeframe. Moreover, students

and administrators or instructors may define success differently. Not only might the definition of the term success differ but also the criteria to meet success may be viewed differently. Student input into the definition of success suggests that, to the student, the criteria differ fundamentally from that defined by administrators, instructors, advisors or parents (Dean, 1998). Without comparison of those elements believed necessary for success by students to those factors deemed necessary for success by instructors and administrators, the risk is real that the objectives, aims, and goals differ.

Studies may define successful students by course completion with a specific grade point average, and include information only on those students, thereby limiting the sample to those who complete the course and silencing the voice of students who, for whatever reason, did not complete a course. Those students who dropped the class may have significant insight into why students do not complete the course successfully. In addition, by limiting questions or data to those students so defined as successful, the sample may be skewed and the data obtained limited in application. Furthermore, little to no allowance is made for the subjective nature of grading, which may vary dramatically from one instructor to another. Not only are grades inconsistent but no agreement exists on what exactly constitutes a course or when the course itself is completed (Young, 1998).

Administrators, instructors, and students as well would likely agree that the mutual goal of education is student success, however, students' and teachers' definition of and criteria for success have not been investigated jointly. An investigation of students' perceptions of elements necessary for success in an online course is needed to compare to the factors specified by educational professionals in the literature.

Significance of the Problem

Studies of college student engagement frequently appear in the professional literature. Such resources as the Community College Survey of Student Engagement give valuable insight into student achievement and attrition and help in understanding the causes of student success or failure (Community College Survey of Student Engagement, 2005). With the increasing popularity of online coursework, a new demand for understanding student engagement has emerged, and with it, greater demands on the instructor to compensate for the lack of physical presence and support.

Given the rapidly increasing volume of online course delivery, knowledge of student perceptions provides constructive information for colleges in curriculum planning and student advising. Greater knowledge of student beliefs could direct advisors and instructors to those students who would most benefit from counseling and advising. The understanding of student perceptions would aid in identifying those students who are not prepared for the independence of online coursework or who hold misconceptions of online coursework. Knowledge of student perceptions might identify students who underestimate the skill necessary for successful online study.

Not only would opportunities for early intervention benefit students but instructors would profit, as well. Instructors who deliver online classes could better prepare with knowledge of the students' perceptions of characteristics necessary for success and the profile of students likely to successfully finish the course.

The instructor faces a greater challenge in identifying at-risk students in an online environment. Knowledge of hallmarks of successful students is crucial because the

traditional early warning behaviors, such as nonverbal and facial gestures, class absenteeism, and so forth, are not readily discernable to instructors teaching online (Wang & Newlin, 2000; Willis, 1992). The role of instructor has shifted from traditional classroom delivery methods and now includes facilitation of technology (White & Bridwell, 2004) and assistance in judging the reliability of the information from internet sources (Apps, 1991). Knowledge of student perspective would benefit instructors in adapting course delivery methods and content.

Purpose of the Study

The primary purpose of this study was to describe those elements that students perceive as critical to success in online coursework. Further, it sought to determine if those characteristics differ in a fundamental way from those traits students identify as critical to traditional classroom success. Also, responses of students who have had experience with online courses and those students who have not had experience with online courses were compared in order to better understand the difference experience may have made in perceptions of the elements necessary to succeed in online studies. Once compiled, the list of student-identified characteristics was contrasted to those elements identified by in the literature by professionals in education as critical to student success. Finally, student identified barriers to success in online coursework were examined.

Student success may be defined differently by students and by faculty (Dean, 1998). A student's list of elements necessary for success in an online class may differ substantially from that of administrators or instructors. This study intended to identify,

from the students' point of view, what elements, factors, characteristics, personal traits or life situations are most important for success in an online class and if those elements identified by students differ from those identified by professionals in education. Also of interest was whether students believed that those same elements were necessary for success in the traditional classroom, and if there was fundamental differences between the beliefs of those students who have and those who have not previously taken an online class. Knowledge of student perceived barriers and obstacles provide a more reliable basis for student advisement, direction and support.

The academic literature reviewed was used to generate a similar list of necessary factors from the point of view of professionals in education. A comparison of the two perspectives highlights the dissimilarity in perception of necessary factors. Awareness of the differences between student and non-student definition of success, and the characteristics, traits, and elements identified by each as necessary to attain that success is crucial for accurate advisement, guidance, and administrative leadership of today's online students. Curriculum planning, course development, method of course delivery, teaching techniques, reduction of attrition, and eventual successful outcomes can be enhanced by the recognition of student perceptions of elements necessary for their success.

Finally, the investigation of difference in perceptions of elements necessary for success in online study between students who have and who have not had previous experience with online study adds to the understanding of the student perspective and attitude toward the use of computer delivered study.

Research Questions

In order to determine what elements, traits, or life situations students believe are critical for success in an online class, and to determine if those elements, characteristics or traits differ in a fundamental way from those factors necessary for success in traditional coursework, or between students with and without successful online experience, the following research questions were posed. A list of characteristics most indicative of student success identified in the professional literature is contrasted to that list generated by the students. Finally, this study intended to relate the major barriers or obstacles to online study identified by students. Specifically, the following research questions were posed:

1. What elements do students identify as most critical for success in online courses?

2. Do students believe those elements differ from elements critical for success in traditional face-to-face coursework?

3. Do the elements identified as critical for success in online study by students who have experience with online coursework differ from those of students who have no experience with online coursework?

4. Do the elements identified by students differ from those commonly listed in the academic literature?

5. What do students identify as the greatest barriers to success in online study?

Definitions Of Terms

Online class or online coursework. Online class or coursework refers to education, training or academic classes or courses delivered to remote or off campus sites via the internet and world wide web. Online coursework is defined by the Sloan consortium as having at least 80% of the course content delivered online (Allen & Seaman, 2005) and that defining criteria is followed for this study.

Distance Education. Distance education is defined in the Executive Summary of the National Center for Educational Statistics as education or training courses delivered to remote or off campus sites via audio, live or prerecorded video, or computer technologies, including both synchronous (i.e. simultaneous) and asynchronous (i.e., not simultaneous) instruction (Waits et al., 2003).   The United States Department of Education defined 'education or training courses delivered to remote or off-campus location(s) via audio, video, or computer technologies as 'distance education' (United States Department of Education National Center for Education Statistics, 2006).

Educational or Instructional Issues.   An organizational category used in this study to define elements that pertain to the curriculum, variety in and breadth of subject treatment, opportunities for spontaneous pursuit of subject matter in classes, review opportunities, practice tests, or problems resulting from delay in answers to e-mailed questions.

Mechanical and Technical Considerations. An organizational category used in this study that includes elements related to access to adequate computers, modems, and

internet service, equipment reliability, computer malfunctions and data loss, program navigation, delivery platforms, or internet security.

Personal Characteristics. The organizational category used in this study that includes elements pertaining in general to the students' personality, qualities, traits, learning preferences, habits, acquired technical skills, organizational and time management skills, judgment, motivation patience, self discipline or self concept are included in this category.

Social Aspects. The organizational category used in this study that includes the elements concerning peer pressure, extra curricular activities, non-verbal communication, study groups, campus environment or the college experience, or personal interaction with teachers, advisors, family or classmates are included in the category of social aspects.

Student Success. For purposes of this study, student success is defined as completing an online course in which the student is enrolled with a grade of "C" or higher, or 2.0 or higher on a four point scale. Several research studies define success in an online class as completing the course with a passing grade, usually defined as a "C" or higher, or scores of two on a four-point scale (Dean, 1998; Diaz, 2000; Spampinato, 2005; Tucker, 2001; A. Wojciechowski & Palmer, 2005; A. J. Wojciechowski, 2004).

Unsuccessful Student. For purposes of this study a student is unsuccessful if, for any reason, the course is not completed, that is the student has been assigned a "W" (withdrew) or "I" (incomplete) grade or is completed with a grade of "D" or "F" letter grade or below 1.9 or below on a four-point numerical scale.

Assumptions

It was assumed that the students interviewed for this study answered truthfully, recognized the objectives of the interview and understood that nothing would be gained from less than honest responses.

This study also assumed that unsuccessful does not equal personal or academic shortcoming. Some previous studies categorized as unsuccessful students who did not complete the online course with a certain grade. This study recognized that students stop attending classes for a number of valid reasons. Health or financial hardships, for example, or childcare or transportation problems may prevent the completion of a course.

Limitations

It is not the intent of this study to generate a definitive list of elements that define student success but rather to compile the perspectives of traits or characteristics believed critical to success in online coursework by one group of college freshmen and sophomore students at a Florida community college. Although the goal was to more clearly understand student opinions and perceptions, factors such as students' emotional state, which may have influenced responses, were beyond the control of the researcher.

Data given by the respondents was self-reported and was not verified from the college records or database.

Students were asked to respond to questions concerning success in online or traditional class work but were neither asked to define success nor offered any definition in this study other than a reference to passing a course with a grade of "C" or higher. No

verbal indication during the interview or written information on the inventories defined the word. The meaning of success may have varied from faculty to student and from student to student. Similarly, no attempt was made to ascertain the quality of the completed online courses from the students' point of view.   Students were asked simply if they had previously taken an online course.

The questionnaire or inventory and the interview template used in this study included questions drawn from several sources. The instruments were generated for this study and therefore had no previously established reliability or dependability. Questions derived from the professional literature rely on the credibility of each author. Copies of the inventory questionnaire and the interview template appear in Appendices A and B, respectively. The basis for questions is discussed in depth in chapter 3.

The sample was a purposeful one taken at a single Florida community college. All participants were volunteers willing to discuss their opinions concerning online studies. The perceptions of university, college or private school students; residents of other geographical areas; or a sample that included the population of an entire student body may differ.

The author of this study is an instructor at Pasco-Hernando Community College and may have been known to the respondents. Although no student currently enrolled in the researcher's classes was included, students' answers may still have been guarded.

Organization of the Study

The purpose of this study was to investigate those elements perceived by one group of community college students as necessary for success in online coursework and

to contrast those perceptions with the criteria shown as critical for success in the academic literature. The research also intended to identify the greatest barriers to and obstacles of online study from the students' point of view, and to investigate the difference between those students who had and those students who had not previously taken an online course. Elements may include such things as personal characteristics, personality traits, financial, family or health situations. A review of the literature provided a list of those characteristics, personal traits, attitudes or life situations perceived as critical for student success by administrators, advisors, instructors or other professionals in higher education.

The first chapter has included an introduction to the study, statement and significance of the problem, the purpose of the study, the research questions, a definition of terms and a discussion of the assumptions and limitations of the study.

Chapter 2 provides a review of the literature related to this study and is divided into two sections. The initial section of chapter 2 includes the introduction and a review of the literature in areas generally related to student success. The growth and scope of online coursework, the types of studies conducted as reported in the literature, student attitudes as they impact the likelihood of college success, drop-out and attrition rates, and definitions of student success are included in the first segment of chapter 2.

The second portion of chapter 2 reviews the specific studies conducted concerning characteristics or traits believed necessary for student success from the point of view of scholars, administrators, advisors and instructors. From that material the comparative list was compiled.

Chapter 3 describes the methodology used for the study. That chapter is presented in seven sections. Initially, the conceptual framework, research design and strategy along with the overall rationale for the design choice are discussed. The impact of a pilot study and issues of dependability are included there. The second section of chapter 3 is a discussion of the role and possible biases of the researcher. The discussion of the researcher's role is followed by a description of the inventory and interview template. The basis for the inventory questions included is discussed there. Protocol and data collection procedures follow in the fourth section. In the fifth section, the research setting is described and followed in the sixth section by the particulars of the population and sample. The seventh and final section describes the method used for analysis of the collected data.

Chapter 4 presents the results of the research. Demographic and descriptive data collected from the inventories are presented in narrative and table form in the beginning of chapter 4. The student-identified elements are presented in the last portion of that chapter as each of the five research questions are discussed in turn.

In chapter 5 the conclusions are discussed as well as suggestions offered for further research in the area of student perceptions of characteristics necessary for success in online study.

CHAPTER TWO

Review of the Literature

This review of the literature is divided into two major sections. General topics

and aspects related to this study open chapter 2. Criteria for inclusion in this study, the

current scope of online enrollments, the range of international studies, student attitudes

towards online studies, attrition, types of studies found and variations in definition of

success are included in the first section. Following that is a more detailed review of

specific scholarly studies intended to generate a list of characteristics identified by

professionals in education as defining student success. The items identified are

summarized and a table presented at the end of the chapter in order to contrast the

perceptions of non-students with those of the students surveyed for this study.

Criteria for Inclusion

The literature reviewed for this study consists of refereed and peer reviewed

journals and electronic journals, published doctoral dissertations, relevant print and e-

books, and government reports and documents. The world wide web search engines

Google and Google Scholar were used and the databases Education Full Text, ERIC,

Mental Measurement Yearbook, MERLOT, Omnifile, Premier, ProQuest, PsycINFO and

Wilson were accessed through the University of South Florida and Pasco-Hernando

Community College libraries. Qualitative, quantitative and mixed methodology studies

were included. With rare exception, and to ensure internet application, the material was

limited to the past 15 years for studies. Theoretical and analytical materials were not time bound.

A study of student perceptions of the characteristics necessary for success in an online course includes the separate ideas of student opinion, student success, and online coursework. This review of the literature sought research concerning the amalgamated three aspects as well as each concept individually. Scholastic journals, doctoral dissertations and electronic databases were mined using the key word combinations of achievement, attitude, attributes, attrition, belief, characteristics, e-learning, engagement, factors, internet, online, opinion, perception, perspective, point-of-view, student, success and traits.

Scope of Online Enrollment

Building on earlier innovations in distance education using electronic delivery, the first courses were delivered via the world wide web in 1995 (Bates, 2005).   In 2000-2001, an estimated 3,077,000 enrollments were shown in distance education courses at 2 and 4 year colleges. As Kozeracki points out, most organizations that monitor distance education do not include correspondence courses in their counts (Kozeracki, 1999). Approximately 2,876,000 enrollments were in college credit courses online, most (82%) at the undergraduate level (Waits et al., 2003). Over 500,000 students took all their coursework online (Bates, 2005).

In the United States in 2004, approximately 2.35 million students took one or more on-line courses. The percentage of growth, over 18% per year, is over ten times that projected by the National Center for Education Statistics for the general

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postsecondary student population (Allen & Seaman, 2005). The U.S. Census Bureau

reports that of the 4,130 degree granting postsecondary institutions counted, 2,320, or

56%, offered education or training courses delivered to off-campus sites. The Sloan

Consortium reports that 63% of those schools with undergraduate programs offer

undergraduate programs on-line. A growing percentage (72% in 2005, compared to 58%

in 2003) of associate degree granting schools list on-line as a growing long-term strategy.

Forty-four percent of schools offering masters programs in the United States offer those

programs on-line and 43% of the business programs are offered on-line (Allen &

Seaman, 2005). In 2000-2001, 56% (2,320) of all two and four year, Title IV-eligible,

degree granting institutions offered some distance education courses and 90% of public 2

year and 89% of public four year schools did. In 2000 12% indicated that they would

start distance education delivery by 2005. Only 31% did not offer, and had no plans to

offer, any distance education courses (Waits et al., 2003). Online coursework is an

integral part of the educational environment today throughout the world.

<div align="center">Student Attitudes Toward Online Study</div>

Students report strongly positive attitudes about the value of technology and rely

on technology as an essential and preferred component of their academic lives (United

States Department of Education Office of Educational Technology, 2004). Today's

students feel that computer technology is an effective way to learn and generally have a

positive attitude concerning computerized distance education (Lowerison *et al.*, 2006;

Smith & Oosthuizen, 2006). Increased enrollment in on-line courses testifies to the fact.

The *Department of Commerce Report on Americans' Access to Technology* shows that

39.7 percent of Americans with internet at home used the internet to take courses in 2000, up from 35.4% in 1998 (United States Department of Commerce Economic and Statistics Administration, 2000).

Attitudes of entry-level students towards computers were the focus of a study conducted at two South African universities by Smith and Oosthuizen (2004). A re-examination of the earlier study by Lee (Lee, 1970), the researchers examined several aspects of student attitude. Comparisons were made of male and female perceptions, of attitudes of English and indigenous African languages speakers, students with and without previous computer education, and distance and residential students. The stated purpose of that study was to determine whether the inclusion of any remedial teaching in the course syllabi was necessary to improve the attitudes of students toward computers. To that end, the questionnaire used by Lee (1970) was adapted for the context. Changes included substituting the word *computer* for *machine* and a question concerning economic development was changed to more current situations.   The questionnaire was in two parts: part one was to identify the language and gender of the participant as well as the level of computer experience; part two was the adaptation of Lee's 20-item questionnaire. The researchers gathered 1,072 responses. The demographics determined by the first part of the survey determined that the sample was reflective of the student population at the universities in terms of gender and residence. Smith and Oosthuizen's results noted a significant difference between the attitudes of males and females in the two categories of "negative sentiments toward computers" and "fear of computer power" with males being less apprehensive in both cases. Further, English speakers were less apprehensive toward computers and more likely to indicate that computers were

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beneficial tools for man.   Highly significant differences were found in the responses of

students with previous exposure or education in computers. Those with more education

and exposure indicated less negative feelings.   When compared with earlier studies using

the questionnaire developed by Lee, the results of this study indicated similar results,

although the studies were conducted at different times, different universities and with

different sample sizes. The conclusion reached, that students were comfortable with

computers and held a realistic view of computer power, may have been affected by the

fact that the students polled were computer science and/or information technology

students, who, presumably, would have a favorable attitude toward technology. This was

not acknowledged in the results of the study. The recommendation of the study is that

less mention need be made on syllabi and that less time be spent convincing students of

the benefits of computing or in allaying fears about computers.

     Scholars have investigated the impact of gender, educational background, age and

ethnicity on student attitude towards online study and reported their findings. Rainbow

and Sadler-Smith found no difference in student disposition toward computer assisted

learning due to gender, educational background, or age in a study conducted at the

University of Plymouth in the United Kingdom (Rainbow & Sadler-Smith, 2003). Diaz

(2000), on the other hand, asserted that age and gender did influence attitude toward

online learning. Diaz found that students who enrolled in health education classes online

at Cuesta College, San Luis Obispo, California, were more likely older than traditional

college age, female and did not carry a typical course load of 12 to 15 units. Diaz also

reported a higher percentage of ethnic majority students enrolled in online courses (Diaz,

2000). Though fewer minority students enrolled in on-line classes in general, some

researchers found that, when enrolled, minorities tend to be more successful than other students (United States Department of Commerce Economic and Statistics Administration, 2000). Other researchers found different results (Spampinato, 2005) . If counted in percentage rather than actual numbers, the percentage of Blacks, Asian Americans and Hispanic Americans exceeded the percentage of Whites using the internet for courses. Over 40% of Black computer users were using the internet to take courses, 38.4% of Asian Americans and 43.1 percent of Hispanic computer users were using the internet to take courses. Thirty-one percent of White computer users used the internet to take courses (United States Department of Commerce Economic and Statistics Administration, 2000).

Some challenges have been forwarded concerning the perceived effectiveness and quality of online instruction and the motivation and satisfaction of students (Lowerison et al., 2006). Issues of interaction, presence and performance in an online course were investigated by Picciano (2002). The sample for that study, conducted in the fall of 2001, was 23 students enrolled in an elective course entitled Administration and Supervision: Issues in Contemporary Education at Hunter College in New York City. The course was completely asynchronous and delivered via a course web site utilizing the BlackBoard course management system. Measures of student interaction were based on participation in online discussions and were collected over the 13 units offered during the semester. Findings from that study establish a strong relationship between students' perceptions of the quality and quantity of their interaction and their performance in an online course (Picciano, 2002). Sankaran and Bui considered the effectiveness of web versus lecture courses and noted differences were more attributable to student motivation than course

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delivery format (Sankaran & Bui, 2001). Case studies cited by Venezky and Davis found that, in general, the quality of instruction was not reduced through computerized applications (Venezky & Davis, 2002). Diaz (2000) reported that students enrolled in the online health education classes in his study were at least as, if not more, successful as equivalent on campus students when success was measured by exam scores, course grade of "C" or higher and by student satisfaction. In addressing attitude and student perceptions of control, Schonwetter, Perry & Struthers remarked that previous studies may provide only preliminary insight into students' perceptions that have developed during their exposure to the classroom environment during primary and secondary school (Schonwetter et al., 1993). Student motivation, satisfaction and attitude towards online studies determine, in part, successful course completion rates.

Attrition

Online learning presents unique challenges to the student; attrition rates for courses delivered online reflect the fact that all students are not successful. Approximately 50% of students enrolled in online courses in the United States drop out, (Frankola, 2001; Oblender, 2002), an attrition rate 10 to 20% higher than their face-to-face counterparts (Frankola, 2001).

Advisors and faculty may have little understanding of how to help students who are struggling with the unique problems of the internet coursework environment and institutions often do little to appropriately guide students as they select course formats (A. Wojciechowski & Palmer, 2005). Students may have misconceptions of what it takes to successfully complete an online class (Wojciechowski & Palmer, 2005; Frankola 2001;

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Oblender 2002) or lack the sense of control offered by free choice in subject or class (Schonwetter et al., 1993).

It is worthy of mention that not all dropout situations imply failure. Situational factors such as health or financial problems, childcare, or other emergencies may necessitate student withdrawal. Dropping out may be viewed as a positive factor by the student if done to take advantage of a situation such as new employment opportunity (Dean, 1998). One individual's definition of success may differ from another.

Focus of Recent Studies

The body of literature generated in the past decade is significant and represents an impressive amount of research concerning online methodology and technicalities. Scholars have compared courses delivered online with like courses offered in the traditional classroom by student pass rates, final course grade, retention, and satisfaction. Methods of addressing variation in learning styles in an online environment have been investigated, attrition rates for online learners are reported, statistics are related on the number of courses delivered by colleges and schools, and demographics such as student age, gender, ethnic group, and number of children living at home appear in the literature.

Studies comparing online to traditional courses have focused on attrition rates (Bates, 2005); successful student completion of the course as measured by grade point average (Bernard *et al.*, 2004; Dean, 1998; Diaz, 2000; Spampinato, 2005; Tucker, 2001; A. Wojciechowski & Palmer, 2005; A. J. Wojciechowski, 2004); reasons given for the popularity of online versus traditional face-to-face courses (McPherson & Nunes, 2004) and portraits of the student population taking online courses as defined by gender, race,

age, economic status, handicap or learning style (Beishline & Holmes, 1997; Cassidy & Eachus, 2002; Diaz, 2000; Dupin-Bryant, 2004; Mupinga *et al.*, 2006; Spampinato, 2005; Wang & Newlin, 2000; Waterhouse, 2005) and native language (Smith & Oosthuizen, 2006) have been conducted. Freedom of course selection and choice (Roblyer, 1999), number of other courses being taken (Diaz, 2000; Wang & Newlin, 2000), students' frustration with technology (Hara & Kling, 2000); employment status (Astin *et al.*, 1984), self-motivation (Lebedina-Manzoni, 2004), influence of parents (Flores-Juarez, 2005), perceptions of programs and teachers (Ramsden, 1984; Wang & Newlin, 2000) and sense of control (Schonwetter et al., 1993; Wang & Newlin, 2000) have been the subjects of academic study.

Correlates of student success and characteristics of successful students have been investigated in health education classes (Diaz, 2000); research methods (Jurezyk *et al.*, 2004) business courses (Wojciechowski, 2005; Volery 2001) psychology (Wang & Newlin, 2000; Waschull, 2005), and Information Technology and Computer Science (Smith & Oosthuizen, 2006). In few instances have investigators asked the students to define the characteristics necessary for success in higher education (Flores-Juarez, 2005; Harbeck, 2001).

Hartley & Bendixen (2001) pointed out that of the three predominant categories of research in educational technology: research on media, comparing methods, and investigation into impact of learner characteristics, the first two have garnered the bulk of attention from researchers (Hartley & Bendixen, 2001).   A plethora of studies exist on student engagement, and studies have sought to identify the correlates of student success. Fewer studies, however, have sought the opinions of the students themselves or have

sought student perceptions on what are believed to be the elements necessary for success. A clear need exists to profile the characteristics suggestive of success for the online student (Diaz, 2000; Wang & Newlin, 2000).

Range of International Studies

Internationally, researchers have investigated the profile of students involved in computer-assisted learning.   Students from the University of Monterey, Mexico (Flores-Juarez, 2005); the Lancaster Study from the United Kingdom (Ramsden, 1984); the Open University of Israel (Beyth-Marom *et al.*, 2003); the University of Zagreb, Croatia (Lebedina-Manzoni, 2004); Athabasca University, Canada (Powell *et al.*, 1990); the University of South Africa and the University of the North, South Africa (Smith & Oosthuizen, 2006); the University of Plymouth, England (Rainbow & Sadler-Smith, 2003); and Curtin University of Technology, Sydney, Australia (Volery, 2001) have been considered.

Perceptions of Success

No agreement exists on the exact meaning of the term success. Definition of the term is vague and what constitutes success is often left to individual interpretation. Students, faculty, administrators, and parents may have differing opinions about what it means to be successful. A parent may define a successful student as one who attends classes faithfully and does not violate the rules of the home. An instructor may see a successful student as one who sits in the front row, tests well and participates enthusiastically in class discussions. To the administrator, a successful student may

simply contribute to FTE measurements. Dean (1998) found that the definition of the

term by faculty, defined as academic success, differed significantly from the broader

perspective of the concept defined by students as happiness and meeting personal goals.

Ramsden (1984) points out that the *same* student takes different approaches in different

circumstances. Several research studies define success in an online class as completing

the course with a passing grade, usually defined as a "C" or higher, or scores of two on a

four-point scale (Dean 1998; Diaz 2000; Spampinato 2005; Tucker, 2001;

Wojciechowski 2004; Wojciechowski & Palmer, 2005).

      Scholars have defined and measured success by a variety of elements. The

following section of chapter 2 reviews studies published in doctoral dissertations and

professional literature concerning characteristics, personal traits and other correlates of

student success. For ease of reference, a table summarizing the points appears at the

conclusion of the chapter.

Individual Studies

Faculty and student perceptions of what constitutes success in the college experience were the focus of a study by Dean (1998). Twenty-seven students participated in two focus groups in the spring of 1997 at the College of Agriculture and Life Sciences at Virginia Polytechnic Institute and State University, Blacksburg, Virginia, in a study designed to define student success based on the perspectives of freshmen, sophomore, junior and senior students as well as faculty at the College of Agriculture, and to identify barriers to student success. In the spring semester of 1998, seven faculty members participated in two focus groups. Findings indicated that faculty and students have dissimilar perspectives on student success. Faculty placed more emphasis on academic elements and students focused on more personal indicators, such as happiness. Dean points out also that much previous research has been based on the assumption that success as a student simply means success in the academic arena.

In audio taped sessions the participants began a discussion of the definition of student success and resulting individual definitions were sorted into categories and these categories discussed. The participants completed a supplied questionnaire concerning the categories as well as perceived barriers to success. Transcriptions of the audio tapes were coded for information considered by Dean to be pertinent. Information was sorted into categories of definitions of student success, barriers to success and solutions to improve the chances of success. A similar procedure was followed for faculty input. Dean's findings were that, to faculty, the essentials of student success included the following:

1. Maintaining academic success.

2. Securing a position in a chosen career field.

3. Graduation.

4. Being able to apply lessons learned during the college experience to other situations in life.

Students, on the other hand, defined success differently. The most common element of success mentioned by students was to be happy or satisfied with the college experience, a much more imprecise and vague definition. Students referred to the following areas as indicators that one had achieved or was working towards achieving success:

1. A proficiency in all academic subjects.

2. Achieving a balance of all the elements of one's life.

3. Gaining practical experience to apply to the future.

4. Achieving one's goals.

5. Maintaining good grades.

6. Graduating.

7. Participating in and out of class.

In the end, students maintained that it was the student who determined whether success had been achieved.

Barriers to student success identified by faculty included lack of maturity, lack of motivation, poor time management skills, participation in too many extracurricular

activities and too little contact with faculty. Financial and family pressures were also mentioned.

Student identified barriers included poor time management and study skills, lack of discipline, participation in too many social activities, and overall difficulty working in the college academic environment due to faculty style, class size or grading methods. Students mentioned frustration in working with graduate teaching assistants, communication problems, lack of preparation for college and personal problems stemming from difficulty with family, friends and financial pressure.

The identification of the unique characteristics of successful online students in health field related classes the focus of a study by Diaz in 2000. Data concerning student characteristics were analyzed for 96 online health education students, for 585 students in the health program and for 9156 students on the Cuesta College Campus, San Luis Obispo, California. Data were collected on age, motivation, gross household income, gender, ethnicity, learning style, self-assessed computer expertise, prior college GPA, prior college units, number of units attempted, number of dependents, and number of hours worked. No significant differences were noted between the health field education students and the general student population in the areas of prior college units attempted or earned, number of dependents, hours worked, motivation, age, or learning style. It was noted, however, that both successful and unsuccessful online students preferred an independent learning situation.

Analysis of data collected by Diaz generated the following list of characteristics the represent the successful online student:

1. Female. Data from 96 students, 75 of which successfully completed the online course under investigation, revealed that of the successful students, 30, or 40%, were male and 45 (60%) were female. Thirteen (61.9%) of the unsuccessful students were male and eight (38.1%) were female.

2. Non-white. Although fewer ethnic minority students enrolled in the online class (81.3% were white), when minority students did enroll they were more likely to successfully complete the class than their white counterparts. In this study 78 white and 20 minority students were included. Fifty-nine white students were successful, 19 were not. Eleven of the 12 minority students were successful, only one was not.

3. Higher gross household income. Divisions for this study were household income of $0 to $20,000; $20,001 to $40,000; $40,001 to $60,000; $61,000 to $80,000; and greater than $80,000. The percentage of non-successful students with gross household incomes between $20,000 and $40,000 (23.9%) was almost double that of successful students (12.9%). Of the 17 successful students in the study with incomes household incomes over $61,000, only 4 were not successful. All students with household incomes between $61,000 and $80,000 were successful.

4. Higher overall GPA. Successful online students had a higher cumulative grade point average overall. Of the 96 students on whom these data were gathered, the 75 successful students had a mean GPA of 3.02 on a 4-point scale; the 21 non-successful students had a mean GPA of 2.25.

5. Lower self-perceived computer expertise. Interestingly, unsuccessful students

rated their expertise in the use of the world wide web higher than the successful students. Unsuccessful students' average rating of their skill was 3.67 on a 5-point scale; successful students ranked their skill level at 3.38 on a 5-point scale. Similarly, unsuccessful students ranked their use of e-mail a 3.62 on a 5-point scale whereas the average successful students ranked their skill in e-mail technology at 3.26.

Flores-Juarez (2005) investigated factors that students' perceived influenced their engagement and promoted success at the Universidad de Monterrey, Monterrey, Nuevo León, Mexico. That study focused on factors related to institutional practices and student behaviors, predominately student retention and success. Student success, Flores-Juarez points out, includes a number of related ideas: engagement, involvement, persistence, and learning, among others. Specific recommendations to improve student retention and reduce student attrition were outlined in this study. First was a systems approach by the college, so that every aspect of the institution worked together to promote student success. It was noted that students maximize their chances of graduating by attending a private university in any region or a public four-year college located in the northeastern or southern United States. Attending a college affiliated with the Roman Catholic or a protestant church also positively affected student retention. Students also tended to persist in institutions of moderate size. Attending institutions where other students had similar backgrounds also aided in retention, particularly if hometown size, religion and race were considered. Access to financial aid, intervention programs for at risk students

and the campus academic environment contributed to student graduation rates, as did as student employment.

An Interactive Qualitative Analysis (IQA) research method was chosen for this qualitative study of student perceptions and the guidelines of the National Survey of Student Engagement were followed for the interviews. Program heads and faculty of five academic division were asked to nominate twelve 'engaged' students and from that list the purposeful sample was taken. Of the original 60 candidates, 36 students took part in one or more of the data gathering activities. Focus groups were established, one for freshmen and one for seniors and the groups were asked to identify factors that affected student engagement. Engaged students were defined as those who: enjoy and were committed to their major; had not been expelled from any other university; had persisted since the beginning of the program; had a GPA of at least 8.0 (the Mexican scale based on 0-10 stipulates 6 as fail and 7 as pass); participated in different institutional activities and had a good chance of graduating in a total of ten or fewer semesters. The two groups of successfully engaged students generated the following criteria for student engagement/success. The criteria from both groups are listed in ranked order below.

1. Personal aspirations and goals. Identification of personal goals and ambitions was a key element identified by students as critical to success. Short, mid and long term goals were clear and ambitious. Students believed that commitment to the aspirations was necessary and provided the impetus to work persistently.

2. Personal aspects. Students identified a positive attitude, good personal organization, discipline, constancy and good time management as critical keys to success. In the classroom they take part, accept responsibility, are courteous and

establish good relationships with classmates and teachers. Also mentioned as

critical to successful engagement were personal situations including personal

finances, health, whether living with family, emotional stability and self-esteem.

3. Faculty interaction. Successful students identified faculty as the most important

element at their university. Students stated that they wanted to work with good

teachers and be near them. The best teachers were identified as honest, courteous,

well prepared, knew how to teach, had relevant experience, were enthusiastic and

established solid, productive relations with students.

4. Relevant people. Students who were strongly committed to their studies

identified their family, particularly their parents, as fundamental to their success

in terms of values, habits, personality, support, encouragement and motivation.

Students occasionally remarked that their parents had high expectations of them

and they felt highly committed to them.

5. Academic aspects. Successful students wanted a meaningful learning

experience. They professed an enjoyment of their major field of study and were

proud of their institution. Many felt the academic rigor of their discipline was

appropriate.

6. Fellow students. Successful students identified classmates as an important

aspect. Teamwork, mutual support in personal and academic matters, mutual

encouragement and companionship were listed as a significant influence.

Successful students relayed that they surrounded themselves with other successful

students and that principles, habits, and goals were shared and reinforced by the

association.

7. Extracurricular activities and scholarships. Successful students were aware of the benefits of extracurricular activities. They tended to take part in a number of activities such as personal development, athletics and student leadership. These students often reported more commitment to the institution.

8. Services and infrastructure. Students reported that services and infrastructures were not critical factors but were important. Libraries, study areas, computer labs and student services were mentioned as important areas of service and infrastructure.

9. Physical plant. Successful students reported that they liked their campus for its design, its geographical location and arrangement that allowed them to meet others. Parking was a consistently negative remark concerning the physical campus.

Flores-Juarez interviewed and analyzed the responses from freshmen and seniors separately and found the outlook to be very similar. Freshmen, for example, used the world 'parents' and seniors used 'family' and even those slight differences disappeared at the third and fourth level. Flores-Juarez concluded that successful students perceive the elements that decide how committed and involved they were with their studies the same way as freshmen as they did as seniors.

Harbeck (2001) considered the characteristics of community college students taking online courses, the elements that aided their success, and how the infrastructure of the college supported the students. The sample of 168 students was chosen from a population enrolled in online courses over four consecutive semesters in 1999. Each of

the 168 students was sent an e-mail inviting them to fill out the questionnaires. Data were collected via 29 interviews, 20 observations and three separate questionnaires. The first questionnaire elicited 35 responses, the second 13 and the third asked for 20 answers. Of the 168 potential subjects, 15 students were interviewed, 35 respondents answered the first questionnaire, 13 replied to the second and 20 responded to the third for a total of 68 questionnaires completed. All respondents were volunteers in this sample. The 15 students who participated in the two interviews were paid $20.00 per interview.

Demographic data were collected concerning gender, ethnicity, age, and parental and marital status to address the research question of the characteristics of students taking online courses. Harbeck reported the following: In the year of the study, 55.6% of distance learners were female; among the interviewees, 73% were female and of the respondents to the first questionnaire, 69% were female. The ethnicity of online learners was 92.2% white, 2.0% African American, 1.5% American Indian, 0.5% Hispanic, .5% Asian and 3.0% Other. The majority of the interviewees (86.6%) were white, 6.7% Native American and 6.7% Hispanic. Data from the first of the three questionnaires revealed that of 35 students, 48% were married and 45.7% were parents. The majority (57.1%) of the online students who responded to the survey were between ages of 20 and 29. A summary of the background characteristics of the interviewees showed 93% were employed; 66% were women; 60% were married, 54% had children; and 46.6% were in their 30s.

Harbeck established four categories to group the results. The categories, referred to as domains, and the elements representative of them are listed below. Domains and

categories were not mutually exclusive. The data in one area could also be appropriate in another.

1. Interpersonal support. This category included such issues as lack of distractions or interruptions, physical space and support from family or employers.

2. Student characteristics. Seven distinct areas were ascribed to this category.

   a. Concerns. This subcategory included lack of interaction, technical concerns and problems, a lack of experience with online learning and lack of study skills.

   b. Motivation. This subcategory contained students' long term goals, required courses, convenience, personal goals and interests and attitude.

   c. Perception of content. Perception of Content included levels of difficulty of the coursework and level of the students' interest in the topic.

   d. Prior knowledge. Prior knowledge of course content and of online learning were included in this subcategory.

   e. Academic background. This subcategory dealt with the students' academic background, grades and overall learning outcomes.

   f. Learning preferences. Personal learning styles, time and course management, individual need for structure, personal interaction and study habits were included in this subcategory.

   g. Technological issues. Factors such as access to computers and technical skill level were discussed in this domain.

3. Course issues. Properties inherent to online courses included convenience,

novelty, lack of live interaction and student autonomy. Also included in Course

Issues were practical issues of discussion boards, assignment submission and

assessment.

4. Infrastructure. Hardware and software technical problems, computer or modem

malfunctions and technical support were factors of infrastructure.

In the discussion of dimensions or features that promote success in online courses,

Harbeck points out (page 142) that the lack of facilitative dimensions or features may be

problematic.

> "In discussing the facilitative dimensions or features that promote student success in on-line courses, it is important to realize that the converse of a beneficial characteristic is that the lack of this feature could be inhibitive. For example, to say that interaction is advantageous to student success is also to say that the lack of interaction is problematic. Therefore, for every point made in addressing the issue of facilitative dimensions, a corresponding point can be made about debilitative features."

The findings of Harbeck's study asserted that in order to be successful in an

online course, students should possess certain personal characteristics and should have

the support of family, friends, employers and the college infrastructure. Overall, seven

features were found to be significant for students' success.

1. Interaction. Interaction between the learner and instructor was critical to student

satisfaction and persistence. It was believed that interaction improved learner

motivation because it provided for support from classmates and instructors.

Twelve of the 35 respondents stated they were uncomfortable with the lack on

instructor interaction.

2. Well designed and managed courses. The manner in which instructors design

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and manage the course was important. Students stated that expectations should be well defined.   Since students do not have the opportunity to raise their hand to ask questions, it was important that assignments be clear and unambiguous and that there be provisions for instructor feedback.

3. Physical and emotional support. Respondents asserted that support from significant others was essential. Emotional support from spouses, parents and children as well as understanding employers was believed critical for student success.

4. Motivation. Students motivated to work online, who were self-disciplined were more likely to be successful. In this study, all respondents had long term goals associated with achieving a degree. The willingness to work toward this purpose was shown to be a significant element in student success.

5. Self direction. Another personal characteristic identified that was necessary for success for online learners. Students needed to possess learner motivation and responsibility. Successful students were self-actualizers. Since online instructors were not physically present, students recognized the need to be self-directed and overcome distractions. This study found that electronic distractions of Instant Messaging and surfing the net were more debilitating than interruptions from other sources.

6. Prior knowledge of online courses. Prior experience with online learning was beneficial to students. It was found that even a short time of online course experience was beneficial in reducing difficulties in navigating the internet and

online coursework. This concern also appeared in the domain of Infrastructure support.

7. Technical skills. Knowledge of the technology involved, not the logistics of web-based instruction referenced in characteristic number six above was found to be an important element in student success.   The challenge of learning technical procedures and equipment while simultaneously learning course content was challenging. Further, good experience with online classes gave confidence in taking a second course online. It was remarked that students needed expertise in using the internet and word processors and that, before taking online courses, some students overestimated their computer skills. Students with a flexible, open attitude towards technical difficulties and the course in general seemed more capable of problem solving and continued in the course in spite of frustrations.

The facilitative features or characteristics that promote student success in online courses as delineated above were contrasted with debilitative dimensions that inhibited student success. The following issues were considered debilitative: lack of interaction, poorly designed and managed courses, lack of physical and emotional support, low motivation, poor self-direction, no prior knowledge of online courses and weak technical skills.

Hartley and Bendixen (2001) by a study of relevant research examined the role of individual characteristics in internet learning and divided the findings into two broad categories they considered most relevant: self regulation and epistemological beliefs.

1. Self regulatory skills. Self regulatory skills were defined as the ability and

willingness to effectively use and monitor cognitive strategies.

> a. Self monitoring. Included in this category were the learners' abilities
> to monitor their understanding while reading.
>
> b. Goal setting. Also in the realm of self-regulatory skills was the
> students' ability and willingness to set goals.
>
> c. Awareness of ability. Successful self regulated learners are aware of
> their strengths and weaknesses and can adapt to different learning
> situations by using appropriate learning strategies and planning.

2. Epistemological beliefs. Epistemological beliefs, or beliefs about the nature of knowledge and knowing held by students, were linked to cognitive processes such as text comprehension, text processing, academic performance, self regulation and motivation.

a. Flexibility. Flexibility in learning, which allows multiple perspectives, links concepts and stresses the webbed nature of knowledge.   A student who believed in a fixed ability as a primary determinant of success might believe that more effort would not coincide with more learning. As a consequence, the additional tools available, such as links to definitions, self-check materials or diagrams would not be sought.

b. Broader view of knowledge. A student who believed that knowledge is the sum of simple facts might be less likely to take advantage of hypermedia enhancements, or other enrichments seen as unnecessary extras.

Schonwetter, Perry and Struthers completed a study of student perceptions of control and success in the college classroom in 1993 and demonstrated not only the importance of the students' sense of control in the classroom but the link between self perception of success, instructor expressiveness, and scholastic performance (Schonwetter, Perry & Struthers, 1993).   While not including on-line students, the study does focus on student perceptions of success. This study used a two by two experimental design with four distinct groups: low-control/low-success, low-control/high-success, high-control/low-success and high-control/high-success. One hundred and forty students from an introductory psychology course volunteered for the study. Responses on a questionnaire were used to classify students into groups. Traits that characterize the most successful students in this study are summarized below along with the negative traits of the least successful students.

1. Seeks challenge. Mastery students with high levels of perceived success and perceived control seek personal challenge.

2. Persistence. Students who perceived high levels of control and high levels of success were persistent in the face of difficulties.

3. Self-directing. Students perceiving high levels of control and success are more likely to thrive even with poor instruction.

4. Internal locus of control. Less successful students exhibited learned helplessness or an external locus of control. These students avoided challenge and were not as persistent in the face of difficulty.

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A recent study by Schrum and Hong researched aspects of successful adult online learners and identified seven significant dimensions characteristic of the successful student (Schrum & Hong, 2002). A significant body of literature exists in the field of online learning and it was from this comprehensive body of literature, as well as documents available from selected institutions that offered post-secondary online learning opportunities, that Schrum and Hong sought to identify the characteristics of successful online students in phase one of the two-phase study. Initially, 70 institutions were chosen for the educational focus of their online courses and other components deemed essential for post secondary education such as library facilities, student support personnel and the like. This original group was then narrowed to those that offered a chance for students to investigate their own suitability for online learning. This assessment was done via a needs-assessment that included advanced organizers, surveys, and materials designed to provide potential students with information. A document analysis was completed on the assessments to compare similarities, distinguish differences and identify the functions of presentation, scoring, feedback, and supporting documentation. The document analysis was followed by a second literature review to verify the field analysis.

After the characteristics were delineated, phase two of the study included verification of the traits with expert online educators. Via the internet, experts were presented with the list of characteristics of successful online students, along with three Likert-type and one open-ended question about each characteristic. A second portion dealt with strategies used to support online students.

The seven elements found to be characteristic of successful online students were interrelated and varied in importance. The elements are listed below:

1. Access to appropriate tools. Ease in access to equipment was correlated with course completion. Reliable access at home was deemed a distinct advantage as it afforded the student the convenience of being able to work at his or her own time schedule.

2. Previous experience with technology. Results showed that students with a level of confidence and comfort using technology were more likely to be successful. Schrum and Hong suggested that the challenge for the inexperienced student to learn both the technology and the content simultaneously might prevent success. The ability to solve simple technical problems, check e-mail, print and manage files was characteristic of the successful online student.

3. Learning preferences. Successful online students were aware of their own learning style and are able to compensate or modify input to assist themselves. Students who need to hear classmates discuss ideas might substitute chat sessions online or telephone conference calls, the authors suggested. Successful students adept at visual learning may take advantage of visual learning opportunities, extroverted learners might join focus groups and so on were also coping strategies suggested in this study.

4. Study habits and skills. Successful students kept up with assignments and posted questions to clarify misconceptions.

5. Personal goals and purposes. Individual need for professional certification, maintaining licensure, upgrading skills or increasing knowledge encouraged

successful completion of the course. Personal reasons for seeking education provided motivation for course completion the authors noted.

6. Lifestyle factors. Time management was found to be an important factor in student success. Students with 10 to 20 hours a week to devote to studying had a greater chance of succeeding in the online environment this study found. Schrum and Hong state that most students who dropped an online course mentioned a lack of time to devote to studying. Other factors such as work related travel and childcare were also mentioned. Additionally, the support of family, friends and co-workers in scheduling and time management also impacted completion.

7. Personal traits and characteristics. Personal traits, characteristics, and fundamental patterns in the way people behave, utilize time and resources, and conduct their life were found to be significant elements in success. Organization, assuming personal responsibility and self-discipline were characteristic of successful online students. Successful online students also tended to have a strong commitment to the class.

Spampinto (2005) investigated student perceptions of the effect of personal attributes in three learning situations, classroom, online, and telecourse success, the difference between the perceptions of attributes needed for success in each, and the demographics of the students surveyed. An instructor of traditional and online format courses and an academic advisor, Spampinto believed that students perceived that different course formats required different personal characteristics for success. The study, conducted at Delaware Technical and Community College in Delaware, queried

students enrolled in a General Psychology course in either traditional classroom setting, online, or telecourse format, and in a combination of class sessions and meeting days. Of 108 students invited to participate in the study, 81 provided responses; 19 from the telecourse, 46 from the online courses and 43 taking the course on the physical campus. The course syllabus, competencies, and assessments were the same for all three formats. Questionnaires were mailed to the students before the end of the term and demographic data was gathered from the college student record system database. Data were collected on cumulative GPA, gender, age, and ethnicity in the three course delivery formats. Responses were reported using descriptive methodology. A higher percentage of online and telecourse students ranked the personal attributes of organization and study habits, reading ability, independent learning, self-motivation and time management as important. Students' responses indicated that student-to-student interaction was perceived to be an important element in course success. Gender and ethnicity were not found to be significant predictors of student success in either format. Cumulative GPA and student age were described differently between successful and non-successful students in distance learning formats.

Successful students were defined for this study as those students completing the course with a grade of "A", "B" or "C". Unsuccessful students were defined as those students whose final grade was below a "C" or who did not complete the course.

Student responses to the questions concerning personal attributes perceived as important to success, and if they differed from classroom, online, and telecourse, were addressed in sections one and two of the survey. Personal attributes related to organization and study habits, independent learning, motivation, reading ability, time

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management, and personal skills were addressed. Also student perceptions about course attributes important to success were included in that section. Section three gave a demographic portrait of the students. Information from sections one and two concerning personal characteristics and course attributes are summarized below:

1. Organization. Students taking online and telecourses perceived themselves to be more organized than successful fellow students in classroom settings. In response to the statement "In general, I would consider myself to be highly organized" 70% of successful classroom students, 92% of successful online students and 80% of successful telecourse students marked that they agreed. The percentages of unsuccessful students were 25%, 11% and 33% respectively.

2. Strong study habits. Fewer unsuccessful students than successful students reported possessing strong study habits. For classroom, online, and telecourse, the percentages of successful students agreeing to strong study habits were 39%, 76% and 70% as opposed to 13%, 11% and 17%. Although successful students in all formats perceived themselves as being stronger in study habits, the difference between the self-reported strong study habits of successful online versus unsuccessful online students was striking at 75% for successful respondents and only 11% for unsuccessful online students.

3. Staying on task. Successful students in classroom (12%), online (12%) and telecourse (13%) formats agreed that it was important for course success to stay on task. Unsuccessful students showed less agreement with the statement with 0% of classroom students, 12% of online students and 0% of telecourse students agreeing with the statement that it was important for success to stay on task.

4. Independent learning. Independent learning as a perceived success attribute was perceived much differently between online and telecourse students compared to classroom students. Spampinto found that successful students in online (100%) or telecourse (90%) and unsuccessful online students (100%) and telecourse students (100%) agreed that the ability to learn independently was vital to success. Fifty-two percent of successful students enrolled in classroom format and 505 of unsuccessful students enrolled in the classroom agreed that the ability to learn independently was important to success.

5. Classroom involvement. Activities other than reading and writing on one's own and interaction with other students and teachers was perceived as important to all unsuccessful students whether in online, telecourse or classroom. The percentage of unsuccessful students who agreed that they learned better with interaction were classroom 88%, online 78% and telecourse 83%. Successful students in all three venues also agreed that they learned better with interaction. Percentage of successful students agreeing with the statement were classroom 78%, online 52% and telecourse 70%.

6. Motivation. Self-motivation was considered important for success by 100% of the online students, both successful and unsuccessful. More successful classroom students considered self-motivation important (78% compared to 50%). All telecourse students agreed that self-motivation was important but only 67% of the unsuccessful students agreed. Spampinato points out that because of the ability of the classroom instructor to provide immediate feedback, expressions of concern,

and prompts, these elements may be perceived by students as external motivators that would substitute for the need for self motivation.

7. Reading ability. Five questions were in the area of reading ability. Questions concerning the importance of the ability to read and understand the textbook and assigned readings were considered very important by 74% of successful classroom students, 100% of successful online students and 90% of successful telecourse students.   Seventy-five percent of unsuccessful classroom students agreed, 100% of unsuccessful online students and 83% of unsuccessful telecourse students. Other questions concerning reading ability, such as "Sometimes I need help to understand the reading materials" and "I can easily understand new information by reading about it on my own" showed agreement with perceived overall importance.

8. Time management skills. Three queries concerned time management. Agreement with the statements "Time management skills are important", "I have strong time management skills," and "I got behind and it was hard to catch up" indicate that successful and unsuccessful students agree at a similar percentage. Of the successful classroom students 87% agreed; unsuccessful agreed 88% of the time. Ninety six percent of online students agreed to the importance of time management; 100% of unsuccessful online students agreed. One hundred percent of both successful and unsuccessful telecourse students agreed that time management was critical.

9. Personal skills. Eight statements in the questionnaire concerned personal skills

such as typing, computer use, and ability to learn and study independently. Twenty-six percent of successful classroom students felt the need for typing skills was important; 13% of unsuccessful classroom students did. For online students the percentages were 72% and 22%, and telecourse students 70% and 0% for successful and unsuccessful students respectively. Knowledge of computers was acknowledged as important for 35% of successful classroom students, 95% successful online and 80% successful telecourse students.

A demographic portrait of the successful student was generated from the college database. Female students were slightly more successful in classroom style courses; males were slightly more successful in online courses and telecourses. Minority students were less successful in classroom, online and telecourses. Higher ages group students (age 33 to 65) were more successful across all course formats. The youngest age group (18-23) were more successful than the middle age group (24-32) in each of the course formats. Cumulative GPA was significantly different as well; a higher cumulative grade point average paralleled more successful students in each course format.   From the college database, Spampinato followed her analysis of student characteristics with a similar analysis of aspects of the course itself that students found important.

Volery (2001) listed three critical success elements associated with online learning in a study conducted at Curtin University of Technology in Australia. Data were collected through a Likert style questionnaire from 47 students enrolled in business courses in the fall semester of 1999. Volery's study identified three critical success elements for online instruction: Technology, including the ease of access and navigation;

the instructor attitude toward students, technical competence and classroom interaction; and the students' pervious use of technology.

1. Technology. Students should have convenient access to technology that allows both synchronous and asynchronous exchange, requires minimal time for document exchange and is supportive of a variety of elements such as text, graphics, audio and video.   Included in the questionnaire were items relating to ease of access, ease of navigation, browsing speed, presentation, feedback and ability to interact with classmates and contact the instructor.

2. Instructor characteristics. Instructor effectiveness of online delivery relies in part on the instructor's knowledge of technology, individual teaching style and attitude toward learning.   Students were more likely to have a positive outcome in a class in which the instructor showed a positive attitude toward distance learning and promoted technology. The instructor should also be organized and have the ability to solve simple technology problems such as modifying students' passwords or changing course settings. Questions in this section of the questionnaire relate to the enthusiasm of the instructor, whether the instructor's style held the student's interest, friendliness, genuine interest in students, willingness to help students, and reaction to student questions and contributions

3. Student characteristics. Especially important was previous experience with online coursework. Six variables were included in the demographic portrait of students: program of study, internet access at home, previous experience with online class, program, gender, Electronic Commerce students versus students with other majors, and country of origin. A one-way analysis of variance (ANOVA)

revealed that the only characteristic influencing effectiveness was prior online experience.

Wang and Newlin (2000) compared cognitive-motivational and demographic characteristics of students who successfully completed a web based statistical methods course with students enrolled in a traditional classroom section of the same course. Citing the importance of understanding and the paucity of research concerning the characteristics of successful online students, the authors designed a study to investigate the possibility that there exist characteristic differences (e.g. psychological and demographic) between students who enroll in online classes compared with their peers enrolled in conventional classes. Wang and Newlin also endeavored to identify predictors of success or failure that occurred as early as the first week of the semester so that instructors could closely monitor and assist students at risk of poor performance.

Students in a web-based Statistical Methods in Psychology course and a concurrent traditional face-to-face version of the same course were studied over three semesters. In order to compare student performance on online versus conventional class format, all six sections were taught by the same instructor using the same text, syllabus, tests and assignments. Other than an orientation meeting at the beginning of the semester for online students, no face-to-face meetings were planned. An effort was made to make instructional approach, course content and performance measures equal. At the end of the semester all students completed a standard course evaluation, the Student Perception of Instruction, to determine the degree of student satisfaction with the course. One hundred and seventeen students participated; 15, 17 and 19 in the online courses and 26,

28 and 12 in the classroom sections respectively, during the three semesters. Students

self-selected the online or traditional format. Data were collected on course evaluation,

class performance, cognitive-motivational orientation, online course activity, study-habits

and demographic particulars.

Measurement used were the Rotter Locus of Control Scale, the Academic Locus

of Control Scale, the Kolb Learning Styles Inventory, the Cacioppo and Petty Need for

Cognition Scale paired with the achievement motivation and attitude measurement of the

1983 Spence and Hemreich Work Orientation and Family Orientation Scale, the short

form of the Approaches to Studying Inventory to assess students' learning style on the

basis of three dimensions related to cognitive and motivational orientations, and the Style

Processing Questionnaire by Childers, Houston and Heckler.

The cognitive-motivational surveys and demographic data were assessed to

determine whether students who elected to enroll in online coursework differed

psychologically or demographically from conventional students. No demographic

differences were found to be significant. All together, 11 variables of the online

coursework were analyzed: homepage hit rate, postings read, postings written, house per

week spent studying, age, number of current course taken, locus of control, academic

locus of control, motivation, style of information processing, and need for cognition.

Results of data analysis showed that compared to online students, those students

enrolled in the traditional classroom format had slightly higher scores on the final exam

and lower grades in the course. Wang and Newlin did not separate students into

successful and unsuccessful categories by course completion at a specific grade point.

However, their analysis revealed that three variables were significant predictors of final grades in class:

1. Total Homepage Hits. For online students, the final course grade correlated with the number of times the student logged on to the course homepage during the 15 week semester. Those students who maintained a high level of online course activity averaged a higher final course grade.

2. High Need for Cognition. A second significant predictor of final grade in class was inquisitiveness measured by the Need for Cognition Scale and the Work Orientation and Family Orientation Scale which were designed to measure the tendency for an individual to engage in and enjoy thinking.

3. Locus of Control. Online students tended to have higher external locus of control compared with their conventional counterparts, however, online students who had an internal locus of control tended to perform well in the virtual classroom.

Wojciechowski (2004) examined the relationship between student characteristics and success in an online Introduction to Business (BBUS 100) course at West Shore Community College, Scottville, Michigan. Successful (defined as earning a grade of "C" or higher) and unsuccessful (final grade lower than "C" or noncompletion of the course) students were compared in the areas of gender, age, previous online experience, American College Testing (ACT) English scores, ACT Reading scores, ACT Composite score, Assessment of Skills for Successful Entry and Transfer (ASSET) Reading score, ASSET writing score, GPA, previous course withdrawals, 16-week or 8-week semester format, fall or part time status, and attendance at class orientation. West Shore

Community College is a member of the Michigan College Community Virtual learning

Collaborative, a collaborative effort designed to allow students to take courses at member

colleges while receiving support services from their home campus. The Introduction to

Business course was offered through this collaborative effort; students from around the

state of Michigan, as well as around the world, have enrolled in the course. The data for

12 of the variables were collected from the college database. The final variable,

attendance at an orientation session was extrapolated from the instructor's grade book.

The sample consisted of 179 students who registered for BBUS 100 at West Shore

Community College between 2000 to 2003. The same instructor taught and the same

texts were used for all semesters.

   Of the 179 students in the sample, 125 students were successful in the course as

identified by a grade of "C" or higher. Results of the data analysis for the independent

variables were as follows:

1. Gender. No statistically significant relationship was noted between
   gender and final achieved score in BBUS 101.

2. Age. Students in this study ranged in age from 16 to 52 with an average age of
   25. Statistical significance was found between success in the online course and
   the age of the student. Further, statistically significant difference was found
   between age of the successful student and online grade. The older the student, the
   higher the grade in the course; the younger the student, the lower the final grade
   in the course.

3. Prior online coursework completed. A significant relationship was noted between

those who had completed a prior online course and enrollment in the course but no significant relationship between successful students and previously taken online coursework was seen.

4. ACT English score. ACT scores ranged from low of 1 to high of 36 for each of the tests in this study. ACT English range was 10 to 32 with a mean score of 20.63. There appeared to be a statistically significant relationship between ACT English scores and success in the online course. The lower the ACT English test score, the lower the grade the student achieved in the course.

5. ACT reading score. ACT Reading scores ranged from 10 to 36 for the students who had completed this test. No significant difference was noted between ACT reading and success in the online course.

6. ACT composite score. The ACT composite test scores for English, mathematics, reading, and science ranged from 12 to 34. Of the students who had completed the test, the mean score was 21. No statistically significant difference was found with ACT composite scores and success in the online course.

7. ASSET reading score. ASSET reading scores ranged from 31 to 53. There was statistical significance associated with higher ASSET reading scores and success in this online course.

8. ASSET writing skills score. The range of scores for the online students in this study were 32 to 52. There was no statistically significant association between the ASSET writing skills score and final grade in BBUS 101.

9. Overall GPA. On a four-point scale, the mean grade point average was 2.67.

There was a highly statistically significant relationship between grade point average and success in the online course, (p=.000) for the population of this study. Students that had a higher grade point average were more likely to be successful in this online course.

10. Previous course withdrawals. Previous number of course withdrawals for students in this study ranged from none to 11. Withdrawal rate of the student had a negative correlation of -.027. As the number of withdrawals decreased the grade achieved in the online course increased at a significant rate.

11. Length of semester. West Shore Community College offers both a 16 week semester and a compressed eight week summer semester. There was significance for the successful students identified in that study and summer semester length with students more successful in the shorter semester.

12. Full time / part time student status. No statistically significant relationship with success in the online course was found between final course grade indicating success and full or part time status.

13. Attendance at orientation. An orientation sessions at the beginning of the semester covered information on assignments, use of Blackboard and social presence. Attendance at the orientation session was not mandatory. A high correlation was found between attendance at the orientation session and success for both the student population studied (p=.000) and for the successful students as well.

Of the 13 independent variables, 12 were correlated with the dependent variable of final grade received in the online course. This study indicated that characteristics

correlated with success in the online course were attendance at the orientation session offered at the beginning of the semester; age, with older students generally likely to be successful; higher overall GPA; previously completed online courses; fewer course withdrawals; higher ACT English and ASSET reading scores and attendance in the summer semester.

Wojciechowski and Palmer (2005) reported student characteristics as predictors of success in online classes from the same data. One hundred and seventy nine students who had taken an online course in business at a community college in Michigan over a three-year period were included in the study. Various student characteristics were examined to determine their relationship to student success, which was defined by student grade of "C" or higher. The study covered nine semesters of the same 15-week online course, taught by the same instructor. An orientation session was offered, but not required, prior to the start of the semester. With the exception of attendance at the orientation session, all data were extrapolated from the college database. Descriptive and inferential statistics were used to analyze the data for all students and also for those students deemed successful by receiving a grade of "C" or higher. Of the 179 total students, 125 completed the course with a grade of "C" or higher so were defined as successful. Eleven received a grade lower than "C" but passed the class; 26 failed and 17 withdrew. Thirteen student characteristics were examined as independent variables: GPA, attendance at the orientation session, number of previous class withdrawals, score on the Assessment of Skills for Successful Entry and Transfer (ASSET) reading score, number of previous online courses taken, age, ACT English score, student status as part

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time or full time, gender, ACT composite score, ACT reading score, semester format of 16 weeks or 8 weeks, and ASSET writing score.

Of the thirteen variables examined, four were found to be characteristic of both successful and non-successful students; three of non-successful students only and one of successful students only. The three variables that were found to be correlated at a significant level ($p=<.05$) with non-successful, but not with successful students, were the ASSET reading score, number of previous online courses taken and the ACT English score. Those elements found to be significantly correlated with the successful student are listed below in rank order.

1. GPA. The students' overall grade point average had the strongest relationship to successful completion of the class for both the successful and non-successful student. The higher the student's overall GPA, the higher his or her grade in the online class.

2. Attendance at orientation meeting. Attendance at the optional class orientation at the beginning of the semester was significantly correlated with student success in the online course.

3. Previous withdrawals. The number of course withdrawals prior to enrolling in this online business class was predictive of a final grade of "C" or better. A statistically significant negative correlation existed for both the general population and the successful student cohort. The students with fewer previous course withdrawals had higher grades in the online course.

4. Age. Students in the population ranged from 16 to 52 years old, with an average

age of 25. For both groups (successful and non-successful) overall, there was found to be a statistically significant correlation: the older the student, the higher the grade in the course; the younger the student, the lower the course grade.

5. Semester format. The last element of the 13 that was found to be statistically correlated with a final grade of "C" or higher was the length of the semester. This applied only to the successful students. No correlation was found between the length of the semester and the students who failed the class, passed with a grade lower than "C" or withdrew.

Statistical analysis revealed that the two most significant variables, GPA and attendance at the orientation, accounted for 69% of the variability in the final course grade. Other variables, therefore, were less useful in predicting student success in the online class.

The following table summarizes the characteristics found by the above researchers to be significant contributors to students' success.

Table 1. Summary of Elements Identified as Important Contributors to Student Success

Author	Title	Elements identified
Dean, 1998	Defining and Achieving University Student Success: Faculty and Student Perceptions The faculty perspective	1. Maintaining academic success 2. Securing a position in the chosen career field 3. Graduation 4. Ability to apply the lessons learned in the college experience to other areas of life
Dean, 1998	Defining and Achieving University Student Success: Faculty and Student Perceptions The student perspective	1. Proficiency in all academic subjects 2. Balance in all elements of one's life 3. Gaining practical experience for the future 4. Achieving one's goals 5. Maintaining good grades 6. Graduating 7. Participating in and out of class
Diaz, 2000	Comparison of Student Characteristics, and Evaluation of Student Success, in an Online Health Education Course	1. Gender (Female) 2. Ethnic group (Nonwhite) 3. Cumulative GPA (over 3.02) 4. Learning Style (Independent) 5. Household income 6. Self ranked computer skills (modest)
Flores-Juarez, 2005	Promoting Student Success: Students' Perceptions of the Factors that Influence their Engagement at a Mexican University	1. Personal goals 2. Personality aspects (such as attitude, organizational ability, discipline) 3. Faculty involvement 4. Personal support system of family, parents, mentors 5. Academic program that is meaningful and sufficiently rigorous 6. A sense of teamwork with fellow students 7. Involvement in extracurricular activities and scholarships 8. Collegiate infrastructure (i.e., library, labs) 9. Physical plant, buildings, parking facilities
Harbeck, 2001	Community College Students Taking On-Line Courses: The Student Point-of-View	1. Interaction with instructor and other students 2. Well designed and managed course 3. Physical and emotional support 4. Motivation 5. Self-direction 6. Prior knowledge of online course 7. Technical skills

Table 1 (Continued)

Author	Title	Elements identified
Hartley & Bendixen, 2001	Educational Research in the Internet Age: Examining the Role of Individual Characteristics	1. Self monitoring skill 2. Goal setting 3. Awareness of ability 4. Flexibility 5. Broad view of knowledge
Schonwetter, Perry & Struthers, 1993	Students' Perceptions of Control and Success in the College Classroom: Affects and Achievement in Different Instructional Conditions	1. Affinity for challenge 2. Persistence 3. Self directed 4. Internal locus of control
Schrum & Hong, 2002	From the Field: Characteristics of Successful Tertiary Online Students and Strategies of Experienced Online Educators	1. Access to appropriate tools 2. Previous experience with technology 3. Awareness of personal learning style 4. Study habits and skills 5. Personal goals and purpose 6. Lifestyle factors (e.g., time management, family and employer support, childcare) 7. Personal traits and characteristics (e.g., being organized, assuming personal responsibility, self disciplined)
Spampinto, 2005	Student Perceptions Concerning the Effect of Personal Attributes and Course Attributes in Classroom, Online and Telecourse Success	1. Organized 2. Strong study habits 3. Staying on track 4. Independent learning style 5. Classroom involvement 6. Motivated 7. Ability to read and comprehend easily 8. Time management skills 9. Personal skills (e.g., typing, computer expertise)
Volery, 2001	Online Education: An Exploratory Study into Success Factors	1. Convenient access to technology 2. Instructor who is technologically competent and organized 3. Previous experience with online coursework
Wang & Newlin, 2000	Characteristics of Students Who Enroll and Succeed in Psychology Web-Based Classes	1. High level of engagement/activity 2. High need for cognition / inquisitiveness 3. Internal locus of control
Wojciechowski, 2004	The Relationship Between Student Characteristics and Success in an Online Business Course at West Shore Community College	1. Age above class average 2. Prior online experience 3. High ACT English score 4. High ASSET reading score 5. Cumulative GPA above class average 6. Few previous course withdrawals 7. Semester format of 8 weeks 8. Attendance at orientation

Table 1 (Continued)

Author	Title	Elements identified
Wojciechowski & Palmer, 2005	Individual Student Characteristics: Can Any Be Predictors Of Success In Online Classes?	1. High cumulative GPA 2. Orientation attendance 3. Few previous course withdrawals 4. Age over class average 5. 8 week semester format

CHAPTER THREE

Methodology

This chapter is presented in seven sections. Initially, the overall rationale for the design choice, the conceptual framework, the research design, and strategy are discussed. The impact of a pilot study and issues of dependability are included there. The second section consists of a discussion of the role and possible biases of the researcher. The discussion of the researcher's role is followed in the third section by a description of the development of the inventory questionnaire and standardized interview template. The justification for the inventory questions is discussed there. Protocol and data collection procedures follow in the fourth section. In the fifth section, the research setting is described and that followed in the sixth section by the particulars of the population and sample. The seventh and final section describes the method used for analysis of the collected data.

Student opinion and perception concerning online success appear under-represented in the literature of professional education (Dean, 1998; Diaz, 2000; Harbeck, 2001) and this study of students at one community college is relevant to the overall understanding of that student issue in today's educational environment. The topic of learner perspective has received less attention from researchers than research on educational media and teaching methods (Hartley & Bendixen, 2001). This study of student perceptions of elements critical for success in online coursework offers a one representation of the student voice.

The goals of this study were to identify elements perceived by students as critical to success in an online class; to determine if students believe those elements necessary for success in online study are the same as those needed in the traditional classroom; to investigate any possible differences between the perceptions of elements necessary for success by those students who have and those who have not had experience with online coursework; to investigate possible differences between students' perceptions of elements necessary for success in an online course and the perceptions of administrators, advisors, instructors or other professionals in education as revealed in the literature; and to learn what students believe are the greatest obstacles to success in online study. A review of the professional literature was used to generate a summary of the perspectives of educational professionals. Standardized open-ended structured interviews with students, augmented by inventories containing both factual questions such as age and gender, and written response items concerning students' opinion of necessary elements, provided the students' perspective.

Specific research objectives of this study were:

1. To identify those specific elements that students believe are critical to success in an online course.

2. To determine if those elements differ from those believed necessary in the traditional classroom.

3. To identify any differences in perceptions of those students who have and those who have not had previous experience with online courses.

4. To determine if those elements differ from those identified by professionals in education.

5. To identify the major obstacles students believe impede success in online coursework.

Research Design

Following the challenges outlined by Marshall and Rossman, this study sought to develop first a conceptual framework for the study that was thorough but concise and to design a plan that was systematic, manageable, and flexible (Marshall & Rossman, 1995). Flexibility of the design insured that modifications would be allowed as data was collected if modification was deemed advantageous to the ultimate goal of the study.

A variety of methods and techniques were chosen to accomplish this study. A pilot study completed in 2006 was a quantitative one. In that study a measure, *The Student Interest in an Online Humanities Course Questionnaire* (Flow & Savell, 2006) was administered to assess participants' interest in a proposed online humanities course. The questionnaire was a 13-item self-report measure; items one through eleven used a Likert-type scale; the final two questions asked the student to identify the reasons for his or her intent to take the course. A copy of the instrument appears as Appendix C. The measure was administered to a convenience sample of 114 students at Pasco-Hernando Community College. The sample, which must be considered biased, was matched for two groups: those who had and who had not previously taken an online course. The two groups were evaluated for significant differences via an independent samples t test with an alpha level of .05. While the means of the participants who had previously taken an online course revealed that they were less likely to take an online humanities course as compared to participants who had not previously taken any course online M = 1.36, SD =

.48 and M = 1.67, SD = .47 respectively, this difference was not statistically significant. One purpose of that study was to determine which of a set of independent variables, alone or in combination, best predicted the students' choice of online or traditional instruction. Multiple regression analysis revealed that students who indicated that they didn't think that the course would be as interesting, those who didn't think they would learn as much, and those who wanted face-to-face interaction with the teacher were less likely to select the internet humanities course option. Those variables explained 41.1% of the variance in the dependent variable: whether the student would be likely to take a humanities course online.

Questions concerning the elements students believed were necessary to be successful in online studies and the barriers perceived to hinder that success were not asked and student opinion was not part of the quantitative pilot study. A deeper understanding of student perception of online study was desired. In the present study, a variety of methods were chosen in order to gain insight into student opinion.

Qualitative study involves no deliberate manipulation or treatment and no specific variable or testable hypothesis; rather, categorized data to gain a greater comprehension of the topic is desired. The focus of qualitative research is gathering insight from a group of respondents, via a variety of materials and depth of responses, in order to gain greater knowledge of a phenomenon and a deepened understanding of the issue about which all parties share a concern (Carney, 1991; Denzin & Lincoln, 2000; Fine *et al.*, 2000; Gall *et al.*, 1999; Willis, 1992). A qualitative approach represents students as collaborators or colleagues in understanding, rather than research subjects (Carney, 1991). Exploratory, descriptive, and holistic, some qualitative methods and techniques were included to bring

unique strengths to the present research (Fraenkel & Wallen, 2000; Marshall & Rossman, 1995).

Of the questions appropriate for qualitative research described by Janesick (2000), open-ended questioning, wherein respondents would be asked to identify elements critical to student success online, was suitable for this project. A structured interview approach was appropriate for understanding a group perspective in an academic setting (Kvale, 1996). A focused inventory augmented by a guided open-ended structured interview was intended to uncover as many elements as possible that respondents believed contribute to success in online study.

A combined prepared inventory survey of both factual and written response questions and a supplemental standardized open-ended interview were planned as an efficient way to collect the data (Patten, 1998). To apply the multiple methods data collection technique, this research used a printed inventory of 11 factual and 3 written response questions, amplified by an individual, guided, open-ended, structured interview. Interviews take a variety of forms and may include questionnaires or surveys (Fontana & Frey, 2000; Sewell, 2006). This multi-method approach also had the advantage of alleviating the low return rate cited as a major disadvantage of questionnaire research (Patten, 1998). Coupled with a face-to-face situation and personal interview, a greater range of information resulted.

Qualitative research is inherently multi-method in focus (Ary *et al.*, 2002; Denzin & Lincoln, 2000; Fine et al., 2000; Gall et al., 1999) and a combination of methods was chosen to offer a repetitive aspect to the data. Building redundancy into the process will aid internal consistency (Ary *et al.*, 2002)   As noted by Marshall and Rossman (1995)

"Designing a study in which multiple cases, multiple informants, or more than one data gathering method are used can greatly strengthen the study's usefulness for other settings" (Marshall & Rossman, 1995, p. 144). This montage scheme, referred to as triangulation, is an efficient and effective method for study (Ary et al., 2002; Denzin & Lincoln, 2000; Fine et al., 2000; Fraenkel & Wallen, 2000; Gall et al., 1999; Janesick, 2000; Kvale, 1996; Marshall & Rossman, 1995; Messier, 2003; Willis, 1992). Using triangulation to compare data gathered from various methods aids in establishing that all sources of information reveal the same evaluative conclusions.

Qualitative researchers speak of dependability rather than reliability (Ary et al., 2002). Strategies to enhance dependability include an audit trail, produced here by the description of the sample studied, selection process, methods of data collection and other descriptive material for review. Replication logic for this study is enhanced by the inclusion of students from multiple campuses and students with and without online experience. A code-recode technique, established by reviewing the data generated by the inventories and interviews, then repeating the review at a later date also augmented the dependability. Agreement with a second reader for one half of the data amplified the dependability further. The credibility of conclusions from a research design using a variety of methods is dependent on the neutrality of the researcher. The role of the researcher is discussed below.

Role of the Researcher

This research sought to generate a better understanding of student perceptions of the elements necessary for success in online study. An interview process was chosen to

complete the research in order to gain a deeper understanding of the student point of view. During the interviews extensive conversations were held with students on the topic of online study.

As part of research process, a researcher involuntarily may bring biases and prejudices into the results. Although a determined attempt was made to be non-judgmental, the following personal facts may have colored this research. I teach western humanities at Pasco Hernando Community College where this study was completed. My experience is limited to the traditional classroom, a venue I enjoy and believe offers the opportunity to teach the breadth and depth that is at the heart of the subject. Although an online humanities course is being considered, to date I have no experience teaching online. I feel strongly that students taking such a course should get the same richness of content available in the traditional classroom. Disconcerting results from a pilot study conducted in 2005 indicated that, when asked if they would enroll in a hypothetical online humanities class, 43 of the 114 students surveyed indicated they would or probably would enroll; 71 students stated that they would not or probably would not. The pilot study was one stimulus for the present more in-depth study. The reasons for the responses given by students in that survey were, in part, the impetus for the questions in this study regarding the elements students perceived as essential for success online. Before the decision is made to produce an online version of the traditional lecture format class, a greater understanding of student opinion of and expectation of online courses is desired. Therefore, a personal motive to discover what aspects of online study students value and what they perceive as barriers to their learning online before making a decision to produce an online course was included in this research. If students asked, in the

course of interviews, if I intended to teach an online course, an honest answer of "no decision has been made" was given.

As an educator with sincere concern for effective instructional delivery, I have a keen interest in the opinions and perspectives of community college students. A better understanding of the elements students believe are necessary for success in online study will be an invaluable addition in the generation of any future online course.

The potential for ethical issues exists in any research study.   Students selected for this study were volunteers who received neither reward for or penalty for not participating in the study. No students were selected who were enrolled in my classes. Students were assured that their responses would in no way impact their grades or standing at the college.

Inventory and Interview Template

Previous researchers have accessed college records and databases (Diaz, 2000; Wojeciechowski, 2004; Wojeciechowski & Palmer, 2005), the professional literature (Hartley & Bendixen, 2001; Schrum & Hong, 2002), focus groups (Dean, 1998; Flores-Juarez, 2005), interviews and observations (Harbeck, 2001) and questionnaires (Harbeck, 2001; Schonwetter *et al*., 1993; Volery, 2001; Wang & Newlin, 2000) for gathering information concerning student success. The above noted research was reviewed for appropriate methods and questions for inclusion in this study. Since this research sought input into student perception, the decision was made to rely on brief inventory questionnaires of both factual and open-ended written responses, supplemented by

interviews in which the students could further express, elaborate, or clarify their

perceptions.   Appendix A contains this inventory.

Questionnaires have a number of advantages (Andrews, 2003; Marshall &

Rossman, 1995; Patten, 1998). When worded to avoid overly subjective or plural

answers, questionnaires are economical to administer and yield responses that are

succinct and efficient to tabulate (Patten, 1998; Patton, 1982).

Questions included on the inventory were drawn from a number of sources. The

review of the literature follows the initiating function described by Marshall and

Rossman (Marshall & Rossman, 1995) to identify established knowledge and conceptual

relatedness of a topic and suggested the initial categories of questions. Willis (1992)

outlined questions for a qualitative study of distance delivered course to be used as a

foundation for more in-depth evaluative approaches. These open-ended questions,

dealing with the strengths and weaknesses of a distance education class as well as student

recommendations for future improvements of the course, were considered for the present

study. One question used by Willis, asking students to list and describe five weaknesses

of the course (Willis, 1992), was altered and adapted as written response question 14

asking students to list their perceptions of barriers to success in online study.

Questions were taken from other sources as well. The pilot study conducted in

2005 and 2006 gathered student perceptions of online coursework. Students who had and

students who had not previously taken an online course expressed reasons why they

would or would not take an online course in the future. Students indicated that they did

not think that the course would be as interesting, did not believe that they would learn as

much, and desired more face-to-face interaction with the teacher than they believed

would be available in an online class. Barriers identified were that the students believed

that an online class would be harder, perceived a lack of the computer skills believed

necessary, thought that the online course would lack variety and so would not satisfy

their personal learning preferences, and assumed that an online course would not offer the

desired social interaction with other students. Students identified factors that they

perceived to be benefits of online study, as well. Flexibility in scheduling, saving time

and expense of driving to campus and the opportunity to work at an individually chosen

pace were the most frequently cited reasons for choosing to enroll in an online class. In

addition to the previously mentioned sources, data from those studies were influential in

the generation of this inventory.

Investigations of student success published in the professional literature have

profiled successful students by the demographic elements of age, gender, ethnicity, grade

point average, number of college classes dropped, credit hours attempted in the current

semester, computer expertise, and attendance at orientation for the course (Diaz, 2000;

Spampinto, 2005;Volery, 2001; Wojciechowski, 2004; Wojciechowski & Palmer, 2005).

For the present study, eleven questions seeking demographic data were included in order

to contrast those factors with the aspects of earlier research found by professionals to be

contributors to student success. These data include overall GPA, age range, gender, and

ethnic identity. Age and ethnic identify variables are found to be significant in some

studies but less so in others. These data were collected in order to give an accurate

portrait of the sample for this study. Of interest also was whether these factors would be

mentioned by respondents as elements necessary for online success. Gender was found to

be a significant factor by Diaz (2000) but of little or no significance by others (Harbeck,

2001; Spampinto, 2005; Wojciechowski, 2004; Volery, 2001). The number of other

courses taken during the semester, previous online courses taken, and previously dropped

classes or withdrawals, attendance at orientations, and self reported level of computer

expertise were also included to contrast with findings reported in the literature.

Respondents who were currently or had previously taken an online class were asked if

they completed the course with a grade of "C" or higher. Students were asked whether

they planned to take courses online in the future. Question 7, which asked students

whether they were presently or had previously taken an online course, was used to divide

the sample into groups for comparison of opinions in order to address research question

number 5.

In addition to the 11 factual questions, written responses to three additional open-

ended questions were sought on the printed inventory. Question number 12 asked

students to list the elements they believed necessary for successful online study. Lined

space was provided below the question but no numbers or other devices that might imply

a specific number of elements were expected. Question 13 asked respondents in what

way they believed those elements differed from those necessary for success in the

traditional classroom. Only lined space was provided for answers to question 13.

Similarly, question 14 asked students to identify the greatest pitfalls of online study.

There was no request to rank the importance of the elements on the inventory.

Opportunity for students to stress importance of any element was available during the

interview process.

The inventory was supplemented by a structured open-ended interview to afford

students the opportunity to elaborate on any answer they wished to expand. In addition

to the inventory, a personal interview was conducted to offer students an opportunity to talk about their point of view.

Kvale opened his seminal book on interviewing with the following statement: "If you want to know how people understand their world and their life, why not talk with them?" and continues "The qualitative research interview attempts to understand the world from the subjects' points of view…" (Kvale, 1996). Seidman remarked "if the researcher is interested, however, in what it is like for students to be in the classroom, what their experience is, and what meaning they make out of that experience … then it seems to me that interviewing, in most cases, may be the best avenue of inquiry." (Seidman, 1998, p. 5). In this study the interview was meant not only to afford students the opportunity to clarify, explain, and elaborate their perceptions but to provide a richer understanding to professionals in education of the students' point of view.

Words are the data collected in a qualitative study (Fraenkel & Wallen, 2000) and interviews offer a variety of forms and multiplicity of uses for collection (Fontana & Frey, 2000). Qualitative researchers tend to rely on the interview as the basic method of data gathering (Denzin & Lincoln, 2000). As it was desirable to have the same information from each student participating, the more focused open-ended standardized interview described by Patton (1982) guided the formation of the interview template. The template was used to guide respondents through the same set of questions in the same sequence and minimized interviewer effects (Patton, 1998). Sewell admitted that, in practice, open-ended, qualitative interview questions are often combined with more closed-ended structured interview formats (Sewell, 2006). It was intended that the addition of a guided structured interview to the inventory would offer students the

opportunity to elaborate their answers while simultaneously controlling the conversation and keeping the interview focused.

Researchers have outlined procedures and interview techniques. Informal, formal or standardized interview methods were discussed by Hatch (Hatch, 2002). Structured, group and unstructured interviews were outlined by Kvale (1999) and Denzin & Lincoln (2000) and contrasted in Bogdan and Biklen (1998). Fontana & Frey (2000) pointed out that "More scholars are realizing that to pit one type of interviewing against another is futile, a leftover from the paradigmatic quantitative/qualitative hostility of past generations. Thus an increasing number of researchers are using multi-method approaches to achieve broader and often better results" (p. 668). Seidman (1998), in discussing interview forms, stated "I would not argue that there is one right way, or that one way is better than another." (Seidman, 1998, p. 5). A more naturalistic and holistic inquiry, based on the ideas of Lincoln and Guba (1985) supported the multi-method approach.

An individual interview format, as opposed to a group interview or focus group, was selected in order to reduce interaction between subjects and concentrate more fully on the perception of the individual student. Single interviews also allowed the interviewer to maintain greater control over the interview process. Also, it was believed that analyzing the data from individual interviews would be less complex than the intermingling voices of a group interview and would result in a clearer understanding of student perceptions (Kvale, 1996).

The open-ended standardized interview was used not only to clarify ambiguous answers from the inventory and to verify straightforward answers but to encourage

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participants to express their views and feelings about elements necessary for success. The interview was intended as a stimulus for conversation and was made informal enough to put students at ease yet focused enough to remain on topic. The inventory was completed first and the responses reviewed to insure they accurately reflected the student's opinion. The interview that followed the inventory provided an opportunity for students to volunteer further information and to answer questions requiring a more complex response. In order to assure uniformity of the data, the template served as a flexible guide for the interview. But heeding the warning of Seidman (1998), the template was used cautiously, not as a verbally administered questionnaire but as a guide to probe for deeper understanding. During the interview process, students were often asked to "talk more about that" or "explain what that means" in order to probe deeper into the students' perceptions. At the conclusion of the interview students were asked if there was more that might be added to the information already given. The interview template and sample interview transcript are shown in Appendices B and D, respectively.

Data Collection Process

To accomplish this study, training was completed in the Protection of Human Subjects and a Certificate of Completion earned. A summary of the proposed study was submitted to the University of South Florida Institutional Review Board requesting approval of the research and that approval was granted on September 29, 2006. Written permission for the study at Pasco-Hernando Community College was requested from the college and approval to conduct the study was granted by the President's Cabinet on September 11, 2006. After the permission was gained from PHCC administration to

approach faculty and students about this study, faculty were contacted by e-mail and in person at two PHCC campuses and the Spring Hill Center, and given information sheets about the study, its goal and purpose. A phone number and e-mail address were given to fellow faculty willing to make information sheets available to students in their classes. A visit was made to selected classes on two campuses to further recruit students for the study. Librarians and student advisors were supplied with information sheets that could be distributed to students. Information concerning the study was available in the student services office and student lounge areas as well.

Recruitment was completed through classroom announcements, and information sheets distributed in classrooms, student affairs offices, libraries, and student recreation centers. Students who expressed an interest were given information about the study and contact information if they were willing to volunteer for inclusion in the sample. Students who volunteered to participate in the process were scheduled a time and location to meet when contact was made. A mutually convenient time was scheduled to administer the inventory and conduct the interview with the students. Interviews were conducted in faculty offices, empty classrooms, as well as quiet outside tables and benches.

Recruitment was successful in obtaining 20 volunteers, an equal number of student volunteers who had and who had not previously taken an online class.

Recording equipment was tested before the student interviews began and it was determined that a change of tape recorder was necessary. A newer and more reliable audio tape machine was provided by the PHCC library and proved to be satisfactory. Two pilot interviews were conducted, one on the North campus and one on the New Port

Richey campus. Both student volunteers in the pilot interviews were individuals who had

not previously taken an online course. The purpose of the pilot interviews was to test

equipment, routine, and to verify time limitations and protocol. The pilot interview

packets were examined and the tapes transcribed. Voices were clear on the recorder,

students understood the format and the wording of the questions and the transcription of

the tapes was without incident. It was determined that no major changes were necessary

in the data collection process and the pilot interviews were included in the sample.

Students who volunteered for inclusion in the study answered the written

questions first and the interview followed immediately thereafter. In order to facilitate

the desired atmosphere, students were given the opportunity to choose the setting to

complete questionnaires in the student activity areas, student centers, empty classrooms,

faculty offices or libraries at the campuses of Pasco-Hernando Community College. No

student completed more than one questionnaire or participated in more than one

interview.

At the beginning of the interview process, students were thanked for their

participation and given a printed form with the researcher's contact information.

Students were assured that the data would be anonymous. Information on the purpose of

the research, and where the final research results would be located was provided, as

required by the Institutional Review Board when dealing with human subjects.

Respondents were assured that their identity would not be revealed and that data would

not be considered in assigning grades or in any way adversely impact their standing at the

college. Students were reminded that participation was completely voluntary and there

was neither reward for, nor penalty for not, participating in the process. All students 18

years old or older, who were enrolled at the college, and not a student of this investigator, were eligible regardless of cumulative GPA, academic standing, academic major or program. Demographic data was supplied by the student and assumed to be accurate. Data concerning students' cumulative GPA was not crosschecked in the PHCC student records.

A signed informed consent form was required from all student participants. At the conclusion of the interview a copy of the informed consent and written information on the study, stating where the results would be published and contact information for the researcher and the University of South Florida, was given to the student. A copy of the informed consent is included as Appendix E.

Inventory questionnaires were administered and standardized interviews conducted by the same researcher, following the template in each case, and were scheduled for mutual convenience.

No time limit was imposed on completing the written inventory questionnaire but the average time for completion was about 15 minutes. If students asked for clarification of any item the information was provided, however, care was taken not to suggest answers for any questions on the inventory. Completed forms were collected, the packet number recorded on the form and the form held for reference during the interview process.

After completing the written inventory instrument, the researcher and the participant began an open-ended structured interview. As with the inventory questionnaire, the respondents were assured of anonymity in any published results, provided information on the purpose of the research, and given information on how to

contact the researcher and where the final document would be available. Permission

from the student to audiotape the interview was asked and volunteers were told that the

tapes would be held in a locked office until the completion of the study.

The researcher and student reviewed the answers noted on the survey at the

beginning of the interview in order to clarify any ambiguous answers and expand on

straightforward ones. Each element listed by the student in question 12 were reviewed

and verified. In order to begin a discussion of the elements listed by the student, students

were asked if the interviewer's understanding of each item was correct. The researcher

then asked the volunteer to talk about the items, and frequent encouragement was offered

to the student to continue or elaborate on their thoughts and opinions.

Question 13 of the questionnaire asked students if those elements previously

listed as necessary for success online were the same elements necessary for success in

traditional face-to-face classes. It was not the intent of this research to construct a second

list of elements believed necessary for success in traditional classroom settings but to

ascertain if there was a perceived difference between online and traditional elements.

Space was provided on the interview template to record any further remarks the student

wished to make regarding the topic of elements necessary for success in any setting but

the intent was to determine if a difference was believed to exist. During the interview

students were encouraged to elaborate on their answers.

Question 14 concerned the barriers of online study and responds to the fourth

research question of this study. Bogdan and Biklen remarked that particulars and details

may come from probing questions (Bogdan & Biklen, 1998, p137) and question 14 urged

description by asking students to talk about the barriers without suggesting any category. Responses to question 14 were reviewed for clarity and completeness.

After the discussion of question 14 responses, the student volunteers were asked if there was anything further that they could add. This proved to be a fruitful question for students often spoke more during that portion of the interview than during the original questions. Students were willing to share their major concerns of the problems perceived with online study. Not all topics students wished to discuss concerned research or online studies, however, during this non-focused discussion time students offered suggestions for online course enhancements, computer links, and registration help.

The purpose of the interview was to explore and describe student perceptions and opinions; therefore it would be appropriate to conduct new interviews until a point of saturation, where further interviews yield little new knowledge. Kvale contended that, in current interview studies, the number of interviews tend to be around 15, plus or minus 10 (Kvale, 1996, p. 102) to most efficiently use the resources of interviewer and interviewee time and costs. Twenty students participated in the study; ten who had and ten who had not previously taken coursework online. A detailed description of the sample appears in the following chapter. The sample size of 20 was adequate to achieve saturation. Although each student expressed himself or herself in a different way, later interviews did not generate new elements or categories; therefore, the sample size of twenty was determined to be adequate for saturation. At the conclusion of each interview, students were asked if there was anything more they wished to add, and given contact information for the author for future reference if they felt the desire to add thoughts at a later time. No students were called for a second interview. It was felt that

given the opportunity at the end of each interview to add any further thoughts, and provided with the contact information if students wished to include ideas at a later time, a second interview would not be necessary since saturation was noted in the data.

Accepted interview protocol recognizes that all people are not equally articulate, and that some respondents need more time than others (Bogdan & Biklen, 1998). Desire for complete data was balanced by consideration of the students' and researcher's time. No time restraints were given to students participating in the interview process and most interviews lasted between 25 and 30 minutes.

It was anticipated that useful evaluative data would more likely be self-reported accurately if the researcher was successful in establishing a good rapport with the participants and interviews were conducted in a supportive and non-threatening environment (Gall et al., 1999; Janesick, 1998; Spampinato, 2005; Willis, 1992). An informal guided interview approach, in a non-threatening setting, was successful in generating useful data from the students. The natural setting may be a direct source of data in qualitative research (Bogdan & Biklen, 1998; Fraenkel & Wallen, 2000; Janesick, 1998). It was expected that students would be honest and forthcoming if in a relaxed atmosphere, assured of confidentiality, anonymity in any published results, and questioned about their own perceptions and opinions. Research on interviewer effects has shown that interviewer characteristics such as age, gender and interviewing experience to have relatively small impact on responses. However, there is evidence that student interviewers produce larger response effects than do non-students and that higher status interviewers produce larger response effects than do lower status interviewers (Fontana & Frey, 2000). The researcher is a full time instructor at Pasco-Hernando

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Community College and may have been known to respondents and, as such, might have been perceived in a powerful position (Andrews, 2003). In order to lessen any possible impact due to the researcher's position, no students enrolled in the researcher's classes were included and students were assured that answers would in no way impact their standing at Pasco-Hernando Community College.

The data collected was organized for ease of retrieval during the analysis process. At the conclusion of the interview, written surveys were stapled to informed consent forms and packets numbered sequentially from the first participant in order to keep data separate. Completed packets were examined immediately following the interview to insure recall completeness and clarity. Packets were labeled with campus location, date, and time of interview, the number of the audiotape and the position in the sequence of interviews on the tape, to insure accurate retrieval of data.

Responses on questionnaires were stored for later analysis and recorded interviews transcribed as soon as possible following the session. The transcript was attached to the individual packet. A record of all activity will be stored for one year following the end of the research project.

Research Setting

Pasco-Hernando Community College was opened in 1972 to serve the west central Florida counties of Pasco and Hernando and is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools. The college has three major campuses located in New Port Richey, Dade City, and Brooksville, and a smaller center located in Spring Hill, Florida. The Florida Department of Education Community

College Fact Book shows an annual unduplicated student headcount of 13,138 for the 2004-2005 school year (Florida Department of Education, 2006). Additionally, 20,365 citizens participated in the college's credit and non-credit offerings in the academic year 2004-2005 (Pasco-Hernando Community College, nd). Pasco-Hernando Community College offers both AA and AS degrees and programs leading to professional certification in several technical, business, and health related fields. One thousand four hundred students received a degree, certificate, diploma and/or completed a program in the 2004-05 school year. PHCC students are an average of 25 years old, with over 63% of the students under the age of 25. Sixty-six percent are female, approximately 17% are ethnic minorities, and over 75% attend PHCC part time and were enrolled with an average of 8.8 semester hours in the Fall 2004 semester. PHCC is a branch of the Southern Regional Education Board's Electronic Campus (SREB) and online courses for college credit are offered in biology, business, computers, education, health and medical services, English, humanities, math, psychology and sociology. A variety of online non-credit courses are offered for workforce development, for personal enrichment and professional continuing education and accreditation, as well (Pasco-Hernando Community College, nd). PHCC employs over 300 full-time faculty and staff. Faculty are encouraged to develop online courses in their discipline. No formal training in course development is required, however, a multimedia specialist and the office of instructional technology provide technical assistance. No measures of student satisfaction specific to online coursework are separately assessed.

Students may select their courses from a printed schedule of classes or from the college website which has information on course meeting times and credits. Online

courses, as well as web-enhanced courses, are clearly indicated on the schedule.

Minimum equipment requirements for software and hardware, acceptable connection

speed, internet browser options, and instructions for e-mail accounts are published on the

college website. Students are directed to log-on to the college internet information site

before the first class and are given step by step instructions for accessing the course

material on the WebCT platform. A link to the PHCC webhost is displayed for those

students having trouble. Instructors have the option to require an orientation to their

online course and may conduct that orientation in a college computer lab to insure that

students have the computer expertise necessary to complete the course successfully.

Instructors may web-enhance their classes or require completion of internet or

computer based assignments in classes that are not designated as online.

The Population and the Sample

This study collected data from student volunteers attending Pasco-Hernando

Community College in the 2006-2007 academic year. The students given voice by this

study were a purposeful sample of informants (Fraenkel & Wallen, 2000), an appropriate

design approach when understanding of a particular phenomenon is sought (Kvale, 1996;

Lincoln & Guba, 1985; Patton, 1982; Seidman, 1998). Insight and understanding may

be gained from research efforts in a sample of community college students such as this.

Twenty students were accepted as volunteers in this study; ten who had and ten

who had not successfully taken online coursework previously.

The author is an instructor at Pasco-Hernando Community College North Campus

and may have been known to students. In an effort to eliminate interviewer bias and

enhance trustworthiness, volunteers were sought from all campuses and students

presently enrolled or intending to enroll in the author's classes were not included in the

study.

Method of Analysis

Marshall and Rossman contend that "Data analysis is the process of bringing

order, structure, and meaning to the mass of collected data. It is a messy, ambiguous,

time-consuming, creative and fascinating process." (Marshall & Rossman, 1995, p. 111).

The goal of this analysis, then, was to bring order, structure and meaning to the collected

data in order to investigate the differences between the perceptions of students and

educational professionals regarding factors necessary for success in online study.

Bogdan and Biklen (1998) and Seidman (1998) stressed that analysis should

begin only after all data is collected. Kvale (1996), on the other hand, suggested that a

form of analysis could be built into the interview situation itself by verifying and

clarifying responses. For this study, the elements that students identified in the written

inventory were reviewed to suggest categories for the final data analysis. Further, the

interviews were transcribed as soon as possible after the interview itself and that process

was found to be very helpful in noting trends in the data. Listening to the student during

the interview, then listening to the taped recording, followed by typing the words resulted

in the initial formulation of categories.

To prepare for analysis, following the collection process all written instruments

were reviewed for completeness. Audiotapes were transcribed by the researcher on a

personal computer, using the Microsoft Word word processing program.   Remarks made

during the interview by the researcher and the respondent were transcribed, leaving out obviously extraneous material (Seidman, 1998). Fontana and Frey remarked that the spoken or written word has always a residue of ambiguity, no matter how carefully the questions are worded or coded and reported (Fontana & Frey, 2000) therefore the initial editing of transcriptions only cautiously removed material off topic or not directly germane to the subject (Bogdan & Biklen, 1998). During transcription long monologues were sometimes broken into frequent paragraphs to facilitate coding. Verbiage was arranged on the page allowing a wide right margin for the interviewer's penciled coding and comments. Electronic copies of the transcripts were transferred to CD ROM disc and retained along with the audiotapes. The paper copies of transcribed dialogues were combined with the inventory responses, the packet numbers checked, and the entirety reviewed a final time for any blanks or missing data. Descriptive data from the first 11 questions on the inventory were entered on a spreadsheet in the Microsoft Excel software program and that document saved on the CD ROM disc with the transcriptions.

The transcripts of the two pilot interviews were analyzed first to test the procedure and the following routine established. Step one was reviewing the collected data in its entirety. An initial reading through all of the student responses and attached transcripts was then completed in order to gain a sense of the preliminary categories suggested during the transcription process. No categorization was assigned at this stage, but a thorough familiarity with the data was established.

Step two of the analysis was a second reading of all transcripts and the pencil recording initial impressions of typologies next to the wording. No attempt to delineate or assign data into any category was made at that stage. When completed, the major

remarks and typologies made on the transcripts were listed in a separate document and the initial list was scrutinized for themes indicated by repetitions and redundancies suggesting categories. Categories were expanded, compressed, combined, subdivided, and separated as needed. Established themes were challenged and contrary evidence for each category actively sought. A second document sheet of categories was established and this compared against the verbiage of the transcripts, and the student wording on the audiotapes when necessary, to verify agreement with the students' intent. Categories were compared to the elements students had listed on the inventories and found to be compatible.

To reduce the possibility of unintended bias in interpretation due to the subjective nature of coding, a second independent reader was asked to review part of the interview transcripts and verify or establish new categories or identify thematic trends in the data. The second reader reviewed ten transcripts, printed without any coding, and categories were compared to the established categories. Agreement was evident with only one exception. The word 'diligence' was written by one student as an element necessary for success in online study. The author did not feel that diligence was a close enough synonym for other elements to be included in any other established category. Diligence was left as an element with one entry.

The third step in the analysis process was to review the response questions. A set of 20 summary sheets was produced and the responses listed on each sheet. The summaries were color coded and divided into two sets: those students who had and those who had not previously taken an online course. The first review was of question 12, the first of the three written response questions from the inventories. As with the transcripts,

those were read in their entirety once without any effort to categorize the responses. During a second reading, the emergent categories were examined and similar entries collapsed into single categories. As with the previous step, contrary evidence was sought to challenge the themes. Variations in responses were noted and like ideas and key words combined (Marshall & Rossman, 1995; Taylor-Powell & Renner, 2003). Responses that applied to more than one category were included in all categories for which they were applicable. Category lists were expanded and contracted as needed until no new themes or subcategories were noted. This process was repeated for questions 13 and 14, the remaining two written response questions from the questionnaire.

The list of emergent categories from the transcripts was compared to those from the inventories in order to spot trends in the data. Conversations in the guided structured interview asked students to clarify the answers written on the questionnaire, consequently that data revealed similar entries. A guide sheet set of categories was produced. The list included the category title along with a list of the concepts included under that category. Using the guide, transcript narratives and questionnaires were again reviewed and categories verified. After completion of coding, the individual numbered packets of inventories, interview template notes, and transcripts from the interview audiotapes were consolidated so that each individual student's list of elements could be summarized and clearly shown on a cover page. The elements listed on the summary sheet were tallied to generate a single list of elements, weighted by frequency of students who gave that response, that students perceived as necessary for success in an online study.

Entries of the final list of elements generated from the data proved to fall into the categories of Personal Characteristics, Mechanical or Technical Considerations, Social

Aspects and Educational or Instructional Issues. The criteria for inclusion in each of these broad categories are listed in Table 10.

A goal of this study was to gather as much understanding as possible into the elements students believe are necessary for success in online study. Therefore, all responses were included in the data set generated from the inventories and interviews. Responses were ranked by number of students who mentioned the element or item. If five students mentioned that element, the ranking score for that element was five. Data was then analyzed to respond to each of the research questions of this study.   The list of elements was generated to determine the elements students believed to be critical to success in online study.   The responses to the question concerning similarities between elements necessary for online success and traditional classroom success were compared. The responses of students who had and who had not previously taken an online course were compared. The list was then contrasted to the list of elements abstracted from the literature review to determine if, in this case of community college students, the perceptions of students differ from those of professionals. Finally, the list of elements thought to be barriers to online study was compiled from the responses students gave to that question.

Demographic data captured by questions one through eleven on the inventory were tallied and the results are presented in chapter 4 to describe the sample and for comparison to previous research cited in chapter 2.

Finally, a revised version of Table 1, Summary of Elements Listed as Important Contributors to Student Success, was generated and includes a final entry for the student perspective identified by this study. A comparison of those elements, characteristics,

traits, and life situations mentioned as necessary for student success by educational

professionals and those cited by the students themselves is discussed in the following

chapter.

CHAPTER FOUR

Results

The primary purpose of this study was to identify those factors that students

perceive as critical to success in online coursework. Further, it sought to determine if

those characteristics differ in a fundamental way from those traits students identified as

critical to traditional classroom success. Also, this study sought to compare responses of

students who have had previous experience with online courses and those students who

have not had experience with online courses in order to better understand the difference

experience may have made in perceptions of the factors necessary to succeed in online

studies. It was also desired to contrast the list of student-identified characteristics, once

compiled, to those factors identified by in the literature by professionals in education as

critical to student success. Finally, it sought to examine student identified barriers to

success in online coursework.

This chapter presents results and findings of the study in two major sections. The

first section consists of the demographic information captured from the first 11 questions

of the inventory questionnaire and describes the sample. In addition to the written

response questions and the interview that gathered the data to respond to the specific

research questions of this study, demographic data was collected via the survey

questionnaire. These data are presented in part as a description of the student sample and

as a reference to those previous studies that have included those elements as indicative of

the successful student. These data will be presented in the tables and charts that follow.

The second section presents the data from the three written response questions and the interviews with students concerning the elements identified by students as necessary for success in online studies. Using the data from the inventories and quotes from student interviews, each of the five research questions is addressed in turn. Following the narrative, the data are presented in frequencies of the number of students who mentioned the element, either in the written response or during the interview. Finally, additional points made by students, not directly related to the research questions but believed to be significant and insightful, are discussed.

Demographic Information from the Inventory

Twenty student volunteers at the New Port Richey, Spring Hill and Brooksville campuses of Pasco-Hernando Community College completed the survey questionnaire and participated in the interview in October and November 2006. Ten of the volunteers had previously enrolled in an online course; ten volunteers had no experience with online courses. All respondents were students at Pasco-Hernando Community College and were 18 years of age or older. Demographic data captured from the questionnaires produced the following description of the sample.

Previously published research has suggested that age may be a factor in student success (Diaz, 2000; Harbeck, 2001; Rainbow & Sadler-Smith, 2003; A. Wojciechowski & Palmer, 2005; A. J. Wojciechowski, 2004). However, age was not mentioned as a factor necessary for success by any of the respondents of this study. All three of the age groups were represented among the 10 students who had previously taken an online course. Of the 10 students who had previously taken an online course for college credit,

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all had successfully completed the class. The average age of students at Pasco-Hernando

Community College is 25 years, however, more older students volunteered for this study

than are typical of the student body at Pasco-Hernando Community College.

Table 2 shows the age distribution frequency of student volunteers in this study in

response to the request to indicate "Your age group is under 20, 20 to 29, or over 30".

Table 2

Frequency Distribution of Subjects by Age

Age	With online experience (N=10) Frequency	Without online experience (N=10) Frequency
Under 20	2	4
20-29	2	1
Over 30	6	5
Total	10	10

N=20

Gender is cited by some researchers (Beishline & Holmes, 1997; Diaz, 2000;

Harbeck, 2001; Rainbow & Sadler-Smith, 2003; A. J. Wojciechowski, 2004) as a

significant factor contributing to student success. Students in this study did not list

gender as a contributing factor to student success. Sixty-six percent of Pasco-Hernando

Community College students are female. Of the 10 student volunteers who had

previously taken an online course, 4 were male and 6 were female. Table 3 below shows

the frequency of responses given by the sample to question 2 on the inventory, asking

"Your gender: Male or Female".

Table 3

Frequency Distribution of Subjects by Gender

Gender	With online experience (N=10) Frequency	Without online experience (N=10) Frequency
Male	4	4
Female	6	6
Total	10	10

N=20

The effect of student ethnicity was included in the studies of elements that contribute to successful students by some researchers (Diaz, 2000; Dupin-Bryant, 2004; Harbeck, 2001; Spampinato, 2005). Ethnic identify was not listed as an element necessary for success in online or traditional class study by participants in this study. Seventeen percent of PHCC's students identify themselves as minority. Of the 10 students who had previously taken an online course, one indicated a Hispanic identity. All students had successfully completed an online course for college credit. Question 3 of the inventory asked respondents to indicate "Your ethnic identity: White, African American, Hispanic, or other". The ethnic makeup of the respondents is shown in Table 4 which follows.

Table 4

Frequency Distribution of Subjects by Ethnicity

	With online experience (N=10)	Without online experience (N=10)
Ethnicity	Frequency	Frequency
White	9	8
African American	0	0
Hispanic	1	2
Total	10	10

N=20

The cumulative grade point average earned in college courses was found by some previous researchers to be positively related to the likelihood of student success in current coursework (Bernard *et al.*, 2004; Dean, 1998; Diaz, 2000; Harbeck, 2001; Spampinato, 2005; Tucker, 2001; A. Wojciechowski & Palmer, 2005; A. J. Wojciechowski, 2004). No student respondent in this study listed overall cumulative grade point average as a significant element necessary for success in online study. Self reported cumulative grade point averages for all 20 respondents ranged from 2.0 to 4.0 on a 4 point scale, with an mean of 3.29. Of the 10 students who had previously taken an online course, the range was 2.3 to 4.0, and the mean 3.10. For the remaining 10 subjects who had not previously taken an online course, the range of cumulative grade point average was 2.0 to 4.0 with a slightly higher mean of 3.47. Table 5 below represents the self-reported cumulative college grade point averages of those students who have and those who have not previously taken online coursework.

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Table 5

Cumulative Grade Point Average

	With online experience (N=10)		Without online experience (N=10)	
	Mean GPA	SD	Mean GPA	SD
	3.10	.578	3.47	.540

N=20

The number of courses in which students enrolled but dropped was found to be significantly correlated with success in online study in a Introduction to Business course at West Shore Community College in Scottville, Michigan. These data, discussed in two published studies (Wojciechowski & Palmer, 2005; Wojciechowski, 2004) indicate that the fewer courses from which students had previously withdrawn, the higher the grade in the online business course. As the number of withdrawals decreased the grade achieved in the online course increased at a significant rate. Wojciechowski reported a statistically significant negative correlation for both the general population and the successful student cohort.

No student included in the present study listed previous course withdrawals as an element necessary for success although the question was asked on the inventory and, therefore, was suggested as a factor of interest in this study. Inventory responses revealed that, when asked "How many college classes have you dropped in the past?" of the 20 total respondents, 11 students marked that they had never dropped a course, 3 had dropped only one, 5 students had withdrawn from two courses and one student had previously withdrawn from three courses. Table 6 below illustrates the course

withdrawals for students who had previously taken online coursework and students

without experience in online coursework.

Table 6

Frequency Distribution of Subjects by Number Previous Withdrawals
from College Classes

Number of Withdrawals	With online experience (N=10) N	Without online experience (N=10) N
0	6	5
1	2	1
2	1	4
3	1	0
Total	10	10

N=20

The course load, or number of courses in which students were enrolled during the

current semester was included on the list of variables investigated by Diaz (2000). In that

study, data concerning student characteristics were analyzed for 96 online health

education students, for 585 students in the health program and for 9156 students on the

Cuesta College Campus, San Luis Obispo, California. Diaz found that the majority of

online students were enrolled in less than 12 credit hours or who carried a typical load of

four courses, higher than the average for students who were enrolled in traditional face-

to-face classes. Further, the online group also exhibited a higher percentage of students

enrolled in more than 15 credit hours or five or more classes.

No student in the current study included number of courses taken as an element for successful online study, however that question was asked on the inventory and therefore was suggested as a factor of interest in this study. The average number of courses in which the students were currently enrolled differed between those who had and those who did not have experience with online coursework. Students in this study who had experience with online courses averaged a course load of 12 hours or four courses during the current semester; students who had no experience with online coursework averaged nine credit hours or three courses. These data are presented in Table 7 below.

Table 7

Frequency Distribution of Current Student Course Load

Course Load	With online experience (N=10) N	Without online experience (N=10) N
1	1	1
2	0	3
3	2	1
4	4	5
5	1	0
6	2	0
Total N=20	10	10

Question 11 of the inventory asked students to rank their computer expertise in the general category of excellent, good, adequate, and poor.   Confidence in the skills necessary to navigate computer programs and complete routine technological tasks was included in the lists of elements associated with successful students by previous researchers (Diaz, 2000; Harbeck, 2001; Hartley & Bendixen, 2001; Schrum & Hong, 2002; Spampinato, 2005).   The results of question 11 are presented below in Table 8.

Table 8

Frequency of Students by Self–rated Level of Computer Expertise

Level	With online experience (N=10) N	Without online experience (N=10) N
excellent	1	1
good	8	7
adequate	1	2
poor	0	0
Total	10	10

N=20

Ten students in this study were currently taking, or had in the past taken, an online course. This study used the Sloan Consortium definition of an online course as one having at least 80% of the course content delivered online (Allen & Seaman, 2005). Instructors at Pasco-Hernando Community College may web-enhance their class by offering material online or requiring that students take all or part of their exams online. These web-enhanced courses were not considered online coursework in this study.

In order to investigate any difference in perception between students with and without online experience, ten student volunteers from each category were included in this study. Question number seven of the inventory is evenly split in the sample by design. The following two questions: "If you are now, or have in the past, taken a college course online, did you attend an orientation to the online class before the class began?" and "If you have taken a college course online, did you complete the class with a grade of C or higher?" are limited to a sample size of 10.

Attendance at orientation was considered to be an important predictor of online success in two published studies by Wojciechowski (A. Wojciechowski & Palmer, 2005; A. J. Wojciechowski, 2004). Statistical analysis revealed that the two most significant variables, GPA and attendance at the orientation, accounted for 69% of the variability in the final course grade, and therefore, classifying the student to be successful in online study. Other variables considered in that study were less useful in predicting student success in the online class. It is up to the discretion of the instructor at Pasco-Hernando Community College whether to offer or require that students attend an orientation. In the present study, only one of the 10 students who had online experience had attended an orientation to the class. Orientation attendance was not mentioned by any respondent in this study although the question was included on the inventory and therefore suggested as a factor of interest in this study.

Question nine of the inventory asked respondents to indicate whether they had completed the online course with a grade of C or higher. All ten of the students in the online experienced group had successfully completed the college online course for which they enrolled, although one indicated that she had dropped a different online course and

another had failed one in high school. Ten of the twenty students had successful online

experience, and ten of the twenty students had no experience with online study. The

sample was purposefully divided into equal groups of students with and students without

online experience.

The last item from the inventory to be discussed is the data resulting when

students were asked to respond to the question: "Do you plan to take a class online in the

future?" These data are presented in Table 9.

Table 9

Frequency of Students by Intent to Take Online Course in the Future

	With online experience (N=10)	Without online experience (N=10)
Intent	N	N
yes	4	5
no	6	2
unsure	0	3
Total	10	10

N=20

The remainder of the inventory questions concerned student perception and

opinion. The final three queries asked students to write in elements believed to be

necessary for successful online study, whether these elements were the same as those

believed to be necessary for success in the traditional classroom, and the perceived

barriers to success in online coursework. Those factors are discussed in the following

section.

Discussion of Elements Identified by Students

In addition to the descriptive data presented above, three written response questions were included on the inventory. These questions, numbered 12, 13 and 14 on the inventory, combined with the audio taped and transcribed interviews with twenty student volunteers, provided data to address the following research questions.   Each question will be discussed separately in the following portion of this chapter.

The elements noted on the written inventories and the coded data were grouped into four broad categories labeled Personal Characteristics, Mechanical or Technical Considerations, Social Aspects, and Educational or Instructional Issues suggested by the list of final coded categories abstracted from the transcripts. Table 10 lists the category and defines the criteria for inclusion.

Table 10

Criteria for Inclusion in Element Categories

Category	Criteria
Personal Characteristics	Elements pertaining to the students' personality, personal qualities, traits, learning preferences, habits, acquired technical skills, organizational and time management skills, judgment, motivation, patience, self discipline or self concept.

Table 10 (continued)

Criteria for Inclusion in Element Categories

_____

Category	Criteria
Mechanical or Technical Considerations	Elements related to convenient access to adequate personal computers, modems, high-speed internet service, the reliability of equipment, computer malfunctions and data loss, ease of program navigation, delivery platform, or internet security.
Social Aspects	Elements concerning peer pressure, extra curricular activities, clubs, non-verbal communication, study groups, the campus environment, milieu or college experience, or interaction with teachers or classmates.
Educational or Instructional Issues	Elements pertaining to the curriculum, variety in and breadth of subject treatment, review and practice opportunities, or problems resulting from delay in answers to e-mailed questions.

_____

Research Question 1: Elements Necessary for Online Success

The first research question asked: What elements do students identify as most critical for success in online courses? Twenty student participants wrote a total of 53 responses in the area of lined space provided under question 12 on the inventories.

More elements noted by students were categorized under Personal Characteristics than in the other three categories with all students listing at least one personal characteristic as a necessary element for successful online study. The category of Personal Characteristics included aspects of self-discipline, motivation, determination, attitude, computer expertise, typing ability, time management skills, ability to concentrate and good study habits.

In the category of Personal Characteristics, skill in time management was cited more often than any other element as an important for success with 17 of the 20 participants citing that element. The ability to wisely manage personal schedules was written 7 times on the inventories and mentioned in 17 of the 20 student interviews. One student stated "Time management, big time. Big time time-management" and another noted "online courses require less time in a concentrated chunk than courses where you must attend lecture." Students understood that procrastination might lead to problems in online classes and accepted the importance of scheduling their time. A young woman who had never taken an online course admitted that she had not because "it might be easier for me to play hookey if I had an online class." Students conceded that the flexibility of scheduling time spent in class work online required greater time management skills. One student wrote "Schedule your time. You need a higher level of

commitment to participate online. A lot of people think that because it allows them to

have that leeway, they don't necessarily have to sit down at a certain time, but life gets in

the way. You're left cramming for a class at the last minute. It's not such a good idea.

You've got somebody riding you in class, telling you you'd better get this done. There's

no whip and chair online."   On the other hand, flexibility in scheduling that allowed for

employment, child care and family obligations was considered a major advantage of

online studies. One student explained "You do have to have time management skills.

But it's not like you have to say 'now I'm going to work five hours on this this week-end

and do this and that homework the next day.' It's not like that. It's just that you have to

make a commitment to put forth that time. If something does come up, and you don't

have the time then, there's no reason to freak out, and think I'm going to fail the course.

It's flexible."

Self discipline and the ability to learn independently were the next most

frequently cited elements by participants in this study. Self-discipline appeared eight

times on the written inventories and was identified by 13 of 20 students during the course

of the interviews. The first student to participate in this study wrote in response to the

question: What do you believe are the factors necessary for successful online study?

"Well, first and foremost, definitely, would be self-discipline."   Students often stressed

the importance of "making myself do it" as an important element of success in online

classes. Students acknowledged the seductive nature of the internet, the ease of access to

video games and messages from friends as powerful distracters and recognized the need

for self-discipline to stay on task. One student revealed that in an online class in high

school "a lot of times I was doing things other than my homework, and I ended up failing that class."

Independence and the ability to work alone, and self-initiative in answering questions and finding information for one's self, was noted four times on the inventories and mentioned by 13 of the 20 students interviewed. A consequence of working alone, that is the lack of personal interaction with a teacher or with other students, was listed as a barrier to success and will be discussed further in the response to the final research question.

Accurate judgment of the difficulty of online studies was mentioned by seven of the twenty students interviewed. Five of the twenty students noted adequate computer skills.

Mechanical and Technical Considerations was the second broad category into which the data fell. Aspects of this category were mentioned by nine of the twenty students interviewed. Although one student stated that she feared she was stating the obvious, she said: "a computer is necessary in order to participate online." Students acknowledged the need for high-speed internet connections and reliable equipment, as well. The above student expressed the concept bluntly: "in order to take an online course you really need a big, 500 dollar plus computer, with a 80 dollar extra memory and extra graphic card and all this other souped up stuff. Plus, you have to have broadband." Students stressed that equipment needed to be reliable. One student predicted: "anytime you're ever working with a computer, at some point something is going to go wrong. It's going to freeze up, start lagging on you, you'll lose your internet connection, or nudge the power strip and it will turn off on you. Something is going to happen." Students also

noted the need for adequate time on the computer. Even with reliable computers and high-speed connections, in households with one computer, family members had to share. "I'm interrupted because the kids want to play computer games and I have to do homework. We have to share the computer; there is only one."

Easily navigable software programs, and understandable delivery platforms were also necessary. Four students mentioned the need for programs that were easy to follow or quick to learn.

Social Aspects as a category of data included communication and human interaction. Three students specified communication with the instructor as a necessary element of success. One student remarked: "I think that one of the biggest keys to success in an online course is communication. Your teacher can only help you if you can tell him or her what's wrong." Human interaction as an element necessary for success was mentioned by three students. A chat room or message board in an online course was appreciated as an avenue to communicate with classmates.

The category of Educational or Instructional Issues included student remarks concerning wider access to learning material and greater review opportunities, each of which was cited by two of the twenty students. Variety in teaching techniques to accommodate a personal learning preference as well as the opportunity to expand on material in a lesson by way of computer links or website suggestions, and a method to access a review of information and further practice are examples of suggestions in this category.

The first research question asked what elements students perceived as essential to online success. In summary, personal characteristics were cited most often, with time

management skills, self-discipline and ability to work independently critical elements. Mechanical and technical considerations were also important. Only one student in the sample did not own a personal computer. In the Social Aspects category, a method to communicate with both instructors and classmates as an aid to success was mentioned by only a minority of the respondents. Educational and instructional issues were infrequently mentioned as factors necessary for success in online study. Overall, most students saw the personal characteristics of self discipline, motivation, and the ability to work independently and manage one's time wisely as the most important elements for success in online study.

Five elements were mentioned as critical to success in online classes by students in this study that were not noted in the literature reviewed. Four of the five elements unique to this study were in the Personal Characteristics category. The ability to focus was cited by two of the twenty students who participated in this study; determination by three; diligence by one; and memory, retention and recall by one. Those elements were not specifically listed as necessary elements in the previous studies. One student mentioned the fifth element not mentioned in previous studies, review opportunities.

Table 11 below recounts the elements identified by students as important for success in online study, and the number of students who mentioned that element.

Table 11

Elements Cited by Students as Critical to Success in Online Study

Element	Total number of students who cited the element
Personal characteristics	
Ability to focus	2
Accurate judgment of course difficulty	7
Attitude	1
Commitment to one's studies	9
Computer skills	5
Determination	3
Diligence	1
Good study habits	2
Independence, or ability to answer their own questions and work without supervision	13
Memory, retention & recall	1
Motivation to complete the course	10
Organization	2
Patience	3
Self confidence	1
Self discipline	13
Time management	17
Mechanical or technical considerations	
Access to equipment/connection	6
Reliable equipment	4
Program easy to navigate	4
Social aspects	
Communication	3
Human interaction	4
Educational or Instructional Issues	
Access to more learning resources	2
Review opportunities	2

N=20

Research Question 2: Differences Between Elements Identified by Students as Necessary

for Success in Traditional and Online Coursework

Research question 2 asked: Do students believe elements necessary for success in

online coursework differ from elements critical for success in traditional face-to-face

coursework? The same four broad categories of Personal Characteristics, Mechanical or

Technical Considerations, Social Aspects and Educational or Instructional Issues were

used to organize elements mentioned by respondents to this question. A total of 42

responses were offered on the inventories for Question 13.   Of the 20 respondents

interviewed, 14 indicated that at least one element was the same element necessary for

success both in online and in the traditional classroom setting.   Four of twenty

participants stated there was no difference in components necessary for success online

and in the traditional classroom. Four students indicated that there was a difference. Of

the entries in response to Question 13 on the inventory, only one item did not appear on

the list of elements in response to Question 12. One student in reference to online study

wrote in simply "you don't have to physically attend class."   That one entry only was

unique for differences in elements necessary for success in online and traditional classes.

Although 14 of the 20 respondents indicated the same elements were necessary

for success in for both online and traditional classes, qualifiers such as "more" or "less"

were apparent in a total of 12 responses. Representative comments with such qualifiers

include: "You need more self discipline for online classes," "self discipline is more

important online," "you don't need as much dedication," "there is less interaction with

the teacher in an online class," and "online requires a commitment level and degree of

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self management not seen in traditional face to face classes." One student explained "in face-to-face, there's more discussions where you would learn things that aren't in the textbook or that go into greater details than the textbook, so its more important to go to class and pay attention. In online classes, the material is based mostly on the information in the textbook, so it's more important to read and study the book."

Four of twenty students indicated that there was a difference in the elements necessary for success in online study and traditional face-to-face classes. Three of the differences cited were in the Social Aspects category. "The human interaction is obviously absent from online courses," "there is no interaction with the teacher," and "no opportunity to interact with other students." The fourth student who indicated that there was a difference pointed out that, in online classes, she didn't have to physically attend class.

In the category of Personal Characteristics elements identified by four students as necessary for success online did not differ from those element identified as necessary for success in a traditional classroom. Four of the respondents wrote "no difference," or "essentially the same," in response to question number 13. Those students indicated that they believed the same personal characteristics are necessary for success in either arena.

Time management skill, classified in the Personal Characteristic category used above, was mentioned most often in the surveys. Twelve of the twenty students interviewed commented on the importance of judiciously scheduling their time. These students did not cite time management skills as a difference between elements necessary online or in traditional classes, but the degree of its importance was stressed during the interview process. A student explained in speaking about time management: "You do

still need that, but I think more of it is built in to the [traditional] class itself. There are a whole lot more deadlines in my [traditional] class than in my online course. The end goal is the same but the path to it is more blocked out." The tendency to procrastinate in online studies was recognized. Comments referred to the presence of the teacher as a preventative to procrastination. "You can't procrastinate in a class that actually has a teacher sitting there. Things are due at that point, things are due at that time, and that's it. If you're late you get dropped a grade" one student wrote.

Flexibility in scheduling personal study time was cited as an important difference between online and traditional classes by three students. Although not an element necessary for success, per se, students did appreciate the advantage of working at their convenience and at their own pace and stressed these as a benefit of online studies. Family obligations, childcare, employment schedules and personal biorhythms were mentioned as impediments to traditional class attendance. One student said in reference to traditional classes: "My schedules have to match their schedules but my computer is always sitting there." Ten students mentioned flexibility as an element that allowed them to work, not only at their convenience, but also at their own pace. One student remarked "the faster you're done online, the faster you're done with the course. In class, if you're done in five minutes you still have to stay in the classroom." Another agreed: "Sometimes you spend more time on one topic, then breeze through the next one. But in class, everybody stayed on the same page."

Independence or ability to work without supervision or human interaction was noted by 10 of the 20 respondents as being a more important element for online study than face-to-face coursework. Of the ten participants who noted the difference, the

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advantages of working online were listed as privacy by one student, less distraction from other students by two respondents, a reduction in peer stress by four students. Three students felt that working independently was a deficit due to lack of social support and more distraction from family obligations or the internet. One student mentioned that the anonymous status of online work allows students to cheat easily. That student said: "You can pull up your assignment window, minimize it and pull up what you're looking for on certain answers, and, it's just basically, you cheat. It's so easy. People do it all the time. If you really need something you can ace it, and you don't really have to do it. They [teachers] don't know, they think it's you."

In the category of Mechanical or Technical Considerations, differences cited by the student volunteers were as follows. The difference in expense was noted by two students. The expense of computer equipment and high-speed internet access was mentioned by one student. The participant stated "the level of technology you have to have is very high and often expensive, especially to keep in repair…It's a lot more expensive and a lot more complicated in the long run. But once you get everything set up, there's usually a big payback in the form of being able to have the time and the flexibility in schedule." Another student remarked about the cost of commuting: "We have the gas problem here. It takes a lot of money every week for students to come up to campus and they don't really have the money to come up here just to go to class." Aside from the expense, one student noted "there are fewer techno problems in traditional classes."

In the Social Aspects category, three students related their desire for greater human interaction than provided by online coursework. One student in particular

stressed the importance of social interaction. He wrote: "The human interaction is obviously absent from the online courses which can often hamper the student's ability to grasp the concepts being taught. Also the benefit of asking another student for assistance isn't there either, which prevents the student from having something put to them in a way they can understand or relate to." The availability of a classmate to put concepts in different words was mentioned repeatedly as an asset of traditional classes and will be discussed further in the response to research question 5.

Research Question 3: Elements Identified by Students With and Without

Online Experience

Research question 3 asked: Do the elements identified as critical for success in

online study by students who have experience with online coursework differ from those

of students who have no experience? This study included ten students with and ten

students without successful online experience. No student interviewed was completely

without computer experience and all respondents believed their computer use skills were

adequate for online study. Research for and assignments in traditional classes may

require computer use at PHCC. Also, students classified as not having online experience

may have had experience with hybrid or web-enhanced classes and therefore had some

experience with the process of online study.

Table 12 presents the frequency of students who cited each element as important

to success in online study.

Table 12

Frequency of Students With and Students Without Online Experience Who Cited These
Elements as Critical to Success in Online Study

	With online experience (N=10)	Without online experience (N=10)
Element	Frequency	Frequency
Personal characteristics		
Ability to focus	1	1
Accurate judgment of course difficulty	3	4

Table 12 (continued)

Elements Necessary for Success in Online Study Cited by Students With and Without Online Experience

Element	With online experience (N=10) Frequency	Without online experience (N=10) Frequency
Attitude	0	1
Commitment	3	6
Computer skills	3	2
Determination	1	2
Diligence	0	1
Good study habits	1	1
Independence	10	3
Memory, retention & recall	1	0
Organization	1	1
Motivation	4	6
Patience	2	1
Self confidence	0	1
Self discipline	5	8
Time management	10	7
Mechanical or technical considerations		
Access to equipment & connection	4	2
Reliable equipment	1	3
Program easy to navigate	2	2
Social aspects		
Communication	1	2
Human interaction	3	1
Educational or Instructional Issues		
Access to more learning resources	1	1
Review opportunities	1	1
Total	58	57

N=20

Two elements, independence and time management, both from the Personal Characteristics category, were indicated as necessary elements for success by 100% of those students with online experience. All ten (100%) of the students with online experience stated that independence was a necessary element for success; three (30%) of those without online experience listed that element. Ten of the ten (100%) of those students with online experience indicated that time management skills were critical to success; seven of the ten (70%) of those students without online experience indicated that element was necessary.

A difference was noted between those students who had and those who had not previously successfully taken an online class in the estimation of the importance of the Personal Characteristic of independence. The ability to be self-directing, work alone, and without direct supervision was listed by all ten (100%) of the students with experience as a critical element for success. Three of the ten (30%) who had no experience in online study indicated that independence was a critical factor. Students with online experience made it clear that the ability to work alone was an important element in online study. All ten of the students with online experience wrote on the inventory or mentioned during the interview that the ability to work independently was an element necessary for success in online study. One online-experienced respondent said "Not only can you not go to somebody and ask a question about something, you have to be able to know how to get that question answered all on your own. You have to be able to look it up in the book, know where to look for that answer, know how to figure it out." Another online student agreed that independent learning was important. "You have to be resourceful. You have to be willing to get what you need by yourself. Look things up. You have to go get what

you need for yourself. The instructor isn't there to tell you. You need to be able to look for yourself."

One student remarked that if the presentation didn't match a personal preference of lesson delivery style, no other techniques for presenting the material were available online. An online student said in comparing traditional classes to online: "Stuff is presented different. Not just one variation, a number of ways. If you didn't get it, the teacher would say, OK, then try this. Online, there was only one version of a way to do it. Nothing different to see if that worked. So if I didn't understand the way they said it, I didn't get it. I was stuck."   Another student echoed the need for elaboration on some concepts: "The instructor brings in visual aids. That's how she teachers. When she was explaining one concept, she brought in a huge deck of cards. She asked how many jacks were in the deck. How many jacks out of how many. Four out of 52. She showed us. I understood. The computer doesn't do that. It's not very creative. But not everybody has the same learning style, or takes direction the same. I could take direction in writing, just can't do it for math. I need visual aids." A student without online experience said: "With an online course there's only one way to learn. And I couldn't do it. I would never be successful at it." An online learner put it: "With a teacher you get personalized way of explaining things. If you don't understand the way the computer is telling you, you're up you-know-what creek. But if you can ask the teacher a question, she can explain it in a different way, then maybe you'll understand what she is talking about."

No distinction was found in the number of citations given by students with and students without online experience concerning the help of fellow students. Eight students, four with and four without online experience, cited help by other students in a

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traditional class in understanding the presented material by re-phrasing or offering a different interpretation, a component not usually available in online classes. Students with online experience made these remarks: "Other students help by putting things in a different words, explaining it a different way." "If I don't get it in the class, then I can talk to someone who does get it, and they say it in a different language or for some reason I just get it when I hear them say it." A student without online experience commented "If I didn't get it when the teacher said it, one of my classmates did, and they can explain it in a different way. They may have questions that I didn't think about until they did. And it spurs something else there. Not having the one-on-one interaction is one of the biggest problems that exist in online courses."

One student, who had not taken an online course, expressed her opinion of the difference between online and traditional classes this way when speaking about a traditional classroom situation: "You get something more. You can talk to the other students and talk to the teacher and get more. A wider viewpoint. More information. More understanding. More learning." Another advocate of the traditional class said "I like coming to school… It's just interesting and you learn things when you're in class. It's just more enriching."

Time management skill was indicated by ten of the ten (100%) students with online experience. Seven of the ten (70%) of those students without online experience indicated that time management skill was critical to success. One student expressed that "online courses require less time in a concentrated chunk than courses where you must attend lecture." Another student, this one with online experience, added the caution that students should put some time in reserve in online courses. "Try to work on work in

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advance because sometimes the site has errors as well." Ten of ten students with online

experience and seven of ten students without online experience commented on the

necessity of scheduling their time. One student without online experience related: "If

you're not structured, you know, you don't know when to study, and when to, you know,

have play time and work, have spare time, if you cannot, like any other class, take the

time for it, it's, you're just not going to do too well. Especially since no one's going to

say you've got to do the work now, this is due, they just already assume that you know."

The ability to proceed at an individual pace was recognized as an advantage by

ten students with and two without experience online. In referring to a course schedule in

which a set amount of tasks were required to complete the course, and no time limit was

placed on the pace the student could work a student with online experience said "The

faster you're done online, the faster you're done with the course. In class if you're done

in five minutes you still have to stay in the classroom." A student without experience,

however, remarked: "I don't mind coming to class, but online it's like ugh. I'd go

through it very quickly if I don't like it… There's nobody there to make you do it

online."

Research Question 4: Comparison of Student Identified Elements Necessary for Success

in Online to the those Elements Listed in the Literature

Research question 4 asked: Do the elements identified by students differ from

those commonly listed in the academic literature? Table 1 summarized the major

elements reported by professionals in education to be indicative of the successful student.

Some elements discussed in the literature were mirrored in this study while other

elements conflicted. Although this study did not include the large sample (n = 9,837) and

statistical analysis used by Diaz (2000), two elements listed by that author were

mentioned by students at Pasco-Hernando Community College as important for success.

An independent learning style was found by Diaz to be favored by both successful and

unsuccessful online students. The ability to learn independently was identified by

thirteen students in this study as a necessary factor in online success. Also listed by Diaz

were computer skills, an element recognized by five students in this study as necessary

elements for successful online study. In the small sample used for this study, the

cumulative grade point average, indicative of the successful online student in the Diaz

study, was higher for those students who had never taken an online course. Diaz

gathered the cumulative grade point average data of 96 students, 75 who were successful

and 21 who were not. All ten of the students at PHCC who had attempted an online

course were successful therefore a more meaningful comparison might be made to the

GPA of only the 75 successful students in the Diaz study. In the Diaz study, the 75

successful students had a mean GPA of 3.02 on a four point scale; the 21 non-successful

students had a cumulative GPA of 2.25. Students in this study without online experience

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had a self-reported GPA of 3.47 on a 4 point scale; students with online experience had a GPA of 3.1 on a 4 point scale. Other elements conflicted. Given the opportunity to identify elements felt necessary for successful online study, no student in this study identified gender, ethnic group, cumulative GPA, or income.

The 36 students who participated in the focus groups to identify students' perceptions of the factors that influence engagement led by Flores-Juarez (2005) at the University of Monterrey, Nuevo Leon, Mexico, ranked the personal aspects of self discipline and time management as critical factors. In this study those personal characteristics were identified by 13 and 17 students, respectively, as elements critical for online success. No other elements listed by Flores-Juarez were cited by students in the PHCC study.

The student perception of elements necessary for success in this study closely matched those identified by Harbeck (2001). That study included data from 68 student-completed questionnaires and 15 student interviews and divided the elements into four categories, referred to as domains. The domains were labeled and described as follows:

1. Interpersonal Support. This category included such issues as lack of distractions or interruptions, physical space and support from family or employers.

2. Student Characteristics. Seven distinct areas were ascribed to this category: concerns, motivation, perception of content, prior knowledge, academic background, learning preferences, and technological issues.

3. Course Issues. Properties inherent to online courses included convenience, novelty, lack of live interaction and student autonomy. Also included in Course Issues were practical issues of discussion boards, assignment submission and assessment.

4. Infrastructure. Hardware and software technical problems, computer or modem malfunctions and technical support were factors of infrastructure.

Students in the Harbeck study identified motivation and that element was identified by 10 students in this study. In addition to learning preferences, Harbeck's study also identified time management skill, identified by 17 of the 20 participants in this study, and technological issues, identified by 14 student in this study, as critical to online success. The domain of Course Issues contained student feedback on human interaction, a category that had 4 citations in this study, and student autonomy, a similar element to independence, cited by 13 of the 20 participants in this study.   Finally, in the domain of Infrastructure, hardware and software issues and technical support were identified. Overall, student perceptions in this study agreed closely with the elements identified by the Harbeck study.

The study by Schrum and Hong (2002) accessed the academic literature to identify seven dimensions characteristic of the successful online student. The list of characteristics identified was then submitted to professional educators for verification.

The seven dimensions identified by Schrum and Hong (2002) found to be characteristic of successful online students are listed below:

1. Access to appropriate tools.   Schrum and Hong found that reliable access at home was a distinct advantage as it afforded the student the convenience of being able to work at his or her own time schedule.   Six students in this study cited access to tools as a critical element.

2. Previous experience with technology. Students with a level of confidence and

comfort using technology were more likely to be successful in the study by

Schrum and Hong.

3. Learning preferences. Successful online students in that study were aware of

their own learning style and are able to compensate or modify input to assist

themselves.

4. Study habits and skills. Successful students in the Schrum and Hong study

kept up with assignments and posted questions to clarify misconceptions. Two

students in this study cited study habits and skills.

5. Personal goals and purposes. Schrum and Hong asserted that individual need

for professional certification, maintaining licensure, upgrading skills or increasing

knowledge encouraged successful completion of the course.

6. Lifestyle factors. Time management was found to be an important factor in

student success in the study by Schrum and Hong. Seventeen of twenty students

in the present study cited time management skills.

7. Personal traits and characteristics. Personal traits, characteristics, and

fundamental patterns in the way people behave, utilize time and resources, and

conduct their life were identified by Schrum and Hong as significant elements in

success. Organization, assuming personal responsibility, and self-discipline were

characteristic of successful online students.

Identified in the Schrum and Hong study, as noted in this study, were the elements

of reliable equipment, cited by four students in this study; computer skills, cited by five

students in this study; independent learning style, cited by thirteen students in this study;

time management ability, cited by seventeen students in this study; and self-discipline, cited by thirteen students in this study.

Spampinto's (2005) study of the student perceptions of classroom success, using surveys and student interviews, included input from 46 online and 43 traditional classroom students. Student responses to the questions concerning personal attributes perceived as important to success, ranked without percentages in that study, were related to organization, study habits, independent learning, motivation and time management skills, a close parallel to the factors identified by students in this study. Two students at PHCC noted organization, two said study habits, thirteen listed independent learning style, ten mentioned motivation and seventeen said time management skills. An interesting correlation was seen in the student perceptions of the value of independent learning ability. In Spampinto's study 100% of the online students ranked that attribute as necessary for success; 52% of those in the traditional classroom did so. In the present study, 100% of the online students listed the ability to learn independently as necessary for success; only 30% of the students without online experience included that element.

Wojciechowski (2004) and Wojciechowski and Palmer (2005) used data from the same sample of 179 students to investigate individual characteristics as predictors of success in online study. No student in the current study listed the elements identified by Wojchichowski or Wojciechowski and Palmer of age, prior online experience, standardized scores, previous course withdrawals, cumulative GPA, semester format or orientation attendance as elements necessary for success. Wojciechowski found a highly statistically significant relationship between grade point average and success in the online course but made no comparison to the GPA of students with and students without online

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experience. In this study, albeit with a very small sample, the GPA of those students with successful online experience was lower than the overall grade point average of students who had not taken an online course. Further, no trend was noted in this small sample correlating course withdrawals or age range.

Overall, those studies by Diaz (2000), Flores-Juarez (2005), Harbeck (2001), Schrum & Hong (2002), and Spampinto (2005) most closely agree with the elements identified by students in this study as critical for success in online courses.   The academic literature reviewed for this paper includes factors not identified by students in this study as necessary elements for success in online education. Those factors include maintaining academic success, securing a position in the chosen career field, graduation, ability to apply the lessons learned in the college experience to other areas of life, proficiency in all academic subjects, balance in all elements of one's life, gaining practical experience for the future, achieving one's goals, maintaining good grades, graduating and participating in and out of class as identified by Dean (1998). Elements identified by Diaz (2000) that were not listed by students in this study included gender, ethnic group, cumulative GPA, and household income. Listed by Flores-Juarez (2005) but not by any student in this study were the elements of personal goals, faculty involvement, an academic program that is meaningful and sufficiently rigorous, a sense of teamwork with fellow students, the collegiate infrastructure, and physical plant. Harbeck (2001) listed a well-designed and managed course, physical and emotional support among the elements necessary for student success. Those elements were not mentioned by students in this study. The elements listed by Hartley and Bendixen (2001) of self monitoring skill, goal setting, awareness of ability, flexibility and a broad view of

knowledge were not identified by students in this study. Schonwetter, Perry and Struthers (1993), unlike students in this study, identified affinity for challenge and an internal locus of control as element indicative of the successful student. The elements listed by Schrum and Hong (2002) included previous experience with technology, awareness of personal learning style, and personal goals and purpose, however, those elements were not listed by participants in this study. The 2005 study by Spampinto included the element of the ability to read and comprehend easily not listed by any student in this study. Volery (2001) included instructor who is technologically competent and organized and previous experience with online coursework as elements of the successful student. Students in this study did not list those elements. The study by Wang and Newlin (2000) included three elements not recognized by students in this study as necessary for success in online coursework: high level of engagement or activity, a high need for cognition and inquisitiveness and an internal locus of control. Wojciechowski's 2004 study included age, prior online experience, high ACT English score, high ASSET reading score, a cumulative GPA above class average, few previous course withdrawals, a semester format of eight weeks and attendance at orientation as indicative of the successful student. No student in this study listed those elements. Finally, Wojciechowski and Palmer (2005) listed a high cumulative GPA, attendance at orientation, few previous course withdrawals, an age over the class average and an eight week semester format as elements associated with the successful student. Students in this study did not identify those elements.

The student perceptions of factors necessary for success in online study are presented in the final entry of Table 13 below.

Table 13. Summary of Elements Identified as Important Contributors to Student Success

Author	Title	Elements identified
Dean, 1998	Defining and Achieving University Student Success: Faculty and Student Perceptions The faculty perspective	1. Maintaining academic success 2. Securing a position in the chosen career field 3. Graduation 4. Ability to apply the lessons learned in the college experience to other areas of life
Dean, 1998	Defining and Achieving University Student Success: Faculty and Student Perceptions The student perspective	1. Proficiency in all academic subjects 2. Balance in all elements of one's life 3. Gaining practical experience for the future 4. Achieving one's goals 5. Maintaining good grades 6. Graduating 7. Participating in and out of class
Diaz, 2000	Comparison of Student Characteristics, and Evaluation of Student Success, in an Online Health Education Course	1. Gender (Female) 2. Ethnic group (Nonwhite) 3. Cumulative GPA (over 3.02) 4. Learning Style (Independent) 5. Household income 6. Self ranked computer skills (modest)
Flores-Juarez, 2005	Promoting Student Success: Students' Perceptions of the Factors that Influence their Engagement at a Mexican University	1. Personal goals 2. Personality aspects (such as attitude, organizational ability, discipline) 3. Faculty involvement 4. Personal support system of family, parents, mentors 5. Academic program that is meaningful and sufficiently rigorous 6. A sense of teamwork with fellow students 7. Involvement in extracurricular activities and scholarships 8. Collegiate infrastructure (i.e., library, labs) 9. Physical plant, buildings, parking facilities
Harbeck, 2001	Community College Students Taking On-Line Courses: The Student Point-of-View	1. Interaction with instructor and other students 2. Well designed and managed course 3. Physical and emotional support 4. Motivation 5. Self-direction 6. Prior knowledge of online course 7. Technical skills

Table 13. Summary of Elements Identified as Important Contributors to Student Success (continued)

Author	Title	Elements identified
Hartley & Bendixen, 2001	Educational Research in the Internet Age: Examining the Role of Individual Characteristics	1. Self monitoring skill 2. Goal setting 3. Awareness of ability 4. Flexibility 5. Broad view of knowledge
Schonwetter, Perry & Struthers, 1993	Students' Perceptions of Control and Success in the College Classroom: Affects and Achievement in Different Instructional Conditions	1. Affinity for challenge 2. Persistence 3. Self directed 4. Internal locus of control
Schrum & Hong, 2002	From the Field: Characteristics of Successful Tertiary Online Students and Strategies of Experienced Online Educators	1. Access to appropriate tools 2. Previous experience with technology 3. Awareness of personal learning style 4. Study habits and skills 5. Personal goals and purpose 6. Lifestyle factors (e.g., time management, family and employer support, childcare) 7. Personal traits and characteristics (e.g., being organized, assuming personal responsibility, self disciplined)
Spampinto, 2005	Student Perceptions Concerning the Effect of Personal Attributes and Course Attributes in Classroom, Online and Telecourse Success	1. Organized 2. Strong study habits 3. Staying on track 4. Independent learning style 5. Classroom involvement 6. Motivated 7. Ability to read and comprehend easily 8. Time management skills 9. Personal skills (e.g., typing, computer expertise)
Volery, 2001	Online Education: An Exploratory Study into Success Factors	1. Convenient access to technology 2. Instructor who is technologically competent and organized 3. Previous experience with online coursework
Wang & Newlin, 2000	Characteristics of Students Who Enroll and Succeed in Psychology Web-Based Classes	1. High level of engagement/activity 2. High need for cognition / inquisitiveness 3. Internal locus of control
Wojciechowski, 2004	The Relationship Between Student Characteristics and Success in an Online Business Course at West Shore Community College The student perspective	1. Age above class average 2. Prior online experience 3. High ACT English score 4. High ASSET reading score 5. Cumulative GPA above class average 6. Few previous course withdrawals 7. Semester format of 8 weeks 8. Attendance at orientation

Table 13. Summary of Elements Identified as Important Contributors to Student Success (continued)

Author	Title	Elements identified
Wojciechowski & Palmer, 2005	Individual Student Characteristics: Can Any Be Predictors Of Success In Online Classes?	1. High cumulative GPA 2. Orientation attendance 3. Few previous course withdrawals 4. Age over class average 5. 8 week semester format
Flow, 2007	An Investigation of Community College Students' Perceptions of Elements Necessary for Success in Online Study	1. Time management skills 2. Self discipline 3. Ability to work independently 4. Motivation 5. Personal commitment to study 6. Convenient access to reliable equipment

Research Question 5: Student Identified Barriers to Online Success

Research question 5 asked: What do students identify as the greatest barriers to success in online study? In order to address that question, Question 14 of the inventory asked students to respond to the following: Whether or not you have ever taken an online course, what do you believe are the greatest barriers to success in online coursework? Students wrote 37 responses in reply on the inventories and were willing to elaborate their point of view during the interview. Comparisons were made often to the traditional classroom setting.

As before, student responses fell into areas of personal characteristics, technical computer issues, social interaction concerns and instructional issues. For consistency in presentation of this research, the same four broad categories of Personal Characteristics, Mechanical or Technical Considerations, Social Aspects, and Educational or Instructional Issues were used.

On the inventories, students wrote ten elements designated as Personal Characteristics. Referring to the element of independence, one student mentioned a personal learning style incompatible with the independence of computer delivery. Another referred to personal motivation.   He said "you really have to have a driven personality, be motivated, to do that." Still another student referred to learning style. He expressed his feeling about online learning this way: "I don't like it. I'm more a visual learner."

Insufficient self-discipline was recognized as a barrier to success online by two students who felt that problem was exacerbated by the fact that the student did not have

to face an instructor without completed assignments. On student described the situation:

"You're sitting there with your buddies or something along those lines and everyone is

going to turn something in. And you don't want to be the one without doing it. Say, oh, I

didn't do it. Your friends would look over at you and think what kind of person are you.

You're in college. Why didn't you do it? You know, college is a place that you're

expected to turn things in. So in college so much discipline is expected in an online

course."

Misjudgment of course difficulty was cited as a barrier to success online by two

participants. "People think it's an easy way out, that you don't have to go to class. You

can do it 24 hours a day. Whenever your schedule permits" one student warned.

"People misconstrue how much work it is" another student said of online course work.

Four students recognized lack of time management skills, specifically

procrastination, as an impediment to success online.   "People put things off.

Procrastination. You have to push yourself to get it done. So you'll have more time to

reflect on what you've done. If you wait until the last minute, you just hurry up and

throw everything in. If you do (keep up), you can look over your work better and take

your time to do a good job." one student explained. A student without online experience

feared that procrastination would keep him from succeeding online. "See, my problem

with all that online thing would be procrastination. I wait until the due date. So timing

has something to do with it."

In the category of Mechanical or Technical Considerations, the costs of a

computer and high speed internet access was mentioned by two students but balanced by

others who noted that online classes "save gas money."   Six students viewed computer

malfunctions as a greater problem. Students described scenarios in which assignments were sent electronically but lost or computers crashed at a critical time. A sample of those comments follows. "Programs crash. So it's hard if you need to do a quiz and let's say you waited until the last minute to do it, and somehow the program went down or something and you'd fail your quiz because the program was down." "It can happen. You send your assignments in and then, the one I was in, the hurricane came along and…the teacher didn't have his computer. Stuff just kept getting lost. I had to keep on sending it." "Any time you're ever working with a computer, at some point something is going to go wrong. It's going to freeze up, start lagging on you, lose your internet connection, you'll nudge the power strip and it will turn off on you. Something is going to happen."

A total of 23 student-identified barriers were included in the category of Social Aspects. Students voiced the greatest concern over the lack of interaction with an instructor in online classes; fourteen students made mention of that. One student expressed his dislike of "having to interact with a machine instead of a person."

Students saw the physical presence of a teacher in a traditional setting as an advantage in several respects over computer delivered material and related that in online classes equal weight or importance was necessarily assigned to all information as opposed to a classroom setting in which the teacher could stress important points. A student pointed out that in a traditional classroom "You're not learning and discussing everything that's in the book or on the outline. But in an online class you're supposed to learn everything, not just what the professor thinks is important." A similar barrier was the student's fear of misinterpretation of material. A student said: "The other thing I

found difficult was when you're studying on your own, it's your interpretation of the book. It might be a prejudiced interpretation."

Interaction with a teacher was classified as a social aspect for this study. Fourteen students indicated that the loss of interaction with the instructor was a barrier to success in online studies. Students felt that online classes didn't offer the instructor the opportunity to be spontaneous in the classroom. One student wrote in response to question 14 of the inventory: "There may not be the factor of spontaneity that usually arises in a traditional face to face classroom." Another had a similar sentiment: "Online courses limit where the instructor can go within the curriculum. It limits branching out into areas that can supplement the subject matter. I believe online course curtail spontaneous thought processes." And another: "Well, spontaneity brings discussion to the classroom. And you can give examples. By just one situation that arises in class you can incorporate the learning materials in to the class or other things in the course that falls into the subject."

The instructor's ability to alter the pace of the class was mentioned by a student who saw those restrictions as a barrier to online success. That student said: "If you needed more time on one concept, the teacher can assess that. She can spend more time here because she knows that on the next chapter, we won't need that much time. Sometimes you spend more time on one topic and breeze through the next one. In class, everybody stayed on the same page. The computer can't kept the class on one page."

Students stated that another barrier to online success that resulted from the lack of a physical presence of an instructor was meeting deadlines. Procrastination has been mentioned as a problem in itself in the Personal Characteristics category but students

stressed that having a teacher remind them of due dates was an advantage in the traditional classroom. The more personal feeling provided by the teacher was expressed this way by one student: "Because if you're in a face to face class (the teacher) will tell you. They're like, OK, this is going to be due. And you have a personal stake, you don't want to let your teacher down." Four students mentioned that the teacher reminding them of due dates helped them avoid missing deadlines.

A further barrier of success online was the perceived inability in an online course of the instructor recognizing when a student is having trouble. One student described the problem this way: "the computer can't see your duh face." Another student remarked "another thing online can't do. A teacher can see you're confused. She knows you're confused. A computer can't do that." Another similar remark was: "Sometimes you're so lost you don't even know what to ask. But the teacher knows. And cares, too."

Three students relayed that a barrier to success online was that the computer could not explain things in a different way in the event that a student did not understand the initial presentation. Students explained the idea this way: "Other cues other than straight forward words. All teachers find little quirky ways of explaining things. Maybe draw stuff on the board for us, stuff like that. Computers can't do that." and "If you can ask the teacher, she can explain it in a different way, then maybe you'll understand. If the teacher is there you can say, excuse me, can you explain this to me." "It's all the teacher. There's no replacement for a teacher." One final quote: "I don't care how elaborate a computer gets, it will never match the complexity of the human brain. It will never do what a teacher can do. It will never replace a teacher."

Not only the absence of the physical presence of a teacher but the loss of interaction with other students was seen as a barrier to success. Nine participants cited that element. One student said "The presence of the other students is important too. Because maybe they're asking something you didn't think of. Or maybe there was something that I wouldn't ask but they asked, and that answered my question too." The following quote illustrates the help of hearing answers directed at classmates, a loss seen as a barrier to online learning. "Its nice to have a different point of view. It does help. In the class that I failed, it was mostly all computers in the classroom and doing the interactive in class. It wasn't like the teacher would go in and you'd raise your hand. The teacher would come over and whisper to you. You didn't have the interaction with your classmates. You didn't even know anything from the person sitting next to you because they were just sitting there staring at a computer screen. But now I'm taking that class over, but its not computer interactive its just a regular class, and I'm doing much better. And I'm learning a lot more."

In one case, a timid student found he was helped by classmates in a traditional classroom and mentioned the lack of that situation would be a barrier to success if the course were taken online. This comment illustrates: "Sometimes people have problems with raising their hand in the middle of class and putting themselves in the spotlight with other students. They're afraid to ask the teacher so they can turn around to you and say 'did you understand a word she just said?' and they say it in a different way." Another student made a similar point. "You learn from the other students too. Other people have different viewpoints and I now when I'm stuck, other viewpoints help. I can see it another way. I didn't think of that. Input from other people helps you learn and finds

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solutions to problems. This wouldn't exist online."   One student asserted that the

computerized lecture simply didn't explain a concept clearly. "There's no human

interaction, you're at a computer. When I was listening to that computer explain to me

how to do a math problem, it translated from the computer to my ears as blah blah blah

blah blah, blah blah. What did you just say? Nothing. I felt bad. A human needs human

interaction. There's some things that a computer can't do."

Students provided a total of 24 elements considered barriers to successful online

study that fell into the fourth category of Educational or Instructional Issues. The loss of

the classroom environment was mentioned as a problem with online studies. Three

students remarked that they enjoyed the interaction with other students and the social

world of school. The following quote illustrates: "Some people really like the solitary

kind of 'just get it done.' But if you have the personality to really like the social

environment, you like discussion and stuff, working in groups, not working by yourself

but with people around you, then you like the classroom." Another student mentioned

involvement in extracurricular activities not available in online study. "It's like getting a

degree through the mail. Its like when you're taking online classes you're not getting the

college experience that maybe your older brother or sister might have had and that you

wish you could have. But you don't really get the full campus experience. There's more

going on. There's actual clubs here that you could join, and other extra curricular

activities that look good on a resume."

The final element students mentioned frequently as a barrier to online success was

problems with asking questions via e-mail. Twelve of the twenty students interviewed

felt problems with e-mail were a serious hindrance to online coursework. Students were

vocal in their descriptions of problems caused by having to e-mail questions to an instructor. In general students said that, because composing and typing a question took more effort, they tended to ask shorter questions and fewer of them. They described the difficulty of wording a question when they didn't understand, of not being able to comprehend the answer, and waiting to go forward in their studies until the situation was resolved. The comments were numerous; the following were typical of the difficulty of composing an e-mail.

"It's hard to type it out if you don't understand. That was the problem to begin with. I didn't get it."

"You've got to explain the problem that you don't understand. It's harder."

"You have to compose the e-mail question. If you're confused, how are you going to ask the question? Then, if you don't understand the reply, you've got to try again."

Two students said they asked fewer questions and that the questions were shorter.

"If there are questions, I'm fumbling writing the e-mail. I found that my questions tend to be very short. That I don't ask in the same words." Another student didn't ask because she felt she was imposing on the instructor's limited time. She said: "I feel like she's not very available to me and I'm going to impose by a million and one questions to her."

Not just fewer, shorter questions but the wait until the question is answered was declared a barrier by six students. One student complained: "It slows you down. Especially if you have just two or three days to get the exercise done. It may take two or three days to get an answer to your question. Math class is sequential. You have to be

able to do this before you can do that. But you have to wait." Another remarked "What do you do in the meantime? You could e-mail. Tread water until they get back to you. But it was easier to do it for yourself. Just go to a book or something and find the answer."

Two students placed the blame on the instructor. "The instructor sometimes lets you know that she's very busy, that she has this or that going on, she might not get back to you for a while. It's like they can't get back to you for a couple of days, or may not get back to you for a day or two. Unlike in the classroom, if I have a question, I get an instant answer. I don't have to wait." Another said: "If you have to wait for your answer, its frustrating, I think. You forget your question if you don't get an answer."

The number of students who mentioned each element is indicated on Table 14 below.

Table 14

Frequency of Students Who Cited These Elements as Barriers to

Success in Online Study

Element	Total number of students who cited the element
Personal characteristics	
Personal learning preference	1
Personality	1
Lack of self-discipline	2
Misjudgment of course difficulty	2
Time management/procrastination	4

Table 14, continued

Frequency of Students Who Cited These Elements as Barriers to

Success in Online Study

Element	Total number of students who cited the element
Mechanical or technical considerations	
Costs of equipment and connections	2
Equipment malfunctions	6
Social aspects	
Less interaction with instructor	14
Less interaction with other students	9
Educational or Instructional Issues	
Lack of classroom environment	8
e-mail problems	12

N=20

Other points made by a student during the interview process, although not directly

related to the research questions of this study, were insightful and worthy of mention.

That student has a learning disability as a result of a medical condition. Previously the

Office of Disabilities had granted her the allowance of a private location for exams, extra

time on assignments and a note taker or scribe in class. She expressed how, before online

classes were widely available, she sometimes felt other students were resentful of the

perceived advantages she was granted. She appreciated the fact that online she could

work at her own pace in the privacy of her home and not feel that she was imposing on

other students or the teacher. "Instead of doing all that, I can now just do it all at home.

And feel comfortable doing that, I don't have to worry, or take time from the teacher to

get everything together for me, get the packet, send it up to the library, mess with all that.

Because I can do it all at my house. And I don't feel like I'm doing something that the other students – that they're not getting. They don't feel like I'm different. Like how come she gets to do that and we don't kind of thing. What's wrong with her. Like I'm getting an advantage that they're not." The student pointed out that she now could simply print out the notes from the computer rather than having a note taker in class. She also mentioned that she could review from the notes.

A further complication for that student was the medication that she takes. Although she is alert in the morning, the medical makes her groggy later in the day. She appreciated the flexibility of scheduling online offers. She didn't have to worry about the time of day a class was offered and could complete assignments when she felt best able to do so. "Online you can do it when you're ready to concentrate on it."

Further, she stated that she was easily distracted and that students talking around her interrupted her thoughts. She said: "If you're doing it by yourself on the computer you're less likely to be distracted. If somebody is laughing in the background or talking, which is annoying. I'll be watching the Power Points or listening to the teacher talking and somebody will be talking behind me and I get distracted… At home I have privacy, by myself. I can lock the door and hang a do not disturb sign if I have to. That's what I like best. Not being disturbed."

Clearly the advantage of online study has opened opportunities and made an educational difference to this student with disabilities.

In conclusion, students in this study provided insight into student opinion and perception of the elements necessary to succeed in online classes. In this study, participants acknowledged self-discipline 13 times and time management skills 17 times

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as necessary elements for success in online studies and indicated that these same elements were essential to success in the traditional classroom.

Ten of ten students with online experience and 7 of 10 without online experience listed time management as critical for success. Both students with and students without online experience emphasized the ability to study and learn independently was vital. Ten of ten students with online experience and three of ten students without online experience listed the ability to learn independently as an element necessary for success online.

Previously published studies have not concentrated on the students' perspective of elements necessary for success in online study. Characteristics identified in the professional literature, however, cite the personal characteristics of self-discipline, independence and time management (Flores-Juarez, 2005; Harbeck, 2001; Schrum and Hong, 2002; Spampinto, 2005).

Only six of the twenty students included in this study stated that they intended to take an online course in the future. Four of the ten students who had previously taken online courses indicated that they would take another. Although most students recognized the advantages of scheduling flexibility and personal pace, they were frustrated by the clumsiness of e-mailing their questions and the loss of the campus environment.

CHAPTER FIVE

Summary

The focus of this study has been to give voice to student perceptions of the elements that students believe necessary to succeed in college coursework taken online. Although the previous studies conducted by professionals in education have sought to identify those factors that closely parallel student success, studies that access student opinion or seek student input into elements believed necessary for success are infrequent. This research did not intend to identify elements that correlate with or predict student success, but to add to the understanding of student academic success by adding the students' perspective. The correlations found between demographics and student success are of undeniable value in establishing the curriculum of modern education, however, listening to the student voice of the elements they believe contribute to success offers another valuable facet in understanding student success. The use of demographic data to predict the successful student and the opinions of students about success are two aspects of the wider subject of student academic achievement.

College courses delivered via the internet are growing in popularity. Enrollment in such classes is increasing, however, all students who enroll in online classes do not complete the classes successfully. Attrition remains a serious problem in both online and traditional classes. Scant professional literature exists concerning the student perspective of elements necessary to successfully complete online courses. Generating a greater

understanding of the student perspective of the elements necessary to successfully
complete online coursework is a major goal of this research.

Organizational Structure of Chapter 5

This concluding chapter will review the goals and procedures, summarize the
study and findings and provide recommendations for further research in the area of
student-perceived elements necessary for success in online study. The chapter is
presented in sections. The initial introduction and summary will be followed by a review
of the purpose and goals of the study. A summary of the methods used to address the
research questions will follow. The findings of the research are summarized next.
Recommendations for practice and suggestions for further research appear before the
final conclusion.

Review of the Purpose of the Study

The purposes of this study were to identify the student perspective of the elements
necessary for success in online coursework; to determine if students believed those
elements differed from those essential for success in traditional classes; and to detect
differences in the elements identified by students who had experience and students who
did not have experience with online courses. Additionally, this study sought to compare
the student-identified elements necessary for success in online study to those published
studies discussed in the academic literature and, finally, to discover what barriers students
perceived as impeding success in online courses.   This study sought to give voice to the
student perspective; to expand the literature concerning the factors related to student

success; and provide insight for instructors, administrators, advisors and planners into student needs and opinions.

Summary of Methods

A variety of methods were used to obtain the desired information. A pilot study of student interest in online courses used a quantitative approach and generated questions about student-perceived elements necessary for success. The academic literature was mined for information on student success and better understanding of the factors and elements related to student achievement. A mixture of methods, including inventory questionnaires and personal semi-structured interviews, were used to gain a wider view and a deeper understanding of student opinion.

Twenty student volunteers at Pasco-Hernando Community College in central west Florida constituted the purposeful sample. Ten of the participants had and ten had not previously completed online coursework. Data was collected from the students by administration of an inventory and personal semi-structured one-on-one interviews. The information captured by the inventory was entered on a personal computer spreadsheet. Interviews were audio taped and the tapes transcribed. Reviews of the audio tapes, transcriptions and inventories together suggested categories and printed transcripts were coded.   To directly address the research questions of this study, the data collected from interview transcripts and inventories was mined for student opinion and perceptions of specific elements students believed necessary for online success. Similarly, student opinions of those factors necessary for success in online courses and those felt necessary for success in the traditional classroom were compared. The sample was purposefully

and evenly divided between students with and students without online experience and the factors identified from those groupings as critical for success were compared. The elements identified by professionals in education found in the academic literature were compared to those identified by students. Finally, the student-identified barriers were identified in the data.

After the data captured from the inventories and interviews were reviewed and coded and the summary sheets made, analysis of the data began. It was noted that the data fell into four broad but diverse categories. The categories included personality and personal traits such as learning style preferences or acquired skills, mechanical or technical considerations and elements dealing with high speed connections and computer failures, social interactions such as camaraderie with fellow students and faculty, and educational or instructional issues such as subject matter, review opportunities and tests. Student responses were scrutinized and it was found that all student responses could be categorized into one of the four categories. The categories were tagged Personal Characteristics, Mechanical or Technical Considerations, Social Aspects, and Educational or Instructional Issues. The categories were used consistently to organize the answers to each of the five research questions. Specific criteria for inclusion in each category are presented in Table 10.

Summary of Findings

Research question 1 asked: What elements do students identify as most critical for success in online courses? In response to the first research question, thematic analysis revealed that personal characteristics were viewed most often as essential elements for

success. Time management skill was cited by 17 of the 20 participants, self discipline by

13, the ability to work independently by 13.   Motivation to complete the course was cited

by 10 participants; commitment to one's studies by 9 and accurate judgment to course

difficulty by 7 of the 20 volunteers. These elements were each classified as Personal

Characteristics in the organization of this study. Student responses in the three other

categories of Mechanical or Technical Considerations, Social Aspects, and Educational

or Instructional issues, received fewer citations from students. The mechanical or

technical consideration of convenient access to adequate technology and equipment was

identified by six of twenty students as a critical element that contributed to success in

online study.   The category of Mechanical or Technical Considerations was mentioned

14 times; Social Aspects a total of 7; and Educational or Instructional Issues a total of 4

student responses.   Students in this study placed greater importance on personal traits as

critical for success than on issues less personal, such as equipment or other individuals.

These results are presented in Table 11.

Research question 2 asked: Do students believe those elements differ from

elements critical for success in traditional face-to-face coursework? Of the 20

respondents interviewed, 14 indicated that at least one element was necessary for success

both in online and traditional classroom settings. Four of twenty students stated there

was no difference in the elements necessary for success in either situation and four

students did find differences. The differences cited were lack of social interaction with

other students and teachers and the fact that the student didn't have to physically attend

class. Responses from the remaining 12 students indicated that students believed the

same elements were necessary for success in either venue however to differing degrees.

Qualifiers such as "more important" or "less pressure" indicated the importance students

assigned to the element. Seventeen of the twenty students interviewed indicated the

importance of the elements of time management, thirteen identified self-discipline, ten

indicated motivation, and commitment was listed by nine of the twenty students as

necessary for success in both traditional classes and online work.

Research question 3 sought to identify any differences between the elements

identified by students with and students without experience in online study. Students

recognized the importance of time management in online success. Ten (100%) students

with online experience and seven (70%) without online experience mentioned time

management. The element of independence was seen as more important for successful

online study than for success in the traditional classroom with ten of ten (100%) online

experienced students and three (30%) non-experienced students listing that element. The

ten students with experience in online study listed the elements of self-discipline,

motivation, and commitment to study five, four, and three times respectively. The ten

students without online experience listed self-discipline eight times, motivation six times,

and commitment to studies six times.

Research question 4 sought to contrast the elements identified by students to those

elements mentioned in publications by professionals in education. Elements identified by

respondents in this study when compared to those characteristics of successful students

gleaned from the literature produced both similar and dissimilar portraits. Those studies

that included an element of student polling, via questionnaires, interviews or focus

groups, were better predictors of student opinion in this case than studies that relied on

theory, instructor opinion or statistical analysis of student records. The studies published

by Diaz (2000), Flores-Juarez (2005), Harbeck (2001), Schrum & Hong (2002), and Spampinto (2005) most closely agree with the elements identified by students in this study as critical for success in online courses. Agreement was evident in identifying the elements of self-discipline, time management skills, motivation, ability to work independently, and adequate and convenient equipment. Elements appearing in other literature reviewed, but not mentioned by respondents in this study included gender, ethnic identify, age, GPA, college course load, courses previously dropped, or computer expertise, among others.

Research question 5 asked: What do students identify as the greatest barriers to success in online study? Barriers to successful online study most frequently identified by students in this study were the loss of interaction with instructors mentioned by 14 students, less interaction with classmates mentioned by 9 respondents, problems with e-mail communication noted by 12 students, and poor time management skills noted by four participants. Three respondents also mentioned loss of the college experience or campus environment. Students stressed that more happened in a classroom than the straightforward delivery of lesson materials and stated they appreciated the fact that instructors in the traditional classroom elaborated, reviewed, or expanded on the planned lesson. A recorded format of online delivery erased the liberty of spontaneously altering the direction of a lesson to conform to learner interests. Twelve of the twenty student participants were vocal concerning frustrations with e-mail response time and the difficulty of composing or asking questions in writing. Two students relayed that their questions were fewer and shorter than would have been asked in a traditional classroom due to the difficulty of wording a concept about which they might be confused. Further,

having to wait for an electronic reply meant interruption in their train of thought as well as disruption of their study schedule.

This study goes beyond the previous research concerning the characteristics and traits of successful online students published by professionals in education by examining the student viewpoint, a factor that has been infrequently studied. The twenty students from Pasco-Hernando Community College who participated in this study expressed their perceptions of the factors necessary to succeed in online studies. Overall, their responses have reflected an acceptance of personal responsibility for their success and placed less emphasis on others or equipment.   The students have voiced an appreciation for the help of fellow students, acknowledged the importance of their teacher and relayed their frustration with the technical problems of asking questions via e-mail. The participants noted little difference between the factors necessary for academic success in traditional or online classes. Also, both students with and students without online experience cited personal characteristics more often than elements in any other category. The respondents have indicated their perception that personal characteristics are the most critical elements for academic success.

Recommendations for Practice

A comparison of student responses to published studies suggests that faculty, administrators, advisors and other professionals in education may hold a different view of the elements necessary for student success than the students themselves.

This study indicates that students could benefit from greater opportunity for input into the design and presentation of internet delivered courses. Students who took part in

this study made suggestions during the interview process that might improve the chances of student success for those students who enroll in online courses. Student ideas concerning content that could be applied to improve current practice included an independent and separate written course evaluation by students of perceived strengths and weaknesses of individual course content. Such an evaluation would provide a vehicle to better inform students of course content and expectations, and would provide feedback concerning student reaction for course designers. Using the student perspective to create course and curriculum content is not only possible but is suggested from the results of this study. An orientation session at the beginning of the term that includes both students and faculty is suggested by the findings of this study. A major barrier to success in online study identified by students in this study was the absence of an instructor; such an orientation would help alleviate that student perceived barrier. Periodic student and faculty meetings to review student suggestions for improvement would alleviate the student identified barrier of lack of communication. Students were willing to offer possible solutions to perceived shortcomings of online study. Innovative and creative solutions, such as a web link at registration directing the potential student to previous student reviews, a course outline, and sample lessons were among the suggestions by students.

A variety of course offerings that met the general education requirements would enhance the opportunities for students with physical or learning disabilities, or those who are place bound, incarcerated, incapacitated, or experiencing transportation restrictions.

Acquainting students with a realistic view of the time and effort necessary to complete an online course successfully might lessen attrition. Previous research suggests

that students may have a distorted view of the difficulty of online coursework. Oblender (2002) described students who, before taking an online course, claimed to possess the maturity and discipline to succeed without supervision. Those same students, at the end of the semester, indicated that they lacked the self-discipline to commit the necessary time and energy to attain success in their online coursework. Only nine of the twenty students interviewed for this study intended to take an online course in the future. Less than half of the ten students who had previously taken an online course indicated they would take another course online. A visitor pass to visit an online course, a sample online class, or a student focused seminar or cyber chat room might give students a more accurate picture of course difficulty and expectations.

One of the problems cited frequently by students concerned e-mail. Two students indicated that they asked fewer and shorter questions and twelve students listed e-mail as one barrier to success. Of those twelve students, the complexity of composing a question about something they didn't understand, the frustration interpreting the instructor's answer, or of the delay in getting a question answered were the problems voiced. Not only should instructors be vigilant in responding promptly but also silent students could be contacted regularly regarding their progress. Communication with students should be a high priority.

Students in this study commented that often fellow students were able to clarify confusion by rephrasing information or using other examples. A requirement of a specified number of chat room visits in a synchronous class, or periodic postings on asynchronous discussion boards with classmates and the instructor during the semester might facilitate better communication among the students.

Students with a strong preference for one style of presentation mentioned the single method of delivery in online classes as an obstacle to their success. Greater variety in presentations that encompass visual as well as auditory, tactile and other forms of presentation would aid those online learners. Students' suggestions included the incorporation of music, graphics, videos and games to add variety and interest.

Online course delivery is a rapidly growing aspect of education. Understanding the student perspective of the elements necessary for success in that venue continually grows more critical. Educational professionals cannot assume that students share their viewpoints, opinions and perspectives. Based on my observation of data gathered directly from this study, the student perspective should be actively sought and student perspectives should be considered in matters of online curriculum, course design and presentation, and problem solving attempts.

It is the conclusion of this research that greater consideration should be granted by educational professionals to student perceptions of the characteristics, traits, and life situations necessary to successfully complete online studies. The preferences and perceptions of students should be considered in the structuring of curriculum to insure that traditional face-to-face sections of classes are scheduled for those students who do not wish to enroll in online sections. Methods to acquaint students with the expectations of online coursework, such as orientations to online courses, or a sample of an online class accessible to any student with curiosity about online classes, could be beneficial. Opportunities for students to telephone or meet with the instructor in person could be made for students who are experiencing frustration with e-mailed questions.

Recommendations for Further Research

This study has generated further questions about student perceptions. Several attractive areas for further research are suggested.

The study could be improved. For example, the research would be strengthened by the inclusion of students who had attempted an online course but were not successful. The perspective of students who enrolled in an online course but failed or withdrew from the class might offer greater insight into student success and would have enriched the study. Further, the student data concerning grade point average, numbers of classes undertaken or courses dropped were self-reported.

The study could be replicated with students who had enrolled but did not successfully complete an online class. Students who were otherwise successful in college courses but who failed the online classes could provide insights into the difficulties of online study. Similarly, perceptions of students who enrolled but withdrew would help alleviate the significant online attrition problem. Access to student opinion from those students who, for whatever reason, did not complete an online course in which they enrolled would add significantly to the understanding necessary to resolve any problems of online education.

Alternatively, gathering student perspective from the same students before and again after taking an online class might provide a measure of any change in attitude or enlightenment resulting from the online experience. Variation in opinions in such a survey would be more directly related to the experience and less a result of individual student differences in such a pretest posttest study.

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Although only one student in this study was identified as a student with special needs, that student offered unique insights. Flexibility in study time allowed for the altering alertness caused by daily medication cycles, for example. Students with special needs may have valuable insight into the benefits of online study for students with a variety of restrictions. A survey of individuals with situational, physical or learning disabilities to determine the benefits and limitations of online study would enrich the understanding of problems experienced by these learners.

Students in this study sometimes remarked that they would or would not take an online class in a specific discipline. "English would be okay but I would never take a math class online" one student said. An investigation of differences, if any, between elements necessary for success in separate disciplines would be a valuable addition to understanding online success in general.

This research relied on a small sample of students at one community college in Florida. This study could be extended by use of a sample that differed geographically, or a sample taken from a university rather than a community college. A larger overall sample might offer different student perceptions also.

Conclusion

Students in this study recognized the role of personal characteristics in successful college study. Time management skills, that is the ability to judiciously manage one's time, schedule assignments and deadlines adeptly, resist the temptation to procrastinate, and adhere to a self-imposed schedule, were acknowledged as contributors to successful study whether online or in the traditional classroom. Procrastination was mentioned as a

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barrier to success, an especially hazardous threat when working without supervision. Further, students who had not previously taken an online course were less likely to recognize the value of time management as a contributor to success online with seven of the ten non-experienced students compared to ten of the ten with online experience identifying that element. Time management skills were recognized by previous researchers and published in the academic literature (Flores-Juarez, 2005; Spampinto, 2005). Students' misconception or underestimation of the merit of wisely scheduling their time may be one factor in student frustration and the 50% attrition rate estimated by some experts (Oblender, 2002) for online classes.

Also important in the students' perspective was the ability to work independently. Thirteen participants expressed the value of the ability to work without supervision, to be self-reliant in problem solving, resourceful in finding information or solutions, and self-motivated to meet deadlines and ask questions. Independence was ranked as more important by students with online experience than by students without such experience. Ten of the ten students with experience and three of the ten without experience identified independence as essential to success online. Earlier studies (Diaz, 2000; Harbeck, 2001; Hartley & Bendixen, 2001; Schonwetter, Perry & Struthers, 1993; Spampinto, 2005) identified self-direction as a characteristic of the successful student. A conclusion of this study is that students without previous experience with online study may underestimate the importance of self-directed, autonomous, independent learning or the ability to set and adhere to individually established goals.

Of equal importance in the students' perspective was self-discipline. Thirteen of the twenty student participants acknowledged the value of self-discipline as a factor contributing to success in college studies. That personal characteristic was identified as critical in online as well as traditional, face-to-face class work and listed by students with and without online experience. Eight students without online experience indicated that self-discipline was a necessary element for success; more than the five with online experience who identified that element. Previous research has pointed out the characteristic of self-discipline as typical of the successful student (Flores-Juarez, 2005; Schonwetter, Perry & Struthers, 1993; Schrum & Hong, 2002). In general, students in this study expressed that they felt a mature exercising of willpower and self-restraint were critical factors in all college studies.

Commitment to one's studies was listed as a necessary element for success by nine participants in this study. Students stressed that a person must want to be successful and be willing to make the effort required whether online or in a traditional classroom.

Also listed as necessary for success online were the elements of convenient access to adequate equipment by six participants, accurate judgment of course difficulty by seven, adequate computer skills by five, the ability to stay focused by two, good study habits by two, and patience by three respondents.

Students identified barriers to success were the loss of social interaction and communication problems. Interaction with instructors and other students was found to be indicative of a successful student in previous studies by Flores-Juarez (2005), Harbeck (2001), and Spampinto (2005) and by four and three students respectively, in this study. The classroom environment, relationships with teachers and classmates, enlightening and

informative aspects of non-verbal communication, study groups and explanations or rephrasing by fellow students, and the immediate reply to questions were noted as advantages on the traditional classroom setting by seven students.

Problems resulting from asking questions via e-mail were listed by 12 students in this study as a significance hindrance to successful online study. Both the time lag in receiving the answer to questions and the difficulty of wording a question when there was confusion about the concept were voiced by participants in this study as problematic.

Overall, students identified personal characteristics more frequently than mechanical and technical, social, or educational and instructional aspects. Most students were willing to take personal responsibility for their learning and not attribute problems to sources beyond their control.

Students in this study indicated that they valued the attention and direction of teachers who explained, encouraged and reminded students of deadlines. One student remarked: "It's all the teacher. There's no replacement for a teacher." Another observed that the teacher knew the student was confused, "and cared, too."

Education in the 21st century faces substantial challenge. Online delivery of college courses is one dramatic development of the past decade and a phenomenon that is growing rapidly. Enrollment in online classes is growing at a rate faster than enrollment in traditional college courses; however, in this study fewer than half of the students who had previously enrolled in online classes indicated they would take an online class in the future. Clearly, we need to ask the students about their experience, their observations and their perceptions about the elements necessary to succeed. Future enrollments may well depend on this understanding.

I have learned from this study that students value highly the presence of a teacher and appreciate the learning environment. The volunteers in this study have acknowledged personal responsibility for their academic success. This process has verified for me the importance of not only listening to students but also actively seeking their input. The National Institute of Education, in the final report of the study group on the conditions of excellence in American higher education (Astin et al., 1984) contains the following quote:

> An institution that regularly seeks its students' views about the quality of their educational experience is manifesting a very different set of values from an institution that makes no such inquiries once the student matriculates. If the only subjects on which we call for student opinion are extracurricular activities, athletics, and food service, we leave the impression that we do not value students as people capable of thinking seriously about their education (p. 61)

As professionals in the field of modern education it is our responsibility to adequately meet the needs of our students. To meet this responsibility, we must understand students' perspective and respond to the student voice.

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Appendices

Appendix A: Inventory

1. Your age group (under 20   20-29   over 30)

2. Your gender   (M   F)

3. Your ethnic identity (White   African American   Hispanic   other)

4. Your overall college GPA (on a 4-point scale)   _____

5. How many college classes have you dropped in the past? _____

6. How many college courses are you taking this semester? _____

7. Are you now, or have you in the past taken a college class online? _____

8. If you are now, or have in the past, taken a college course online, did you
    attend an orientation to the online class before the class began? _____

9. If you have taken a college course online, did you complete the class with a
    grade of C or higher? _____

10. Do you plan to take a class online in the future? _____

11.   Rank your computer expertise (excellent, good,   adequate,   poor)

12. What do you believe are the factors necessary for successful online study?

    _____

    _____

    _____

    _____

    _____

    _____

    _____

13. In what way do the factors necessary for success in online study differ from those needed for success in a traditional face-to-face classroom?

_____

_____

_____

_____

_____

_____

_____

_____

14. Whether or not you have ever taken an online course, what do you believe are the greatest barriers to success in online coursework?

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your input.

Appendix B: Interview template

- Do you mind if our conversation is tape recorded?
- Thanks for participating in this study of student opinion.
- The information collected for this study will be reported only as aggregate data. Your name or identity will not be revealed.
- The information is needed to learn more about your opinion and to compare your ideas and opinions to those of administrators, instructors, advisors and others in the field of education. The final report will be in the form of a doctoral dissertation, available through the University of South Florida in Tampa.
- Below is printed information on how to contact me if you have further questions.

Pertaining to question 12 of the questionnaire: You have listed factors that you believe are necessary for success in an online course. I would like to review your answers to be sure that I understand what you mean.

Do these apply to all subjects online? Do English and math, for example, require the same list of factors?

Question 13:
Are those factors which you have identified as necessary for success in online study the same factors necessary for success in the traditional face-to-face classroom?
Would you elaborate that answer?

Question 14:
Finally, would you tell about the barriers you have identified?

Is there anything else you would like to add?

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Appendix C: the Student Interest in an Online Humanities Course Questionnaire

Please circle the response that most accurately reflects your answer to the following questions.

1. Please indicate your age group.
   (1) below 18 years (2) 18 to 24   (3) 25 to 34   (4) 35 and over

2. Please indicate your approximate GPA (Grade Point Average).
   (1) 3.0 to 4.0   (2) 2.0 to 2.9   (3) 1.0 to 1.9   (4) 0 to .9

3. Please indicate your gender.
   (1) male   (2) female

4.   Would you take an online humanities course if one were offered at PHCC?
    (1) Yes   (2) probably would   (3) probably not   (4) no

5. Have you taken an online course before?
   (1) yes   (2) no

6. Have you taken a web-enhanced course (a combination of online and class room) before?
   (1) yes   (2) no

7. In which type of class would you be more likely to enroll in the future?
   (1) an online class   (2) a web enhanced class   (3) a traditional class room

8. Do you feel that a person would learn more in
   (1) an online class   (2) a web enhanced class   (3) a traditional class room

9. Which do you think would be more interesting?
   (1) an online class   (2) a web enhanced class   (3) a traditional class room

10. Which do you think would have more variety?
    (1) an online class   (2) a web enhanced class   (3) a traditional class room

11. Which do you think would be harder?
    (1) an online class   (2) a web enhanced class   (3) a traditional class room

12. If you **would not, or probably not,** take a web enhanced or online humanities course, why not?

Check all that apply
1. I don't have access to a computer.
2. I don't have the computer skills I think I would need.
3. I don't think it would be as interesting.
4. I want more variety in the way material is presented than I would expect in online classes.
5. I don't think I would learn as much as I do in a traditional class.
6. I think online classes would be harder.
7. I want face-to-face interaction with the teacher.
8. I like face-to-face interaction with other students.
9. I might not have the motivation to complete the work assigned.

13. If you **would or probably would** take an online or web enhanced class, why?

Check all that apply
1. I think it would be easier than traditional classroom classes.
2. I think I would learn more.
3. I think an online or web enhanced class would be interesting.
4. I could work at my own pace.
5. The schedule is more flexible.
6. An online class would save the time and expense of driving to the campus.
7. Other students recommended the class.
8. Other.

You may use the other side of this page for any additional comments you wish to make.

Appendix D: Sample Interview Transcript

Interview with Sam

October 24

Tape 2, side B, 2nd interview on tape 2

Question 12. What do you believe are the factors

necessary for successful online study?

- I think you need to have a firm grasp of the
  program you are working with

- the discipline to put aside other online activities
  and do your work

- the patience to deal with the inevitable
  problems that <u>will</u> occur with an online
  program

- and above everything else, you have to want to
  pass.

| Computer skill |

| Self discipline |

| patience |

| Motivation |

Question 13. In what way do the factors necessary for

success in online study differ from those needed for

success in a traditional face-to-face classroom?

- The human interaction is obviously absent from
  the online courses which can often hamper the
  student's ability to grasp the concepts being
  taught.

| Human interaction |

- Also the benefit of asking another student for assistance isn't there either, which prevents the student from having something put to them in a way they can understand/relate to.

Interaction with students

Question 14. Whether or not you have ever taken an online course, what do you believe are the greatest barriers to success in online coursework?

- As I stated before, the lack of interaction with another human is the biggest drawback. Being in a room with other students and actually looking at your teacher explaining the course is an important part of not only school life but it also is an important part of functioning socially.

Human interaction
Non verbal communication

JF: To be successful online firm grasp of the

program you wrote. As in technical expertise?

S: No. I think the technical expertise is just

knowing the basics of the program that you're using

online because that may be a problem. I've had this

experience myself where the teacher doesn't really

explain how to use the program that you're going to be

using all semester at all, she just expects you to go in

do it and figure it out yourself. And often times that

really difficult to do, a lot of the programs they've got

now, it like sometimes it may take a couple of months

to learn all the aspects of it.

Computer skills

JF: You mean like an orientation to webCT or

Angel or whatever it is you're going to use?

S: Pretty much. I think if you're going to have

online courses everyone should know how to do it. It

takes away from class time itself to take the time to

teach every single student how to do it and make sure

they understand it.

Computer skills

JF: I think that's a valid point. You need to start at the beginning. So an orientation to the class would be a good time to check to see if everyone was proficient and comfortable with the program?

S: Yea. And also I think that somebody should be there or there should be some kind of a notice when you take the class, when you sign up to take the course, they give you a notice that this course works with a certain program, and if you don't know how to use it, go to this place to learn how. Some sort of a tutorial set up, maybe at the media center where students can go before the semester starts and they can go and ask their questions and learn how to work with the program. With a teacher that knows how to do it. A link at registration would work too.

| Human interaction |
| Computer skills (tutorial) |
| Interaction with teacher |
| Knowledgeable teacher |

JF: You wrote: "And the discipline to put aside other online activities and do your work."

S: Yea.

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JF: Tell me about that.

S: Well, like, I'm going to speak from personal

experience. Whenever I'm on the computer I have

about 30 different things that I usually do. Its like just

out of habit that I go on the computer, I go check my e-

mail, I go to MySpace, I go to this online forum that I

have, then I go do my computer editing of my footages

for the film-making. I just go do all that, its just

natural to me that I do that, and often times before I

even realize it, I'm on there for four hours doing all my

stuff and I don't have time for the stuff from school.

| Self discipline |
| Ability to focus |
| Time management |

JF: So discipline?

S: Yea.

JF: (reading) "The patience to deal with the

inevitable problems that will occur with online

programs. You have to want to pass." You have to

have patience? To learn the program?

| patience |
| motivation |

S: No. The patience I'm talking about is not with the program. I'm talking about working with the computer in general. Because anytime you're ever working with a computer at some point, something is going to go wrong. Its going to freeze up, start lagging on you, lose your internet connection, you'll nudge the power strip and it will turn off on you. Something is going to happen. You need to have the patience to deal with that if you get frustrated easily, that's not a good thing. If it causes you to get frustrated, its worse.

Equipment reliability

Patience

JF: And you have to want to pass?

S: Yea. You have to go in to this program and you have to want to really do it. That goes back to the discipline of actually going on and doing your work. You have to want to do it or else you're not going to do it outside of class. And often with online programs when you're not there and the teacher is saying OK go in to this program and do this, this and this, you're going to have to do it yourself.   And you have to push yourself to do it. So you have to want to pass the class

motivation

Self discipline

independence

Self discipline

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to do it. And often times that's a very big challenge to a lot of students. Yea. Pretty much.

JF: (reading) And this differs from face to face classes in that "human interaction". What do you mean by human interaction? What's good about that?

S: Human interaction is basically, well, this is just an opinion of mine. Human interaction I feel is the biggest, probably the most important thing you learn by going to school. In life in general that's the most important thing you can learn. You learn social skills, you learn communication skills, and talking to another person face to face is probably one of the most important skills you could ever develop in your entire life. Its one skill that every single human being on this planet must have to survive. And I think that with online courses, that removes that.

And most people go to college for the college experience because it does teach you to be self sufficient which I think, obviously, online classes you have to be self sufficient to learn it but you have to have self sufficiency enough to actually go to class,

| Human interaction |

| Social aspects/ communication |

| College environment |

| Independent |

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and you have to, you don't know any other people in the class usually, but maybe somebody you went with to high school, but that doesn't count, you don't know the teacher, you don't know a lot of the students, you have to actually push yourself to go and do this and you have to learn to function in that environment. But if you're just on a computer, sitting there listening to a robotic voice tell you "and this thing you do this, this, this and this." You don't really learn everything because you have to learn. With a teacher you get personalized way of explaining things and if you don't understand the way the computer is telling you, you're up you-know-what creek. But, if you can ask the teacher a question, she can explain it in a different way, then maybe you'll understand what she is talking about.

Human interaction

Self discipline

Human interaction

Human interaction

JF: Communication then, and some of it non-verbal?

S: Other cues other than straightforward words. And all teachers find little quirky ways of explaining things. Like in (name's) class, they used to maybe

Non-verbal communication

Human interaction

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draw stuff on the board for us and stuff like that.

Computers don't do that. They just show you like the

thing out of the textbook and they only do it like that.

JF: (reading) "Also the benefit of asking another

student"

S: You can sometimes. Sometimes people have

problems with raising their hand in the middle of class

and putting themselves in the spotlight with other

students. So, and they're afraid to ask the teacher. So

they can turn around to you and say like "did you

understand a word she just said?" and they say "yea"

and they'll say it in a different way. Sometimes even

the teachers, they're a teacher. And you're a student,

and obviously there's a very big difference. Students

have a completely different way of communicating.

They can explain it to each other in a way that makes

more sense the way they understand it. Oftentimes,

it's the same way somebody else would understand it.

But something might have clicked differently in their

head and they got it and that person didn't.

Human
interaction
/students

communication

Interaction w/
student

Online is different. There's no human interaction.
Because you're not speaking with a person face to
face. Not like a chat room. It's not the same.

Human interaction

JF: So sometimes a student can explain it to
another student and be better able to explain it?

S: Well, it's not better. I'm sure the teacher, if
you went up and asked the teacher, she would find a
way to do it. I'm saying that sometimes it's more
comfortable for you to be talking to another person
who's in the same situation you are. Communicating
with peers is more comfortable than with the teacher.
(laughs)

Human interaction

communication

JF: You don't want the teacher to think you're
dense?

S: Yea. Its just easier sometimes to talk to
another student.

JF: Greatest problems: Lack of interaction. "Not being in a room and actually seeing your teacher explaining the course is an important part"?

Human interaction	

Non-verbal communication	

S: Yea.

JF: Anything else that you can tell me to help understand. If we're going to do online we need to do it right.

S: Yea, we need to do it right if we're going to do it. Everyone I've talked to about it says the same things. I always like to reiterate the fact that I think being in a classroom with other human beings, speaking to other human beings, explaining things to you in a human way, is one of the most important things. It's the most important thing to learn in school, in life, and online courses tend to hamper that. I'm not saying they're a bad thing. Don't get me wrong. They have their uses. They're wonderful as aids to a class. I don't think it should be totally self sufficient as an online course.

Human interaction	

communication	

Appendix E: Consent For Survey Questionnaire And Interview Concerning Student Success

Study location: Pasco-Hernando Community College
Principal Investigator: Jenette Flow

This is a research study concerning student opinions of the factors necessary for success in online coursework. You are being asked to participate because I am interested in gathering data on student perceptions for a doctoral dissertation at the University of South Florida, Tampa, Florida. The following information is being presented to help you decide whether or not you want to take part in this minimal risk research study. Please read this carefully. If you do not understand anything, please ask for clarification.

You must be at least 18 years old to participate.

Participation will involve completion of a survey questionnaire including demographic data and space for you to write responses to three questions. An informal, semi-structured interview intended to clarify or elaborate your answers may follow and may be tape recorded with your permission. I may take notes during the process. The entire procedure should take no longer than one half hour to complete.

Your participation will be confidential. None of the information gathered from the study can be linked to participants' names or other identifying information. The results of the study may be published, however, the result will only be reported for the entire group and no individual responses will be identified by name.

The purpose of this study is to survey the student point of view. While there may be no direct benefit to you for participation, the study will help professionals in education better understand student perspective and may aid in identifying misconceptions by both students and professionals. There are no known risks to participants in this study.

There is no reward for participation or penalty for not participating. Your participation is voluntary and you may withdraw at any time without penalty. Your decision about participation will in no way affect your status at PHCC.

If you have any questions about this study or this form, please contact Jenette Flow at (352) 797-5107 or at flowj@phcc.edu. If you have any questions about your rights as a person who is participating in a study, call USF Research Compliance at (813) 974-5638. If you agree to participate, please sign the reverse side of this form.

By signing this form, I agree that:

1. I have fully read or have had read and explained to me this informed consent form describing this research project.

2. I have had the opportunity to ask questions concerning the study and have received satisfactory answers.

3. I understand that I am being asked to participate in research. I understand the risks and benefits, and I freely give my consent to participate in the research project outlined in this form.

4. I have been given a copy of this informed consent form, which is mine to keep.

_____   _____
Signature of participant   Printed name of participant

_____
Date

Investigator Statement:

I have carefully explained to the subject the nature of the above research study. To the best of my knowledge the subject signing this consent form understands the nature, risks and benefits involved in participating in this study.

_____   ____Jenette Flow_____
Signature of participant   Printed name of participant

_____
Date

About the Author

Jenette Flow received her bachelor's degree in Art Education from the University of South Florida in 1981. Her master's degree, also from the University of South Florida was awarded in 1984. Prior to entering the doctoral program in Adult and Higher Education at USF, she completed the coursework for a Ph.D. in anthropology at the University of Florida. She joined Seahawk Deep Ocean Technology, a deep-sea exploration firm, as chief archaeologist in 1990 and in 1999 joined the faculty of Pasco-Hernando Community College, North Campus, where she currently holds the position of Associate Professor of Humanities.