DISSERTATION

A QUANTITATIVE COMPARISON OF TWO DIFFERENT COLLEGE SUCCESS COURSE FORMATS ON FRESHMEN AT A FOUR-YEAR COLLEGE

Submitted by

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY WILLIAM A. HORSTMAN ENTITLED A QUANTITATIVE COMPARISON OF TWO DIFFERENT COLLEGE SUCCESS COURSE FORMATS ON FRESHMEN AT A FOUR-YEAR COLLEGE BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

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ABSTRACT OF DISSERTATION

A QUANTITATIVE COMPARISON OF TWO DIFFERENT COLLEGE SUCCESS COURSE FORMATS ON FRESHMEN AT A FOUR-YEAR COLLEGE

For first time students, arriving at college can be an overwhelming experience. Compared to high school, college is a different world and new students are strangers in a strange land. Higher education is a symbiotic relationship, one in which colleges need students and students need colleges. Keeping the two together is becoming a challenge. Schools have implemented college success courses; often called *Freshman Seminars*, as a way to acclimate students to college, and in doing so, retain students at their initial college.

In order to add to the data about the relationship between such courses and academic success; six hypotheses were investigated. Two questions considered the impact of a college success course on specific groups of students. Two questions dealt with gender and ethnic differences for students who took the college success courses. One question examined the relationship of final college success course grades to academic success. The final question delved into academic indicators that show which group "needed" a college success course the most.

Data from traditionally aged first year, first time students was analyzed in order to find possible relationships between college success courses and academic success. Data relating to retention to the sophomore year, cumulative GPA, and accumulated credit hours was considered in terms of college success course length, taking or not taking a

colleges success course, gender, ethnicity, course grade, and Colorado Commission of Higher Education Index Scores

Several research projects have found statistically significant relationships between similar courses and academic success. Results from the majority of questions within this project reflect previous findings, but lack the statistical significance of those investigations. However, two findings are worth noting. First, it does not appear that freshman with similar academic preparedness faired better academically due to completion of either a one-week or a sixteen-week college success course. Second, final course grades in the college success course were found to be statistically significant in terms of predicting academic success. There are indications in the data that suggest that completion of a college success course may help retain students who start college with low standardized test score and/or low GPAs.

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Answers are the easy part, questions raise the doubt.

Jimmy Buffett

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CHAPTER 1

INTRODUCTION

Toto, I don't think we are in Kansas any more (LeRoy, 1939). In this one statement, Dorothy voices the angst of most recent twelfth-grade graduates as they arrive at college and realize that college will be nothing like high school. They realize quickly that the academic rigors of college will be very different from their high school educational experience. If they don't realize this quickly, then their stay at college will probably be very short. The length of time a student stays at a college is becoming more and more of a concern for college administrators and faculty. The persistence rate for the freshman year to the sophomore year in four-year colleges and universities has declined from 75.5 % in 1983 to 73.9% in 2001 (Postsecondary Education Opportunity, 2001).

Dorothy's trip to Oz can be likened to a recent high school graduate's first year of college. Like Dorothy, the student is dropped into a new environment, is met by people who are very different, and all of them have different expectations for the student. As new students navigate through the first year of college, they come in contact with many unique situations (both inside the classroom and outside of the classroom), situations that are different from home and high school, and must determine how to deal with these situations, and if all goes well, they will continue ay college to graduation. As for college administrators, they hope the students succeed, but they also hope they don't get swept away to another college. The challenge for both the students and administrators is that of finding a way to lessen the attrition caused by the stress of moving from secondary to

postsecondary education

Among the tasks of higher education is that of helping these new students make the transition from home and high school to college. If the school is successful in helping students make this transition, the school not only molds a productive adult for society, but more importantly for the college, this student will be retained for semesters to come. The surprise for many college administrators is that keeping students has become as important, if not more important than attracting students. No longer is it enough for a college to attract large numbers of students in order to survive. The challenge for college administrators has shifted from simply attracting new students to campus, to include keeping them until the start of their sophomore year, and then through graduation. As explained by Bean (1990) a student who drops out during their first year of college represents the loss of three or more years of tuition, not just one. Tinto (1993) reported:

> ...1.5 million [students] will leave their first institution without receiving a degree. Of those, approximately 1.1 million will leave higher education altogether, without ever completing either a two – or a four-year degree program. (p. 1).

There does not appear to be any strong evidence to suggest that this tide is turning. What college administrators are finding out is that retaining students is hard work and requires creativity and planning.

Retention has become the buzzword of higher education. As attracting students becomes more competitive, the need to ensure that these much sought after students succeed in college, particularly through their first year, becomes very important. Retention of students has become a focus second only to the matriculation of the student.

Student retention issues or put another way, student satisfaction issues are

numerous. Upcraft and Gardner (1989) acknowledge that the reason students leave is a result of a variety of "complex underlying factors" (p. 67). Levitz and Noel (1989) contend that making a *freshman connection* counters these underlying factors. The connection they speak of is one in which students feel welcome, cared for, and listened to. There are four aspects to this connection: (a) connect to the environment, (b) make the transition to college, (c) work toward academic and career goals, and (d) succeed in the classroom.

To make this connection and facilitate the success of these first time college students and to improve their retention, many schools have created college courses designed to help students succeed (Simpson, 2002). These courses are often credited with helping students become acclimated to the college (Maisto & Tammi, 1991), improving GPA (Maisto & Tammi, 1991; Strumpf & Hunt, 1993; Stupka, 1988; Wilkie & Kuckuck, 1989), increasing retention (Strumpf & Hunt, 1993; Fidler, 1991; Sidle & McReynolds, 1999; Stupka, 1988), and accumulate more credit hours (Stupka, 1988). Clearly, college success course outcomes relate to Upcraft and Gardner's (1989) four aspects of connection.

Because the first year of college is crucial to a student's success, a course is needed to help these new students acclimate to their new environment (Upcraft, Gardner, & Associates, 1989). College success courses provide students with the tools needed to adjust to college and excel academically; thus students are able to continue beyond the first year of college, helping them to do well in subsequent classes (Boylan & Bonham, 1992). Not only do these courses improve retention; in addition, students who enroll in courses such as these do better in their future classes (Boylan & Bonham, 1992).

Purpose Statement

The purpose of this study will be to compare retention rate to the sophomore year, cumulative GPA, and the number of hours accumulated at the end of the first academic year among first year students completing a one-week intensive college success course versus those students completing a sixteen-week college success course. In addition this study will compare first time students enrolled in either college success course with similar first time students who did not enroll in a college success course. This will be accomplished by an analysis of longitudinal data from eighteen and nineteen-year old first time students enrolled in Mesa State College (MSC) during the fall semester of 2001. The end result will be that of providing research based suggestions on the development and offerings of similar college success courses.

Research will be based on analysis of data collected on MSC traditionally ages first time full time students who enrolled in the fall of 2001. Statistical testing will include independent samples *t* tests, chi-square tests, basic frequency, and descriptive data.

Hypothesis

The following hypotheses will be tested via this study:

1. Research participants who completed the sixteen-week college success course will compare favorably to research participants who completed the one-week college success course in terms of retention to the start of the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.

2. Research participants who completed either the sixteen-week or the one-week college success course will compare favorably to research participants who did not enroll in a college success courses in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
3. Female research participants enrolled in the college success course will compare favorably to males in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
4. Non-minority research participants enrolled in the college success course will compare favorably to minority research participants in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
5. Research participants completing either college success course with a "C" or better will compare favorably to research participants who completed either college success course with a "D" or lower in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
6. Among all the eighteen and nineteen year-old Mesa State College traditionally aged first year full time students, the percentage that had index scores less than 80 (i.e., needed a college success course) will be higher in the sixteen-week group than in the other two groups.

Definition of Terms

College success course. College success courses are known by a variety of names. While the most common name is that of *Freshman Seminar* or *College 101*, still other classes are called orientation classes. This title is usually conferred on programs that follow a model similar to the one created by the National Resource Center for the First-Year Experience and Students in Transition. Delivery of these courses takes on many approaches. Courses can be offered for credit or noncredit. When offered for credit, the hours offered varies from one hour to three hours of credit. Topics covered in the class generally include learning skills, college adjustment, personal adjustment, social adjustment, and career development (Wilkie & Kuckuck, 1989).

First time or new college student. A first time or new college student (freshman) can be defined as a student who moves directly from high school to college (Erickson & Strommer, 1991). At the end of the 2001 fall semester, 67.8% of the nation's freshman class was eighteen years of age, 28.7% of the freshman class was nineteen years of age (Chronicle of Higher Education, 2003). As such, we can say that a first time or new student is a student who enters college straight from high school, and that student is eighteen to nineteen years old. For this research project, whenever appropriate, the genderless term *first* or *new* student will be used in place of the terms freshman or freshmen.

First Time Full Time (FTFT). First time students who have not previously attended Mesa State College or any other institute of higher education and who are enrolled for a minimum of twelve hours in the fall 2001 semester.

Index Score. The Colorado Commission for Higher Education (CCHE) formula

of combining a student's high school GPA and standardized test (ACT or SAT) score in order to determine score for admittance to a Colorado public institute of higher education. Colorado's admission index scores vary from 40 – 150.

Introduction to Higher Education. This is the name of Mesa State College's college success course, the literature often refers to a course such as this as a freshman seminar course or a freshman orientation course. Presently this course is a one hundred-level variable credit course (one – three credit hours) offered as an elective that includes among other things topics of learning skills, college adjustment, personal adjustment, social adjustment, and career development. The terms *freshman seminar, freshman orientation,* or *extended orientation* will not be used in this paper, rather the terms *Introduction to Higher Education* and/or *college success course* will be interchanged throughout this paper when discussing Mesa State College's freshman seminar type course.

Delimitations

The following are delimitations of this study:

1. Data will be collected regarding only Mesa State College students.
2. Data will be collected for students eighteen to nineteen years of age who are first-time, full-time students.
3. Only data regarding students seeking a Bachelor's or an Associate's degree will be considered.
4. Only data regarding students who completed either the one-week or sixteen-week college success courses will be considered when analyzing for the

benefit of the college success course format.

5. The following data from the fall 2001, spring 2002, summer 2002 and semesters will be considered:
    a. Retention through the end of Spring 2002 and the start of Fall 2002.
    b. Cumulative Grade Point Average (GPA) through Spring 2002 or when they left MSC.
    c. Accumulated credit hours through Spring 2002 or when they left MSC.
6. Data will be collected from the Mesa State College BANNER program. Banner is a higher education software program for compiling and disseminating student information, advancement, human resources, financial aid, faculty and advisors, finance, and more (Banner, 2003).

Because of the specific nature of this research to a particular school, findings resulting from this research should be generalized with caution to other college or university campuses.

Assumptions and Limitations

1. Students with low index scores who wanted to take the Introduction to Higher Education course were *encouraged* to enroll in the sixteen-week course as opposed to the one-week course, or no course.
2. It is assumed that while students had different college success course professors, the curriculum for all versions of the college success courses were comparable.

3. It is assumed that the data collected from the college's Institutional Research Office via the BANNER program is accurate.
4. Application of findings from this research is limited by the fact that presently the one-week course is offered as a two-credit course, not a three-credit course as it was in the Fall 2001 semester. In addition, students with low Colorado Commission of Higher Education Index Scores (below 80) are not allowed to enroll in the one-week course.

Significance of the Study

There are two significant aspects regarding the findings from this research. First, results from this research will add to the present body of knowledge regarding college success courses and their role in the freshmen connection. Not only will this research support this body of knowledge, new information will be added to this body of knowledge. Specifically, is there a difference between retention rates, cumulative GPA, and hours accumulated for students completing a sixteen-week college success course versus students completing a one-week college success course? While much has been written about the benefits of college success courses, little if any research has been done comparing the different lengths of college success courses as they relate to the success of first time students. Thus, information gleaned from this research can be interpreted and used by college administrators and faculty charged with designing and implementing these types of courses.

The second benefit of this research is that of reinforcing the value of college success courses in future policy decisions. Particularly in terms of whether colleges

should offer such courses, and whether students should be required to enroll in a college success course, and if so, what is the criterion used to determine who should take the course, and, finally, whether there is a course length that is better suited for specific students?

Researcher's Perspective

As a professional and an educator within the field of developmental education, the researcher believes a college success course is an important course for all first time students to take. While there are unprepared students who require remedial courses in specific areas to begin and complete college, all students can benefit from a developmental college success course.

Courses such as Mesa State Colleges' *Introduction to Higher Education* fall into the category of developmental college success courses. Courses such as this one are beneficial to all new incoming students. Offering these types of courses acknowledges that students might lack an understanding of the learning methods needed to succeed in college. This lack of skills may not be due to any fault of the student or the student's high school; rather it is likely due to the fact that college is and should be more rigorous than high school.

In addition to a lack of academic skills, many new students lack purpose for attending college. They are unsure as to what they want to do with their lives, and if they have life goals they may not know how to attain these goals. This lack of direction adds to the feeling of being lost and confused that many first time students experience in their new environment. Courses such as Mesa State College's *Introduction to Higher*

Education meet the needs of students who arrive on campus with specific major/career goals, as well as those students who are undecided. Like many similar courses, the *Introduction to Higher Education* course has a major/career research component. The combination of building on a new student's present study skills and helping them plan for their future alleviates this feeling of being lost and confused for the majority of students.

The student and the college share the responsibility for the student's success when a college invites the student to attend their college. This responsibility is not comparable to the *in loco parentis* role colleges held at one time, nor is it an equal level of responsibility. Rather, this transitory responsibility is one of helping and guiding students through college, not parenting students while attending college, and the student bares the primary responsibility for their own success. When a school provides college success courses as part of the transition to college, they are in effect saying, "We want to help you succeed." Perhaps Boyer (1987) put it best when he stated, "Colleges should be as committed and creative in helping students adjust to college life as they are in getting them to the campus in the first place" (p. 46). It seems that students who complete a college success course will stay in college longer; that the cumulative GPA for students completing a college success course will be higher; and that students who have completed a college success course will accumulate more credit hours during their first year of college. What might be overlooked is that offering a college success course also reflects the commitment of the college into helping first time college students succeed. When done correctly, this commitment can be a creative way to help these new students adjust to college.

The researcher believes research will prove that one college success course length

is better than another in terms of retention to the sophomore year, cumulative GPA after the first year, and more accumulated credit hours after the first year. The researcher also hoped that data from this group of students would confirm that when first time students enroll in a college success course their retention to the sophomore year, cumulative GPA after the first year, accumulated credit hours after the first year is better than that of similar students who didn't enroll in a college success course.

Conclusion

While her trip to OZ was traumatic, Dorothy did make it, she met the Wizard, did what had to be done to meet the requirements for being granted her wish, and she made it home. The same can be said of college students, they have definitely left one world behind and landed in another when they arrive on campus, but they, just like Dorothy can survive and reach their graduation goal.

Survival for first time college students, just like survival for Dorothy, is dependent on others acclimating these students to the new environment. This acclimation or connection, *the freshman connection* must happen quickly and smoothly. While the connection is intrusive, it cannot appear to be intrusive. Making this connection must appear to the first time student as nothing out of the ordinary, they must believe that making this connection is the standard operating procedure of the college.

College success courses provide an opportunity for the seamless transition between high school and experiences. This transition is really only successful if the student is able to realize the immediate value of this course. This immediate value can be defined as attaining the skills needed to be able to return for subsequent semesters, the

ability to obtain and then maintain an adequate cumulative GPA, and accumulate the needed credit hours for graduation. Research into these areas in general, and college success courses specifically, will assist a college's ability to better meet the needs of those students transitioning to college from high school.

CHAPTER 2

REVIEW OF THE LITERATURE

For students just out of high school, adjustment to college happens at many different levels. These new students need to adjust socially to college. They need to adjust to a different living environment. They need to adjust to being away from family. They have to adjust to a different and more rigorous academic environment than their high school. This adjustment must happen quickly, and the majority of students have not been adequately prepared to make these adjustments. A review of the literature regarding college success courses as they relate to the transition to college requires consideration of several topics. In order to fully understand the academic approach to transition to the first year of college, this chapter will discuss: (a) today's college student, (b) developmental versus remedial education, and (c) college success courses. Relevant literature regarding college success courses is the focal point of this literature review, as such there are three topics of particular interest: (a) history of college success courses, (b) students and college success courses, (c) colleges and college success courses.

We cannot hope to meet the needs of today's new students if we don't first understand who these new college students are. Understanding the difference between developmental and remedial education and college success courses will better enable the reader to understand the best approaches for creating the course curriculum and teaching the class. This information provides an understanding of college success courses in general, but it does not shed light on the Mesa State College (MSC) course. To

understand the MSC success course we need to look first at the history of MSC in general and the college's success course specifically.

Background

Mesa State College in Grand Junction, Colorado was established in 1925 as the Grand Junction Junior College (Morton, 1991). It is interesting to note that the development of junior colleges in the state of Colorado can be attributed to two Grand Junction residents. Dr. Houston, the president of the college in 1937, and Representative Wayne N. Aspinall worked together in order to get the Senate, the House, and Governor Ammons to pass a bill providing communities which sought a junior college a say in the establishment of local junior college districts (Morton, 1991). On June 13, 1937, when the question was put to the Mesa County voters, they overwhelmingly approved a three-quarter-mill levy in order to maintain their junior college, thus creating the Mesa County Junior College, usually shortened to Mesa College (Morton, 1991). In the spring of 1972, Colorado Governor Love signed the bill changing Mesa College to a baccalaureate degree granting institution; all the while keeping it's junior college capability of offering two-year degree programs (Morton, 1991). Keeping the name Mesa College, it was not until 1976 that the first Bachelor's degree was granted (Morton, 1991). In the summer of 1988 the school became Mesa State College (Morton, 1991).

The history of MSC's college success course while, not as long as the school's history is just as interesting. A review of college catalogs reveals that 1990 was the first year for a college success course. The class, *College Success Strategies* received a remedial course listing of 090. In the Fall of 1995 the faculty of this course began the

long process of moving from the remedial status to a 100 level elective course. In the spring of 1998 the school's curriculum committee and the faculty senate accepted the revised course curriculum. Mesa State College offered the 100-level *Introduction to Higher Education* in the Fall of 1998.

Originally the course was offered in a traditional sixteen-week format; however, early on the faculty and the administration realized the potential of this course for student success and retention. In the fall of 2000 the college offered to 165 students a program titled FYI (Freshman Year Initiative). This program provided students with a one-week version of the *Introduction to Higher Education* course during the week just prior to the start of the semester.

Today's College Students

Understanding today's college student helps us better understand the value of developmental education and college success courses. Levin and Cureton (1998) suggest that it is common for us to look at the different generations of America's people, and that we commonly define these generations as one of two ways. They claim that we either look at people in terms periods of time or we look at shared experiences. Interestingly, when we consider periods of time, previous generations have been made up of clearly defined time periods, baby boomers were born between 1946 and 1964; X generation members were born between 1965 and 1976 (Weiss, 2000). Today's students, while born in about the same time span, have acquired three different monikers, Figure 2.1.

In her book *Campus Life*, Helen Horowitz (1987) considers college students from the 18th century through the mid 1980s and concludes that college students from

every generation are unique when compared to those before and after them. As we begin this new century, only time will tell how today's college students will be unique in ways different from those who will follow. We have a good idea of who these students are today. The present generation of college students has been labeled as the Echo or Net generation. Students born between 1977 and 1997 are often called the net generation because these youth are the first to be able to take advantage of what computer technology has to offer (Tapscott, 1998). They are also known as the Y generation. Students born between 1980 and 2000 are called the Y Generation because they follow the X Generation (Hatfield, 2002). Additionally they have been called the Millennials: students born between 1982 and 1998 (Howe & Strauss, 2000). Figure 2.1 offers a timeline of the various names for present generation of traditional aged college students.

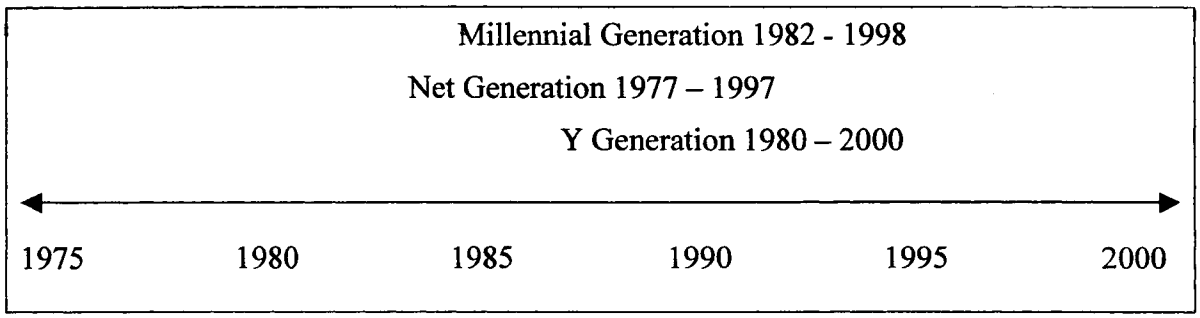

Figure 2.1

Traditional aged college student generation names.

No matter the time frame you choose or title you prefer, these students can be defined by seven attributes: conventional, confident, special, sheltered, pressured, achieving, and team oriented (Howe & Strauss, 2000). Additionally, this generation of student comes to college with a history of a lot of parental involvement and a high

understanding of technology. Many of these students have worked through high school and will continue to work during college; and this generation of students has grown accustomed to change (Alch, 2000).

The present generation of students realizes the value of a college education and they plan for this education (State Of Our Nation's Youth, 2002). The value of a college education is clear. Figure 2.2 shows that people who have a college education do better financially then those who do not have a college education.

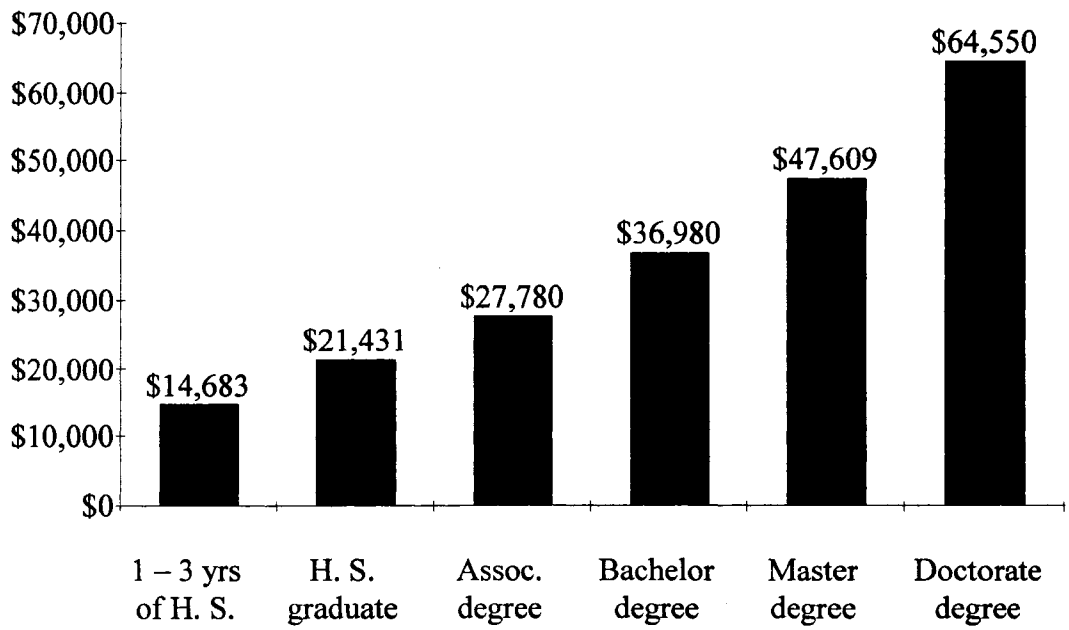

Figure 2.2

Average income based on educational background.

Today's college students understand the economic value of obtaining a college degree and plan to take advantage of a college education. Astin, Oseguera, Sax, and Korn (2002) reported that 70.3% of recent high school graduates starting college in 2001, responded that getting a better job was an important reason for deciding to go to college.

Not only do students see the relationship between education and income, so to does society. The benefits of a college education can be divided in to four categories: public economic benefits, private economic benefits, public social benefits, and private social benefits (The Institute of Higher Education Policy, 1998). Loosely translated the aspects of each of these categories reflect the diverse benefits of attending college, both for the student and society.

Today's students understand these benefits, and they want a college education in order to reap the rewards of that education. While students understand they will have to work for that education, they may not realize how different college will be from high school. For example, Table 2.1 shows the high school out of class study habits of 2001 high school graduates, Astin et al. (2002).

Table 2.1

Percent of Students Reporting That They Studied or Did Homework by Time

Hours spent studying	Percent reporting studying at this level
Not at all	2.3
Less than 1 hour a week	11.8
1 to 2 hours a week	21.6
3 to 5 hours a week	29.3
6 to 10 hours a week	19.7
11 to 15 hours a week	8.5
16 to 20 hours a week	4.0
Over 20 hours a week	2.7

With 85% of graduating seniors studying ten hours or less a week in high school, it is unrealistic to assume they will be accustomed to, or prepared to study more during their first semester or even their first year of college than what they did while they were in high school. Observations such as this speak to the need for colleges to offer college

success courses to new students, courses designed to help new college students understand the difference between high school and college.

If a college education is in fact important, and if students are not prepared for college or don't understand the difference between college and high school, and thus may not do as well as needed, then colleges would be well advised to offer students a college success course to better prepare these students for their college education. To not offer such a course probably impacts the retention of the students, and in turn, probably the economics of society as well.

Developmental Versus Remedial Education

Terminology is the key for understanding the difference between developmental and remedial education. Two terms must be clarified before a discussion of developmental education can begin; *high-risk students* and *at-risk students* are the two primary types of students who make up the population of unprepared students. Understanding the difference between these two populations is crucial for understanding the type and extent of developmental education required for a student. Two other terms, *remedial education* and *developmental education,* reflect the two different types of intervention programming for students who are underprepared. Understanding the differences within these two sets of terms helps to clarify how best to meet the needs of unprepared college students.

High-risk students are designated as such by virtue of personal characteristics. These characteristics are usually situational in nature. Economic background, quality of K – 12 education, whether both parents attended college are just a few of the possible

situations that make a student high-risk. At-risk students on the other hand are identified according to criteria determined by each institution (Miller, 1996). Low standardized test scores and/or poor high school achievement records at the time of college admission are both key indicators of college students who are at-risk (McGrath & Braunstein, 1997; Quilter, 1995).

The distinction between these two terms is very clear. Students are high-risk based on their characteristics; students are at-risk based on criteria as defined by the college. Understanding these two different categories of underprepared students helps the educator determine which type of intervention, if any, is needed for individual students. Students who are considered high-risk will be *encouraged* to take advantage of intervention programs. On the other hand, those students who are deemed to be at-risk will be *required* to take part in the school's related remedial course(s) as well as any intervention program(s).

Two terms, which are more controversial than high-risk and at-risk, are *remedial education* and *developmental education.* For some people the line between these two forms of intervention is very clear, for others the demarcation is much less distinct. While the differences between the two may not be obvious, these differences relate to the goals of college success courses.

It has only been recently that there has been a shift from the concept of remedial education to developmental education (Boylan, Collins, DeMarais, & Maxwell 1999; Maxwell, 1997). The early approach for dealing with college students who had trouble adjusting to college, no matter what the adjust problems, was through remedial education. Remedial education has been likened to a medical approach to learning (Casazza, 1999;

Miller, 1996). This medical model of remedial education suggests that something about the student needs fixing. The approach of the medical model can be outlined in these three steps. First, the practitioner (the institution) makes a diagnosis of a problem with the patient (the student). Second, the practitioner issues a prescription for the patient (courses to be taken which will make the student better). Finally, the practitioner evaluates the patient to determine if there has been any improvement. At Mesa State College, as well as at many other colleges, remedial courses are sub-100 level courses, usually in the area of math, English, and writing; these courses usually count towards GPA, financial aid, and full time status, but not towards graduation hours.

Developmental education is not remedial education! Remedial education suggests that the student is relearning something that has already been taught; whereas developmental education recognizes that the student is constantly growing and changing. As a result, previous knowledge might need to be supplemented with new knowledge in order to continue learning while in college.

Roueche and Wheeler (1973) provided one of the earliest definitions and distinctions between developmental and remedial education:

> Remedial implies the remediation of student deficiencies in order that the student may enter a program for which he was previously ineligible. Typically, such work consists of noncredit courses in English, mathematics, or study skills taken as a prerequisite to credit courses. "Developmental" or "compensatory," on the other hand refers to the development of skills or attitudes and may not have anything to do with making a student eligible for another program. (p.223)

The College Reading and Learning Association (CRLA) defines remedial education as supplementing skills that have been taught but not learned, or at least not learned correctly. CRLA has gone on to suggest that developmental education provides

skills that have not been previously taught. In other words, student failure is not due to poor ability, but rather due to a lack of preparation for college (Carriulo, 1994). Typically, developmental education refers to programs and services designed to meet the needs of underprepared college students (Payne & Lyman, 1996). The developmental education model is a comprehensive process that focuses on the intellectual, social and emotional growth, and development of all learners (Casazzara, 1999).

The holistic approach of developmental education is reflected in the following National Association for Developmental Education (NADE, 1995) definition of Developmental Education:

> Developmental education is a field of practice and research within higher education with a theoretical foundation in developmental psychology and learning theory. It promotes the cognitive and affective growth of all postsecondary learners, at all levels of the learning continuum. Developmental education is sensitive and responsive to the individual differences and special needs among learners. Developmental education programs and services commonly address academic preparedness, diagnostic assessment and placement, development of general and discipline-specific learning strategies, and affective barriers to learning. (p. 1)

Imbedded in these definitions is the difference between developmental and remedial education courses. That is, the difference between those courses that seek to benefit unprepared students versus underprepared students. Remedial education focuses on overcoming difficulties with specific basic academic skills; students enrolling in these courses are *unprepared* for specific courses. Conversely developmental education seeks to build on a student's past K-12 academic skills in order to help them become academically stronger for college; these students are *underprepared.*

Developmental education is a philosophy of teaching based on teaching the *whole* student. Remedial education is an approach to teaching based on identifying a specific

academic deficiency, isolating that deficiency, and teaching to that deficiency. Additionally, developmental education recognizes student growth as an important aspect of learning. Rather than focus on a student's deficiencies, developmental education seeks to build on a student's existing skills and prepare them for advanced academic work (Rubin, 1991). These philosophies reinforce the differences between remedial and developmental education. Classes are developmental if their purpose is to better prepare students for success in college and in life, as opposed to prepare them for specific courses as is the case with remedial courses.

Consideration of a student's past academic history is important when trying to choose between remedial or developmental education. If at the start of a student's postsecondary education a new student has deficiencies in areas of basic academic skills such as reading, writing, calculating, and reasoning (Rubin, 1991), then remedial education is what is required. On the other hand, if it is a question of college being a different and tougher academic environment than what the student was used to previously, then developmental education will be the path to follow.

Relevance of Remedial and Developmental Philosophy to College Success Courses

In their discussion of freshman seminars, Barefoot and Gardner (1993) define developmental courses "as a course which offers students both a holistic and a developmental orientation throughout a term to the demands, expectations, and delights of college life" (142). They continue by explaining that *holistic* means not only introducing the student to the campus and its many resources, but also helping the student to see himself as an important part of the academic community. They clarify that these

courses are developmental because they provide a structure to meet the developmental needs of the new students on their terms as opposed to the terms of the college. Clearly developmental education, not remedial education, should be the instruction method of choice for working with first time students whenever possible, realizing of course that some students will need remedial education for specific disciplines. This is due in part to the holistic approach of developmental education, which recognizes the individual intellectual, social, and emotional growth of each new student. Developmental education recognizes that all students have talents, and these talents can be developed upon by a relationship of support and learning between the student and the educator (Casazza, 1999).

College Success Courses

The importance of reviewing the literature as it relates to college success courses is clear when we realize how little information is available. Figure 2.3 from Koch (2001) lists only fifty-seven college success course or freshman seminar research resources between 1977 and 1999. The highest numbers of these resources were made available in 1989. While much has been offered since 1989, there is a noticeable decline in resources. The focus of these resources is broad, offering insight into a variety of college success course topics. When reviewing the literature of college success courses it is important to look at the history of these courses and at the impact and benefits of these courses on students and on the college.

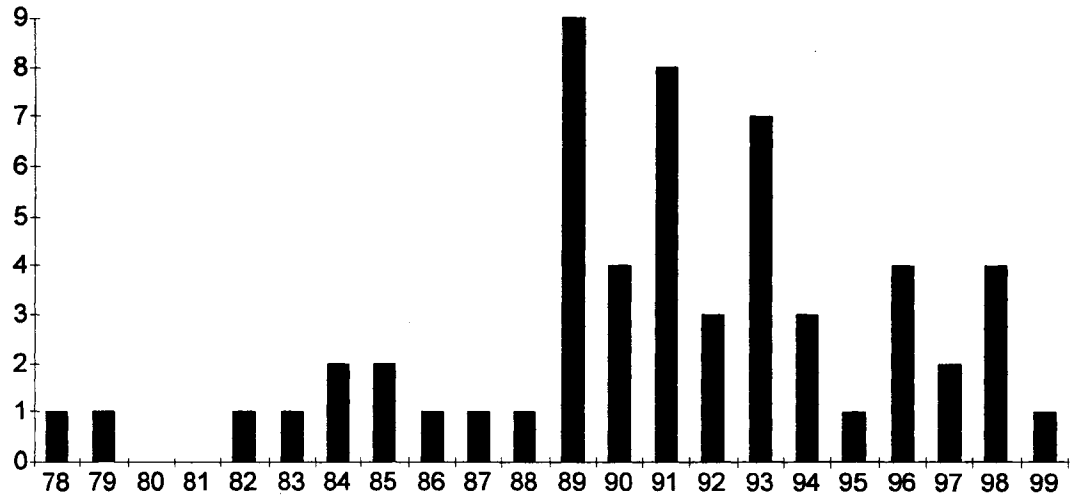

Figure 2.3

Number of freshman seminar articles by year.

History of College Success Courses

Generic names for college success courses include Freshman Seminars or Freshmen Orientation. A quick surf of the internet finds more specific course names for college success course that include: Academic Success at the University (Arizona State University); First Year Experience Seminar (Babson College); Freshman Studies (Lawrence University); University 101 (Northern Kentucky University); The Individual, University and Society (Colorado State University).

No matter what the name is, college success courses such as these are not new to American higher education. The history of college success courses raises questions about the early differences between remedial and developmental education. In the late 1880's it is reported that colleges began offering courses designed to help first-year students. Boston University initiated a freshman orientation course in 1888 (Gordon, 1989). In

1889 Harvard created a board of freshman advisors designed to help incoming students deal with the college's curriculum (Rudolph, 1990). By the 1930's colleges had begun to move away from a sink-or-swim approach to higher education, helping students adjust to college became the new game plan (Brubacher & Rudy, 1976; Rudolph, 1990). Harvard's board of freshman advisors was put into place fifteen years after the school began offering Freshman English at the request of faculty who were frustrated with students' preparation for writing (Maxwell, 1997). Thus it would appear that because these early courses were offered as a means by which to better prepare students for the rigors of college and at the same deal with their academic deficiencies, they were both remedial and developmental at the same time.

College success courses are an important part of American higher education, but it took the student movement of the late 60's and early 70's to make freshman seminars what they are today. In the early 1970's, in response to student unrest on his campus, University of South Carolina President Thomas Jones began the process of creating a program that would "produce, through small group interaction, students who would not riot and faculty who teach persons as well as disciplines" (Watts, 1999, p.238). In time this course became what is known as *College 101*, considered to be the premier freshman seminar/college success course.

The 2002 report of first-year seminar programs *The 2000 National Survey of First-Year Seminar Programs: Continuing Innovations in the Collegiate Curriculum* reveals relevant information regarding college success courses today. An examination of this data (Skipper, 2002) highlights several important aspects of college success courses:

- While college success courses are offered at both two-year and four-year

colleges, the highest percentage of colleges offering college success courses are four-year public institutions serving student populations of 1,000 – 5, 000 students.

- There are numerous reasons why colleges might offer college success courses. The top five course goals include (a) develop academic skills, (b) ease the transition/adjustment to college, (c) provide orientation to campus resources and facilities, (d) improve self-concept, self-assessment, and personal responsibility, (e) develop analytical and critical thinking skills.
- Curricula for college success courses include a number of topics. Included in this list from the most reported to the least reported top five are: academic skills, time management, self-exploration, transition to college, and career exploration.
- Almost half (49.9%) of the surveyed institutions require all first-year students to enroll in their college success course. Of those colleges that do not require enrollment, 30.4% require that certain student population take their college success course. The largest special population is that of students who are academically underprepared.
- The majority of college success courses offered are applicable towards student graduation (90%).
- 73.6% of college success course are offered in a semester (sixteen-week) format, while 21.3% of the institutions surveyed offer the course in some *other* format. Others might include anything from one week to one academic year.

- Delivery of these courses takes on many approaches. Courses can be offered for credit or noncredit. When offered for credit, the hours offered varies from one hour to five plus hours of credit, the most common being somewhere between one and three hours.

These revelations reflect the diversity of college success courses from around the country. However, what works on one campus may not work on another campus. Thus it is important to review literature that speaks to the success of different college success courses on various college campuses.

Students and College Success Courses

As far as new students are concerned, the first year of college should result in attaining and keeping a strong GPA, as well as accumulating the appropriate number of credit hours needed to stay on track in order to return as a sophomore. In other words, students seek to develop the skills needed to do well in college and they want to stay on track so as to graduate in a timely manner.

Research of 2001 high school graduates indicates that 57.5% felt that they would make a B average, 76.5% felt confident they would obtain a bachelor's degree, and only .7% thought they would drop out of college, and 6.3% of these same students thought they would need extra time in order to complete their degree requirements, Astin, et al. (2002). With this information in mind, researching college success course literature that speaks to findings regarding how college success courses can help students (a) maintain a strong GPA, (b) accumulate academic hours, and (c) stay in college would be important to discover. These three points, while important have not been studied separately; rather

information about each is garnered via exploration into the combined research of first year student success and keys to successful transition to college (Stupka, 1988).

Research showing the relationship between college success courses and keeping students beyond the freshman year is abundant (Bender, 1997; Fidler, 1991; Hyers, & Joslin, 1998; Strumph & Hunt, 1993). Retention to the sophomore year is of course important, but more important is retention to the second semester. If a college can't keep a student beyond their first semester, then the college's concern of keeping them to the sophomore year in unfounded. A strong first semester GPA is reported as being a key indicator of student retention (Belcheir & Michener 1997; Goldman & Gillis, 1989, McGrath & Braunstein, 1997). In addition to its importance in the first semester, overall GPA during the first year of college is linked to retention (Kern, Fagley, & Miller, 1998). Recall that about half of the colleges offering college success courses require that their first time students take the class during their first year. Requiring students to enroll in a college success course may appear to be overly intrusive; however, when we consider that many first time students aren't aware of the academic needs for college (Smith, Walter, & Hoey, 1992, Quilter, 1995), requiring students to take a college success course can increase both first semester and first year retention.

Completion of a college success course provides students with the skills needed for future success that have been previously discussed, such as the development of academic skills and transition to college. So, taking the course is in itself is a marker of success. Surprisingly, the final grade in a college success course is an indicator of success as well. The completion and passing the college success course with at least a "C" has been found to be an effective predictor of achievement and persistence (Fidler,

1991; Hyers & Joslin, 1998; Raymond & Napoli, 1998).

Success at college is due to many other variables, included among these is living on campus. Astin (1985) found that living on campus increased a student's chances of "persisting and aspiring to graduation or professional degree" (p. 148). Subsequent research has found that living on campus and participating in a college success course reduced student drop out rate (Fidler & Moore, 1996). Reasons for this connection while not clear, can be hypothesized: living on campus places students in a learning environment, living in close proximity with peers improves socialization, living on campus provides students with easier access to campus resources, and living on campus can potentially improve student-faculty interaction. All of this relates to the goals of college success courses previously outlined.

Colleges and College Success Courses

As far as a college is concerned, success is equated with keeping new students enrolled through graduation. Only 6.7% of the new four-year students in the fall of 2001 believed they would transfer to another colleges, .9% thought chances were good they would drop out of college temporarily, and .7% felt chances were good they would drop out permanently, Astin et al. (2002). Thus it would appear that only 8.3 % of the class of 2005 believed they would not make it till graduation at the college they matriculated at. In reality, in 2002 the percentage of first time four-year students returning for their sophomore year was 74 % (ACT, 2002), meaning that 26 % of the Class of 2001 did/will not return to their college for their sophomore year, not the 8.3 % reported by the students. Thus it would appear that the actual college attrition rate is much higher than

what college students report, suggesting that there is a discrepancy between what students believe will happen and what actually happens.

This loss of students has the potential of being devastating to colleges. For 2001 *The Chronicle of Higher Education* (2002) reported that the number of high school graduates enrolling at both public and private colleges for the Fall of 2001 was 2,839,000. When 26% of that class is removed, approximately 738,140 first time full time students did not return for their sophomore year. Some of this attrition is probably due to transferring to another college, stopping out, or dropping out, but no matter what the reason, the fact remains that these were students not retained at their original college. When we consider that there are 2,450 public and private four-year colleges in the United States (Chronicle of Higher Education, 2002), this averages out to a loss of about 301 students per college for the 2001-2002 year. With an average tuition and fees for a public four-year college being $3,506 (Chronicle of Higher Education, 2002) per year this equals a potential subsequent loss of $1,055,306 per college for the 2002-2003. The average tuition for a private college is higher and thus their loss would be higher. While some of this loss will be offset by new student enrollment, it is easy to see why college administrators and faculty realize the value of improving retention (Braunstein & McGrath, 1997). The financial impact of attrition caused by the departure of first time full time students warrants reviewing college success course literature that speaks to how such a course can improve retention and thus positively impact college budgets.

Campus Involvement in Retention Programs

The key relationship between college success courses and college

faculty/administration is that of involvement. Astin (1985) outlined the benefits of faculty involvement for student success. Jewler (1989) suggests that using a broad range of faculty from across campus is the key to an effective college success course. Skipper (2002) reports that, of the schools surveyed, the majority used faculty to teach their college success courses, while the second largest group was that of student service professionals. Schools seem to clearly understand the value of putting their best foot forward when working with their new students. Tinto (1993) speaks to the value of faculty involvement in college retention programs. The resulting observation is that involving faculty or student affairs professionals from across campus in college success courses can improve this program as a transition connection for these traditionally aged first time students.

Conclusion

College success courses are a means by which the curriculum that is beneficial to first times students for transition to college is incorporated into the developmental education curriculum. The holistic approach of developmental education is the perfect match for the goal of the transition from high school to college; a goal that seeks to move students from their previous comfort zone to a new comfort zone. It is important to keep in mind that college success courses are a part of the first year experience; they are not and should not be the entire first year experience. Courses such as these are only successful if they are offered to students along with strong academic and career advising, worthwhile academic support programs such as tutoring and mentoring, personal counseling, and opportunities for campus involvement among other things.

College campuses today are made up of a diverse student population. Today's student body finds a mix of genders, ethnic groups and ages among other things. Campuses have both traditional and nontraditional students, however you define each. One of the most important groups of this student population is that of the traditionally aged first time student. As individuals, these students are sometimes misunderstood, sometimes overlooked, but always a challenge. Their challenge to colleges is not only how to attract them, but also how to keep them beyond their first semester. College success courses appear to be one way to keep these traditionally aged first time full time students.

Successful programs of today rely on what was learned from previous programs. Research is key in order for college success courses to thrive and help students adjust to college. Three factors are important for the continued success of college success courses (Zis, 2002). First, planners of college success courses need to keep in mind the intended outcomes of their courses. Second, planners of college success courses need to review the demographic data regarding their new students. Finally, planners of college success courses need to keep tabs on the trends impacting incoming students. Clearly research is important for the continued development of strong college success courses.

CHAPTER 3

METHODOLOGY

Introduction

This research project focused on the relationship between enrollment in college success courses (sometimes called *Freshman Seminars*) and academic success or failure. Using these courses as the primary independent variable, the relationship to three different dependent variables was considered. The three dependent variables included: (a) retention to the start of the sophomore year, (b) cumulative Grade Point Average (GPA) at the end of the freshman year, and (c) number of credit hours accumulated at the end of the freshman year. The research was be done via statistical analysis of existing data, looking for differences and associations within the data.

The primary research goal was to gain a better understanding of the role of enrolling in a college success course and to compare the differences among students who enrolled in a one-week, sixteen-week college success course, or no college success course in relation to each of the three previously mentioned variables. There are several secondary difference questions that were also considered. These additional difference questions looked at gender, ethnicity, and final course grade as they relate to the three variables. Also studied were differences between these groups in whether or not they were prepared for college (i.e., needed the college success course based on CCHE Index Score).

Data was collected from the Mesa State College Banner program and consisted

of data regarding MSC students who were traditionally aged, first-time, full-time students from the Fall of 2001 and who were enrolled in one of the college's associate or bachelor degree programs.

Design of the Study

Due to the variety of research questions considered in this study, comparative, associational, and descriptive research approaches were used for data analysis. These three approaches are the appropriate research methods when we understand the sample to be studied and how they will be studied. Since the sample in question is students who self-selected themselves into one of three different college success course options, a randomized experimental approach (one in which the researcher assigns participants to groups) is not an option. Also, we don't call this experimental research, although the independent variable (college success courses) would be considered by some to be an active independent variable. The researcher did not manipulate the variable. This study did not include a pretest and the intervention (the college success course) was done before the study began.

Gliner and Morgan (2000) suggest that the comparative approach is used when studying cases in which there are: (a) less than five ordered levels of the independent variable, (b) when examining differences among groups, and (c) when the independent variable will not be manipulated by the researcher. In this case the primary independent variable is that of college success courses, within which there are three levels: (a) a one-week college success course, (b) a sixteen-week college success course, and (c) not enrolling in either college success course. The dependent variables used for comparison

include: (a) retention to the sophomore year, (b) cumulative GPA at the end of the freshman year, and (c) number of credit hours accumulated at the end of the freshman year. Both cumulative GPA and earned credit hours were obtained for all participants, even those who had left the college before the end of their freshman year. As described earlier, there are several other comparison questions that were asked. Some of these questions considered attribute independent variables, these are variables that are characteristic of the participant(s). Gender was used as an attribute independent variable, with male and female as the levels. Ethnicity was also used as an attribute independent variable with minority and non-minority as the levels. Final college success course grade was another non-manipulated independent variable with a grade of C or better as one level, and a grade of D, or lower as another level. Independent sample *t* tests were used for these comparative analysis questions.

Gliner and Morgan (2000) advise that when doing research in which two variables both have nominal categories or few ordered categories, a cross-tabulation can be done to determine how many participants, if any, of each category have score that fall into a category of the other variable(s). Both chi-square and phi were used to determine if there was a relationship between a low CCHE Index Score (i.e. the need to take a college success course) and the type of course (one-week, sixteen-week, or no course) the student took.

The descriptive research approach according to Gliner and Morgan (2000) is evident in most research projects, but it often provides information used to describe the sample population. Such is the case in this research project. Descriptive statistics will be used to reflect among other things: the number of students who enrolled in the college

success courses, the number of students who were not enrolled in college success courses, and the age of students enrolling in colleges success courses.

Participants

This research project sampled first time full time college students eighteen to nineteen years of age enrolled in the Fall of 2001. Table 3.1 outlines the actual traditionally aged first time full time student population for the Fall 2001 semester.

Table 3.1

Fall 2001 Traditionally Aged First Time Full Time Student Population Characteristics

Actual population	*n*	%
Total enrollment	1048	
College success course		
Not enrolled in any course	634	60%
Enrolled in the one-week course	244	23%
Enrolled in the sixteen-week course	142	14%
Enrolled in either the 4-week or 8-week course	28	3%
Age		
17 years of age	7	1%
18 and 19 years of age	823	78%
20 years of age and older	218	21%
Gender		
Male	454	43%
Female	594	57%
Ethnicity		
Non-minority	846	81%
Minority	168	16%
Living arrangement		
Did not live on campus	575	55%
Lived on campus	473	45%

Specifically the sample of students attended Mesa State College, a public college in the southwest portion of the United States with an enrollment of approximately 5,700

students at the time of this research. The college is unique in that it serves three distinct missions: the school has a community college mission, a bachelor's degree mission, and a master's degree mission.

Defining the research population was a three-step process. Because age was an important aspect of this research project (specifically the research looked at traditional aged college students) the first step was to move the eighteen and nineteen-year old students (n = 823) from the original population and place them in the research population. Table 3.2 reflects the entire 2001 eighteen and nineteen-year old population.

Table 3.2

Fall 2001 18 and 19-year-old Traditionally Aged First Time Full Time Student Population Characteristics

18 and 19 year old population	*n*	%
Total 18 and 19-year-olds	823	
College success course		
Not enrolled in any course	475	58%
Enrolled in the one-week course	230	28%
Enrolled in the sixteen-week course	104	13%
Enrolled in either the 4-week or 8-week course	14	1%
Gender		
Male	350	43%
Female	473	57%
Ethnicity		
Non-minority	672	82%
Minority	127	15%
Living arrangement		
Did not live on campus	361	44%
Lived on campus	462	56%

The second step was that of removing those students (n = 14) who were enrolled in either the eight-week college success course. Table 3.3 reflects the population by the type of course they took, after these students were removed.

Table 3.3

Fall 2001 18 – 19 year-old Traditionally Aged First Time Full Time Student Population Excluding Those Students Enrolled in the Eight-Week College Success Course

	No course *n*=475	1-week course *n*=230	16-week course *n*=104
Mean CCHE Index Score	97.56	94.50	85.60
CCHE Index Score SD	13.81	12.35	12.42
Gender			
Male	212 (45%)	86 (37%)	44 (42%)
Female	263 (55%)	144 (63%)	60 (58%)
Ethnicity			
Unknown	14 (3%)	5 (2%)	4 (4%)
Minority	66 (14%)	38 (17%)	22 (21%)
Non-minority	395 (83%)	187 (81%)	78 (75%)
Living arrangement			
Didn't live on campus	244 (51%)	72 (31%)	37 (36%)
Did live on campus	231 (49%)	158 (69%)	67 (64%)

Finally, Colorado Commission of Higher Education (CCHE) Index Scores were used as a means to refine the final research sample. Because CCHE Index Scores are common to the majority of students, they provide a standardized way of assessing students' preparation for college. Table 3.4 shows that the three college success course groups (especially the sixteen-week group) differed substantially on CCHE Index Scores. Thus it was decided to match the three groups on the CCHE Index Score to help equate the groups on preparation for college.

The following were the steps for finalizing the research sample:

1. Students (n = 29) who did not have a CCHE Index Score were removed from the sample.

2. Using the *Split File / Organize Output By Groups* function of SPSS 11.5, the sample was narrowed down from 780 to 240 by creating as many groups of three as possible using both the *duration of the course* and the *CCHE Index Score*.
3. Each group of three had:
    a. Had very similar index scores (< 2), if not exactly equal
    b. A member who was:
        i. Not enrolled in a college success course
        ii. A member who was enrolled in the one-week version of the college success course
        iii. A member who was enrolled in the sixteen-week college success course.
4. Finally, attempts were made to provide as close to equal representation in the three research groups as possible in terms of:
    a. Gender
    b. Ethnicity
    c. Living arrangement (Either lived off campus or on campus during the Fall 2001 semester)
5. Initial eighteen to nineteen-year old sample members (n = 540) who were not used were deleted from the research sample.

Based on this process an actual research sample was created. Table 3.4 describes this actual research sample.

Table 3.4

Research Sample of 240 Traditionally Aged First Time Full Time Student Matched into Three groups Based on CCHE Index Scores

	No course n=80	1-week course *n*=80	16-week course *n*=80
Mean CCHE Index Score	88.37	88.43	88.35
CCHE Index Score SD	10.96	10.88	10.96
Gender			
Male	40 (50%)	40 (50%)	35 (44%)
Female	40 (50%)	40 (50%)	45 (56%)
Ethnicity			
Unknown	1 (1%)	1 (1%)	4 (5%)
Minority	17 (21%)	17 (21%)	16 (20%)
Non-minority	62 (78%)	62 (78%)	60 (75%)
Living arrangement			
Didn't live on campus	37 (46%)	23 (29%)	27 (34%)
Did live on campus	43 (54%)	57 (71%)	53 (66%)

Hypotheses

The following hypotheses were tested via this study:

1. Research participants who completed the sixteen-week college success course will compare favorably to research participants who completed the one-week college success course in terms of retention to the start of the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
2. Research participants who completed either the sixteen-week or the one-week college success course will compare favorably to research participants who did not enroll in a college success courses in terms of retention to the

sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.

3. Female research participants enrolled in the college success course will compare favorably to males in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
4. Non-minority research participants enrolled in the college success course will compare favorably to minority research participants in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
5. Research participants completing either college success course with a "C" or better will compare favorably to research participants who completed either college success course with a "D" or lower in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.
6. Among all the eighteen and nineteen year-old Mesa State College traditionally aged first year full time students, the percentage that had index scores less than 80 (i.e., needed a college success course) will be higher in the sixteen-week group than in the other two groups.

Data Analysis

Appropriate data from the college's Banner program was collected and entered into the Statistical Package for Social Sciences (SPSS) version 11.5. Once the

information was compiled and entered, the comparative, associational, and descriptive analysis of the data was performed in the following manner:

- Descriptive analysis was be used to focus on frequencies, means, and standard deviations of pertinent information.
- Independent samples *t* tests were used to answer questions 1 through 5.
- Question 6 was answered using the chi-square test.

Protection of Human Subjects

This study was submitted first to the Mesa State College Human Subjects Committee for approval of methodology, upon approval from Mesa State College the study was submitted to the Colorado State University Human Subjects Committee for approval. The sample data for this research project was existing data regarding past students and collected via a computer program (Banner), there was no researcher/participant interaction. Student information was provided to the researcher from the college after names, Social Security Numbers, student identification numbers, and any other identifiers had been removed.

Conclusion

In order to better understand the impact of college success courses on retention, cumulative GPA, and the total number of hours accumulated, statistical data analysis is required. There are three types of possible research: (a) experimental, (b) non-experimental, and (c) descriptive. This research project makes use of the non-experimental and descriptive approaches. Given the fact that members of the sample

self-select themselves into the course, they are not randomly assigned by the researcher, and that the researcher does not actively manipulate the independent variable, comparative and associational approaches are the obvious choices for this research project.

While it is understood that experimental research methods provide the best understanding of causality (Gliner & Morgan, 2000), they are not always the possible research choice. Longitudinal research projects such as this one, which analyze previously collected data, lend themselves to non-experimental research specifically and descriptive research in general. Using comparative, associational, and descriptive approaches the researcher will attempt to develop generalizations regarding:

- The benefits of one college success course format over another.
- The benefits of a college success course over no college success course.
- For those enrolling in a college success course, the role that gender, ethnicity, and college success course grade play in academic success.
- The possibilities that students with low CCHE Index Scores (i.e. those who took take a college success course) are most likely to enroll in the sixteen-week course.

It is important to keep in mind that the comparative and the associational focus of non-experimental research and the descriptive analysis review do not provide solid evidence *that the independent variable is the cause of differences in the dependent variable* (Gliner & Morgan, 2000, p. 68). Generalization of these research findings to other colleges, college success courses/Freshman Seminars, and traditionally aged first time full time students should be done with caution. The conclusions of this research project are offered as possible connections between the independent and dependent

variables. Practitioners would be wise to consider the results of this research in light of similar research projects along with a review of their specific situation.

CHAPTER 4

RESULTS

Introduction

A total of six research questions were presented for this project. Each question looked at the presumed impact of college success courses on specific groups of students. In particular these were groups of students who were not enrolled in a college success course, students who were enrolled in a one-week college success course, and students who were enrolled in a sixteen-week college success course. In addition, within the groups of students enrolled in the one-week course and the sixteen-week course specific groups researched included students divided by: gender, ethnicity, and college success course grade.

The focus of the first two questions is that of understanding the role a college success course might play in a student's academic success. The first question dealt with whether students who have completed the sixteen-week college success course compared favorably to students who completed the one-week college success course in terms of retention, cumulative GPA, and credit hours accumulated. The second question considered whether there was a difference regarding retention, cumulative GPA, and accumulated credit hours among students enrolled in either the sixteen-week or the one-week college success versus those students who did not enroll in any of the college success courses. Hopefully, the results from these first two questions will add relevant information to the discussion regarding the value of college success courses.

Questions three through five compared the relationship of basic demographic information of students within the population of students enrolled in either college success course in terms of retention, cum · · GPA, and accumulated credit hours. In particular gender, ethnicity, and final course grade were considered.

The sixth question is that of need, specifically, is there a group of students who are in need of a college success course because they are not prepared for college? This question will be answered by comparing whether or not students had low (79 or below) versus acceptable (80 or above) Colorado Commission of Higher Education (CCHE) Index Scores among students who did not enroll in a college success course, students who enrolled in a one-week college success course, and students enrolled in a sixteen-week college success course.

The driving force behind this research is that of discovering connections between the independent variable of three different college success course durations and the three dependent variables of retention, cumulative GPA, and accumulated credit hours.

Comparison of 1 and 16-week Course Length (RQ 1)

Is one length of course better than another length of course in terms of student success? In order to answer this question, research participants who completed the sixteen-week college success course were compared against students who completed the one-week college success course in terms of retention, cumulative GPA, and credit hours accumulated.

Of the 80 matched students enrolled in the sixteen-week course and the 80 students who were enrolled in the one-week course, which group was retained for the

most semesters? Table 4.1 reflects the number and percentage of students from each course retained to the start of their sophomore year.

Table 4.1

Number and Percentage of Research Participants Enrolled in Either the 1-week or the 16-week College Success Course Retained to the Sophomore Year

	Yes	No
1-week course	42 (53%)	38 (47%)
16-week course	41 (51%)	39 (49%)

Table 4.2

Independent Samples t Test of Retention to the Sophomore Year by Research Participants Enrolled in Either the 1-week or the 16-week College Success Course

	1-week n=80		16-week n=80			
	M	*SD*	*M*	*SD*	*t (158)*	*p*
Retained	1.53	.50	1.51	.50	.157	.88

An independent samples t test (Table 4.2) was executed comparing the duration of the college success course on the number of semesters retained. No statistical difference was found, t (158) = .157, p = .88. This suggests that students taking the one-week course (M = 1.53) retained to their sophomore year at a rate slightly higher than those students taking the sixteen-week course (M = 1.51), but this higher retention could be due to chance as opposed to the course.

Does the length of the course relate to success as measured by cumulative GPA? This question was dealt with via an independent samples t test Table 4.3.

Table 4.3

Independent Samples t Test of Course Duration on Cumulative GPA of Research Participants Enrolled in Either the 1-week or the 16-week College Success Course

	1-week n=80		16-week n=80			
	M	*SD*	*M*	*SD*	*t (158)*	*p*
Cumulative GPA	2.45	.89	2.20	1.10	1.53	.13

Results of this independent samples *t* test (Table 4.3) found no statistical difference was found, $t(158) = 1.53, p = .13$. This suggests that students taking the one-week course ($M = 2.45$) had a slightly higher cumulative GPA than those students taking the sixteen-week course ($M = 2.20$), but both groups had a "C" average.

Does the length of the course play a part in the number of hours accumulated? Table 4.4 reflects the results of an independent t test designed to answer this question.

Table 4.4

Independent Samples t Test of Course Duration on Accumulated Credit Hours of Research Participants Enrolled in Either the 1-week and the 16-week College Success Course

	1-week n=80		16-week n=80			
	M	*SD*	*M*	*SD*	*t (158)*	*p*
Accumulated credit hours	25	7.32	22	8.36	2.07	.04

An independent samples *t* test (Table 4.4) found a statistically significant difference, $t(158) = 2.07, p = .04$ as a result of this research. Results indicate that the accumulated credit hours for students enrolled in the one-week course ($M = 25$) is three-credit hours higher than that of students enrolled in the sixteen-week course ($M = 22$), equal to one course. The effect size (.3) is small to medium according to Cohen (1988).

Comparison of Taking and Not Taking a College Success Course (RQ 2)

In order to determine if taking a college success course benefits academic success, students from both college success courses were compared against students who did not enroll in a college success course. Just as with the comparison of students in the two different versions of the course, students who took the course and those who didn't were compared on retention, cumulative GPA, and accumulated credit hours.

Of the 160 students enrolled in either college course or the 80 students who were not enrolled, which research group was retained for the most semesters? Table 4.5 indicates the retention rate to the start of the sophomore year. Students were coded into SPSS as follows: 2 equaled retained to the start of the sophomore year and 1 equaled not retained to the start of the sophomore year.

Table 4.5

Number and Percentage of Research Participants Not Enrolled in a College Success Course and Those Enrolled in Either Course Retained to the Sophomore Year

	Yes	No
No course	50 (63%)	30 (37%)
Either course	83 (52%)	77 (48%)

Table 4.6

Independent Samples t Test of Retention to the Sophomore Year by Research Participants Not Enrolled in a College Success Course and Those Enrolled in Either Course

	No course n=80		Either course n=160			
	M	*SD*	*M*	*SD*	*t (238)*	*p*
Retained	1.63	.49	1.52	.50	1.56	.12

An independent samples t test (Table 4.6) compared students who were not enrolled in a college success course (n=80) with students who were enrolled in either course (one-week or the sixteen-week course) (n=160) regarding retention through the first year and to the start of the sophomore year. No statistical significance was found, t (238) = 1.56, p = .12. Results suggest that retention through the first year for those students not enrolled in a college success course (M = 1.63) is higher than that of students who were enrolled in either college success course (M = 1.52).

Did taking a college success course prove to be beneficial to cumulative GPA?

Table 4.7

Independent Samples t Test of Not Taking or Taking a College Success Course on Cumulative GPA

	No course n=80		Either course n=160			
	M	*SD*	*M*	*SD*	*t (238)*	*p*
Cumulative GPA	2.23	1.07	2.33	1.00	-.669	.50

An independent samples *t* test (Table 4.7) was performed comparing students who were not enrolled in a college success against students enrolled in either course on cumulative GPA by the end of their first year. No statistically significant difference was found, t (238) = -.669, p = .50. Results indicate that while the cumulative GPA at the end of the first year for students who did not take the course (M = 2.23) is lower than that of students enrolled in either course (M = 2.33) it is not significantly lower.

Finally, does taking a college success course impact the number of hours accumulated?

Table 4.8

Independent Samples t Test of Taking or Not Taking a College Success Course on Accumulated Credit Hours

	No course n=80		Either course n=160			
	M	*SD*	*M*	*SD*	*t (238)*	*p*
Hours	23	8.42	23	7.94	-.744	.44

An independent samples *t* test (Table 4.8) was performed comparing students who were not enrolled in a college success course against students enrolled in either course on accumulated credit hours. No statistically significant difference was found, t (238) = -.744, p = .44. Results indicate that the accumulated credit hours for students who did not take the course (M = 23) is equal to that of students enrolled in either course (M = 23).

Gender Differences Within College Success Courses (RQ 3)

Male research participants enrolled in a college success course were compared against females also enrolled in a college success course in order to determine if gender made a difference in academic success. Table 4.9 compares the retention of males and females. Students were coded into SPSS as follows: 2 equaled retained to the start of the sophomore year and 1 equaled not retained to the start of the sophomore year.

Table 4.9

Number and Percentage of Male and Female Research Participants Enrolled in Either the 1-week or the 16-week College Success Course Retained to the Start of the Sophomore Year

	Yes	No
Males	36 (48%)	39 (52%)
Females	47 (55%)	38 (45%)

Table 4.10

Independent Samples t Test of Retention to the Sophomore Year by Male and Female Research Participants Enrolled in Either the 1-week or the 16-week College Success Course

	Males n=75		Females n=85			
	M	*SD*	*M*	*SD*	*t (158)*	*p*
Retained	1.48	.50	1.55	.50	-.918	.36

An independent samples *t* test (Table 4.10) was performed comparing male students enrolled in a college success course against females also enrolled in a college success course on retention. No statistically significant difference was found, t (158) = -.918, p = .36. Results indicate that retention for males (M = 1.48) is slightly lower than the retention of females (M = 1.55).

To answer the question of whether gender relates to cumulative GPA males enrolled in college success courses were compared against females also enrolled in

college success course.

Table 4.11

Independent Samples t Test of Gender on Cumulative GPA of Research Participants Enrolled in Either the 1-week or the 16-week College Success Course

	Males *n*=75		Females *n*=85			
	M	*SD*	*M*	*SD*	*t (158)*	*p*
GPA	2.13	.95	2.50	1.02	-2.35	< .02

An independent samples *t* test (Table 4.11) was performed comparing male students enrolled in a college success course against females also enrolled in a college success course on cumulative GPA. A statistically significant difference was found between the two groups, t (158) = -2.35, $p < .02$. Results indicate that the cumulative GPA for males ($M = 2.13$) is lower than that of females ($M = 2.50$). The resulting effect size (.4) is small to medium according to Cohen (1988).

The last question relating to gender is whether on not gender relates to the number of accumulated credit hours.

Table 4.12

Independent Samples t Test of Gender on Accumulated Credit Hours of Research Participants Enrolled in Either the 1-week and the 16-week College Success Course

	Males *n*=75		Females *n*=85			
	M	*SD*	*M*	*SD*	*t (158)*	*p*
Hours	23	8.43	24	7.44	-1.23	.22

An independent samples *t* test (Table 4.12) was performed comparing male enrolled in a college success course against females also enrolled in a college success course on accumulated credit hours. No statistically significant difference was found, t (158) = -1.23, $p = .22$. Results indicate that the accumulated credit hours for males ($M =$ 23) are only slightly lower than the accumulated credit hours of females ($M = 24$).

Ethnicity Differences within College Success Courses (RQ 4)

In order to determine if ethnicity made a difference in academic success, minority students enrolled in a college success course were compared with non-minority students enrolled in a college success course on retention, cumulative GPA, and accumulated credit hours.

Table 4.13 considers ethnicity as it relates to retention. Students were coded into SPSS as follows: 2 equaled retained to the start of the sophomore year and 1 equaled not retained to the start of the sophomore year.

Table 4.13

Number and Percentage of Minority and Non-Minority Research Participants Enrolled in Either the 1-week or the 16-week College Success Course Retained to the Sophomore Year

	Yes	No
Minority	16 (48%)	17 (52%)
Non-minority	64 (52%)	58 (48%)

Note – A difference of five students is due to students who did not provide ethnicity information

Table 4.14

Independent Samples t Test of Retention to the Sophomore Year by Minority and Non-Minority Research Participants Enrolled in Either the 1-week or the 16-week College Success Course

	Minority n=33		Non-minority n=122			
	M	*SD*	*M*	*SD*	*t (153)*	*p*
Retained	1.48	.50	1.52	.50	-.403	.69

An independent samples *t* test (Table 4.14) was performed comparing minority students enrolled in a college success against non-minority students also enrolled in a college success course on retention. No statistically significant difference was found, $t(153) = -.403, p = .69$. Results indicate that retention for minority students ($M = 1.48$) is only slightly lower than that of non-minority students ($M = 1.52$).

Comparing minority students with non-minority students on cumulative GPA can help provide an understanding the role of ethnicity on cumulative GPA.

Table 4.15

Independent Samples t Test of Ethnicity on Cumulative GPA of Research Participants Enrolled in Either the 1-week or the 16-week College Success Course

	Minority n=33		Non-minority n=122			
	M	*SD*	*M*	*SD*	*t (153)*	*p*
GPA	2.09	1.05	2.40	.98	-1.59	.11

An independent samples *t* test (Table 4.15) was performed comparing minority students enrolled in a college success course against non-minority students also enrolled in a college success course on cumulative GPA. No statistically significant difference was found, $t(153) = -1.59$, $p = .11$. Results indicate that cumulative GPA for minority students ($M = 2.09$) is not significantly lower than that of non-minority students ($M = 2.40$).

Regarding the questions of ethnicity and accumulated credit hours minority and non-minority students were compared.

Table 4.16

Independent Samples t Test of Ethnicity on Accumulated Credit Hours of Research Participants Enrolled in Either the 1-week and the 16-week College Success Course

	Minority n=33		Non-minority n=122			
	M	*SD*	*M*	*SD*	*t (153)*	*p*
Hours	22	7.68	24	8.05	-1.22	.22

An independent samples *t* test (Table 4.16) was performed comparing minority students enrolled in a college success course against non-minority students also enrolled in a college success course on accumulated credit hours. No statistically significant

difference was found, t (153) = -1.22, p = .22. Results indicate that accumulated credit hours for minority students (M = 22) are only slightly lower than that of non-minority students (M = 24).

Final College Success Course Grade (RQ 5)

Is the final college success course grade related to the three primary research topics of retention, cumulative GPA, and accumulated credit hours? In order to answer this questions research participants who completed either college success course with a "C" or better were compared with those students who received a "D" or lower in terms of retention, cumulative GPA, and credit hours accumulated.

In order to determine the role final grade makes in retention, students with a C or better were compared against student a D or lower. Table 4.17 reflects the results. Students were coded into SPSS as follows: 2 equaled retained to the start of the sophomore year and 1 equaled not retained to the start of the sophomore year.

Table 4.17

Number and Percentage of Research Participants Obtaining a C or Above and Those Receiving a D or Lower in Their College Success Course

	Yes	No
C or above	77 (56%)	60 (44%)
D or below	4 (24%)	13 (76%)

Note – A difference of six students is due to students who withdrew during the scores and thus didn't receive a grade.

Table 4.18

Independent Samples t Test of Retention to the Sophomore Year by Research Participants Obtaining a C or Above and Those Receiving a D or Lower in Their College Success Course

	C or better n=137		D or below n=17			
	M	*SD*	*M*	*SD*	*t (152)*	*p*
Retained	1.56	.50	1.24	.44	-2.58	< .01

An independent samples *t* test (Table 4.18) was performed comparing students with a C or better in a college success course against students who received a D or lower who were also enrolled in a college success course on retention. A statistical significant difference was found, t (152) = -2.58, $p < .01$. Results indicate that retention for students with a C or better (M = 1.56) is higher than that for students with a D or lower (M = 1.24). The effect size (.7) is medium to large according to Cohen (1988).

In order to better understand the role of the course final grade on cumulative GPA, students with a C or better were compared against student a D or lower.

Table 4.19

Independent Samples t Test of Course Grade on Cumulative GPA of Research Participants Obtaining a C or Above and Those Receiving a D or Lower in Their College Success Course

	C or better n=137		D or below n=17			
	M	*SD*	*M*	*SD*	*t (152)*	*p*
GPA	2.58	.76	.89	.97	-8.13	<.01

An independent samples *t* test (Table 4.19) was performed comparing students with a C or better in a college success course against students who received a D or lower who were also enrolled in a college success course on cumulative GPA. A statistically significant difference was found, t (152) = -8.13, $p < .01$. Results indicate that the cumulative GPA for students with a C or better (M = 2.58) is higher than that for students

with a D or lower (M = .89). The effect size (1.9) is extremely large according to Cohen (1988).

In order to determine the role final grade makes on accumulated credit hours, students with a C or better were compared against student a D or lower.

Table 4.20

Independent Samples t Test of Course Grade on Accumulated Credit Hours of Research Participants Obtaining a C or Above and Those Receiving a D or Lower in Their College Success Course

	C or better n=137		D or below n=17			
	M	*SD*	*M*	*SD*	*t (152)*	*p*
Hours	24	7.19	21	6.94	-2.11	< .04

An independent samples t test (Table 4.20) was performed comparing students with a C or better in a college success course against students who received a D or lower who were also enrolled in a college success course on accumulated credit hours. A statistical significant difference was found, t (152) = -2.11, < .04. Results indicate that the accumulated credit hours for students with a C or better (M = 24) are higher than that for students with a D or lower (M = 21). The effect size (.5) is medium according to Cohen (1988).

Who Needs a College Success Course? (RQ 6)

The summary question that needs to be asked is, "who needs to take a college success course"? In order to answer this question a chi-square analysis (Table 4.21) was performed on all eighteen and nineteen-year old students enrolled in the college during the fall of 2001 in order to determine the differences among students in the area of Colorado Commission of Higher Education (CCHE Index Scores). CCHE Index Scores

are derived by combining a student's high school cumulative GPA with that of their standardized test score, either ACT or SAT. The CCHE Index Score of 80 was used in accordance with the Mesa State College index score cutoff, meaning that students who have an index score of 79 or lower need the course and would be advised to enroll in the school's college success course, *Introduction to Higher Education.* The goal was that of determining how many students from each group needed the course and whether one group was in more need of taking a college success course than others.

Table 4.21

Chi-square Analysis of Responses to Enrolling in a College Success Course

CCHE Index Score	Course duration						χ^2	*p*
	No course		1-week course		16-week course			
	n	%	*n*	%	*n*	%		
79 or below	30	7%	18	8%	42	41%	101.26	<.01
80 or above	423	93%	207	92%	60	59%		
Total	453		225		102			

Chi-square analysis (Table 4.21) indicates that a small percentage (7%) of the students who did not enroll in the course had an index of below 80, and about the same percentage (8%) of the students enrolled in the one-week course had an index score below the 80 index score. However, there were more students than expected by chance (41%) enrolled in the sixteen-week course who fell below the 80 index ($\chi^2 = 101.26$, $df = 2$, $N = 780$, $p < .01$). This would suggest that students enrolling in the sixteen-week course are more likely to have CCHE Index Score below 80 and needed to take a college success course. The phi value (.267) suggests that the effect size is medium.

Supplemental Question – Are Students With Low CCHE Scores Helped by a College Success Course?

The results of question six begs the question as to whether or not there is a possible benefit for low CCHE Index Score (< 80) students who took the course in terms of retention to the start of the sophomore year, cumulative GPA, and accumulated credit hours. In order to answer this question a supplemental question was added. This question compares the low CCHE Index students not enrolled in a college success course against low CCHE Index students enrolled in either the one-week or sixteen-week course on the three variables. Thus, those members of the eighteen and nineteen-year old population who scored less than 80 (excluding those who reported no CCHE Index Score or who took one of the eight-week college success courses) were considered (n=90). Table 4.22 considers the retention of those students with a CCHE Index Score of 79 or below.

Table 4.22

Number and Percentage of Research Participants With CCHE Index Scores of 79 or Below Retained to the Sophomore Year

	Retained	Not retained
No course	13 (43%)	17 (57%)
Either course	30 (50%)	30 (50%)

Table 4.23

Independent Samples t Test of Retention to the Sophomore Year by Research Participants With CCHE Index Scores of 79 or Below

	No course n=30		Either course n=60			
	M	*SD*	*M*	*SD*	*t (88)*	*p*
Retained	1.43	.50	1.50	.50	-.59	.56

An independent samples *t* tests was completed (Table 4.23) compared those

students who had a CCHE Index of 79 or less enrolled in either course (n=60) against similar students who didn't enroll in a college success course (n=30). No statistical significance was found when comparing these two groups, t (88) = -.59, p = .56. Results indicate that those students enrolled in the course were retained at a slightly high rate (50%) compared to those students not enrolled in the course (43%). These results would appear to indicate that chance had more of an impact on retention than did the college success course. However, note that the "no course" group retention rate (43%) was much lower for this low index group than for the whole "no course" group (63%, see table 4.5). But those low index students who took a success course (50 %, see table 4.22) were retained at almost the same rate (52%, see table 4.5) as the whole success group.

The second question was that of whether or not CCHE Index Score impacted cumulative GPA.

Table 4.24

Independent Samples t Test of Cumulative GPA by Research Participants With CCHE Index Scores of 79 or Below

	No course *n*=30		Either course n=60			
	M	*SD*	*M*	*SD*	*t (88)*	*p*
Cumulative GPA	1.93	.99	1.90	.93	.12	.90

An independent samples t test (Table 4.24) was completed comparing the students who took either course with those who didn't on cumulative GPA. No statistical significance was found, t (88), = .12, p = .90. While those students who did not take the course had a slightly higher GPA (1.93) than those who took the course (1.90), the difference is small and not statistically significant, thus chance probably had more to do with the higher GPA than CCHE Index Scores.

The final aspect of this supplemental question was that of the accumulated credit

hours of participants and non-participants in a college success course.

Table 4.25

Independent Samples t Test of Accumulated Credit Hours by Research Participants With CCHE Index Scores of 79 or Below

	No course *n*=30		Either course n=60			
	M	*SD*	*M*	*SD*	*t (88)*	*p*
Accumulated credit hours	20	9.02	20	7.85	.25	.80

An independent samples *t* test (Table 4.25) was completed comparing CCHE Index Score on accumulated credit hours. No statistical significance was found, t (88), = .25, p = .80. Both groups of students accumulated an equal number of credit hours.

Observations, directions for future research and implications for colleges and universities based on these findings will be discussed in chapter five.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

Introduction

This research project sought to add yet more information to the present body of knowledge regarding college success courses through six different questions. Chapter one outlined the significance of this study as twofold. The first goal of this research was that of adding to the current body of knowledge regarding the benefits of enrolling in a one-week college success course as opposed to a traditional sixteen-week college success course. The second goal was that of reinforcing the value of college success courses on college campuses. In addition to these primary goals, this research has reinforced the relationship of gender and ethnicity in terms of academic success, particularly for students with a college success course. Another added finding of this research is that of reinforcing the importance of successful completion of a college success course.

Outlined below are conclusions drawn from each research question and possible implications of these results. As explained earlier, future readers of this information need to be cautious about over generalizing the results to other educational institutes.

Discussion of Hypotheses

Hypothesis 1 and 2 – The Value of a College Success Course

The first two research questions considered the value of taking a college success course. Value in these two questions can be considered in terms of both value to the

student and the institution. The first question compared the one-week course against the sixteen-week course; the second question compared student experiences in either college success course against similar students who did not enroll in a college success course. For the first research question, the goal was to assess the effectiveness of the sixteen-week course compared to a one-week course with respect to retention, cumulative GPA and accumulated credit hours. For the second research question, the goal was to compare retention, cumulative GPA, and accumulated credit hours for those students who had taken or not taken a college success course.

Statistical significance in the first research question would suggest that the longer college success course might improve a student's chance of academic success. Statistical significance found in the second question confirming that completing a college success course improves a student's academic success could speak to the need to offer, and perhaps require, enrollment in either the one-week or sixteen week college success course.

Hypothesis 1. The first hypothesis was that research participants who completed the sixteen-week college success course would compare favorably to those who completed the one-week college success course in terms of retention to the sophomore year, cumulative GPA at the end of their freshman year, and the number of credit hours accumulated at the end of their freshman year.

Regarding retention to the sophomore year, there was no difference between those students who were enrolled in the one-week course and the students enrolled in the sixteen-week course. Fifty-one percent of the students in the sixteen-week course were

retained to the sophomore year, compared to 53% of the students in the one-week course. This difference is not statistically significant. The sixteen-week course obviously allows more time to internalize and subsequently make use of the information in other courses. The one-week course on the other hand, an immersion course by nature, does not allow for a lot of time to internalize the material, and no opportunity for the application of the information during the time of the course. However, the one-week course, prior to the start of the semester does allow for the immediate use of the college success information. If retention to the sophomore year is a result of obtaining and/or developing the skills needed for college success, it would appear that students enrolling in a sixteen-week course and students enrolling in the one-week course both obtain and/or develop study skills equally.

Perhaps one answer to the slightly higher retention rates of students in the one-week course lies in the curriculum of the two courses. Due in no small part to a lack of time, some of the material from the sixteen-week course may not have been covered in as much depth, if at all in the one-week course. Consequently, the one-week-course, the bare bones approach to college success, may address those areas of academic need that are the greatest priority for college students. Moreover, students in the one-week course get the material earlier and may able to incorporate what they need as soon as the semester begins. In other words, students in both the sixteen-week course and the one-week course may each get what is needed to succeed in college. However, it appears that students in the sixteen-week course may receive more opportunities to develop these academic skills, while students in the one-week course may be able to take advantage of the information sooner. Because the groups were matched, CCHE Index Scores for these

two groups did not vary greatly (88.43 for one-week compared to 88.35 for the sixteen-week). This would seem to indicate that neither group was better prepared than the other for college. Neither course format seems to have any significant advantage over the other.

Furthermore, there was not a significant difference in terms of cumulative GPA between these two groups. The students in the one-week group had a slightly higher cumulative GPA (2.45) than that of students in the sixteen-week course (2.20); however, while there was a difference it was not statistically significant. There is no doubt that a cumulative GPA of 2.45 is better than a 2.20 cumulative GPA, but the difference between the two can be more likely attributed to chance. Once again considering the previous discussion, it would appear that students enrolled in either course left their respective course with the skills needed to obtain a passing GPA.

Personal motivation might be a reason for the higher GPA of those students enrolled in the one-week course. Hoover (2003) presents information suggesting that a student's locus of control (expectations regarding self-determination of outcomes) and self-efficacy (beliefs about academic competence) are both associated with a higher GPA. Perhaps students who would take the time out of their summer schedule to attend college early are internally motivated to be academically successful. Taking a college success course in this way may supplement their present academic skills.

Finally, at the end of the freshman year students in the one-week course averaged twenty-five credit hours compared to the average of twenty-two for those students in the sixteen-week course. The difference between the two groups was statistically significant. When you realize that this difference in credit hours (three credit hours) is equal to the

credit hours of either course, this may be an additional advantage to enrolling in the one-week course. If getting hours out of the way helps with a student's academic goals to graduate in four years or less, pursue a longer degree program, or take the time for increased campus involvement, attaining hours at the front end of college may be beneficial. Because most students take fifteen credit hours per semester, a student enrolling in a one-week, three-credit course could take eighteen credit hours for their first semester and obtain three credit hours before the semester begins. Some might argue that the added stress of this course is not worth an additional three credit hours and that these three credits alone will not lead to an earlier graduation. However, similar patterns in both retention and cumulative GPA suggest that there may be no academic harm in adding these three credits.

From a student's perspective, the one-week course or the sixteen-week course appear to have equivalent academic benefits. Group members were retained through their freshman year equally, both groups obtained a passing cumulative GPA, and both groups had about the same number of accumulated credit hours. To be sure, there were slight differences between the two groups in terms of retention and cumulative GPA, but the differences were not statistically significant. In these two cases the differences between the two groups can be attributed to chance alone.

Just as it can be said that course benefits are equal from a student's perspective, the same can be said from the perspective of college administrators. Completion of either course is neither a clear benefit nor a detriment to student success. Rather, some form of college success course could prove helpful with academic success.

The real challenge is determining if there is a benefit to taking any college success

course as opposed to not taking a college success course.

Hypothesis 2. Question number two considered whether participants who completed either college success course compared favorably in terms of retention to the sophomore year, cumulative GPA and the number of credit hours accumulated at the end of their freshman year to those who did not enroll in a college success courses. Statistically significant findings in the areas of retention, cumulative GPA, and accumulated credit hours as a result of the course could speak to the value of requiring enrollment in a college success course for traditionally aged, first time and full time students. On the other hand, finding no statistical significance could still mean that the course could benefit students who might need it for any number of reasons. However, should students not enrolling in the course do better, then canceling the course or better yet, conducting additional research in order to determine how to best help specific at-risk students/populations might be advisable.

The most surprising finding, that was counter to what had been hypothesized, was that students who did not enroll in a college success course were equally successful when compared to a matched group of students who were enrolled in either college success course. There was very little difference, if any, in terms of retention to the sophomore year, cumulative GPA, and accumulated credit hours.

Previous research has suggested that enrollment in similar college success course improves retention (Davis, 1992; Fidler, 1991; Wilkie & Kuckuck, 1989). It appears that students in this research project who did not enroll in a college success course were retained equally as well as those students who did. Cavote (2001) also found that the

completion of a college success course was not significantly associated with retention. Surprisingly, in the matched samples 52% of those students who took either course (n=160) were retained to the sophomore year, compared to 63% of those students who did not enroll in a college success course (n=80). While there was a difference, it was not statistically significant. The researcher had assumed that those students who were enrolled in a college success course would have outperformed those students who did not enroll in either course. When comparing the two groups, the average CCHE Index Score for those enrolled in either course is that of 88.39, the average index score for those not taking the course was 88.37. Clearly there is no major difference in this regard. It would appear that in these samples matched on CCHE Index Scores, members of both groups were equally prepared for college.

It is important to keep in mind that retention is a term used to explain students returning to the college after their first year. Saying a student is not retained is not the same as saying that a student was not academically successful; i.e., the students dropped out of the college altogether. Adelman (2004) found that while students may not be retained at their original college, bachelor degree completion rates have remained stable for thirty years, about 50%. In addition, Horn (1998) found that of those students who left a four-year college, 64% returned to higher education within five years. Of these, 58% enrolled in another four-year school, 42% returned to their original four-year school. Since institutes consider students who leave as non-completers as opposed to tracking these students, these student are often not considered academically successful. A student may choose to sit out for a semester or more; some students will transfer to a different school. There are any number of reasons why students may not return to their original

college.

The second part of the question looked at whether or not there was any difference regarding the two groups in terms of cumulative GPA. Once again the researcher was surprised to find that there was no statistical significant difference. These findings are similar to those reported by Cavote (2001) that the completion of a college success course was not significantly associated with GPA. While Schnell (2000) found that students enrolling in a college success course had a higher GPA after their first semester when compared to students in a matched group, that trend did not continue beyond the first semester. Students who were enrolled in a college success course did have a slightly higher cumulative GPA (2.33) than those who did not enroll in a college success course (2.23). While the GPA was higher for those who enrolled in a college success course, it was not statistically significant. Once again this difference can be attributed to chance. Further research could help determine if a higher GPA could result from a college success course.

The final portion of the second question considered whether or not students who enrolled in a college success course accumulated more credit hours at the end of their freshman year than those students who did not enroll in a college success course. Results indicate that, once again, there was no statistically significant difference. Students who did not enroll in a college success course had obtained on average twenty-three credit hours when they dropped out or finished their freshman year compared to an average of twenty-three credit hours for students who enrolled in either college success course. Clearly this difference can also be attributed to chance.

Taking or not taking a college success course appears to have equal academic

benefits for these two groups of students. It is important to keep in mind that the primary goal of this research project was that of determining the benefits of one course length over another. The benefits of taking or not taking the course were literally a secondary question. As such, the research sample participants were matched on CCHE Index Scores, averaging a score of 88. An index score of 88 at Mesa State College is well above the at-risk cutoff of 79/80 for students set by the Colorado Commission of Higher Education. The average index score for all eighteen – nineteen year old students who reported a CCHE Index Score was ninety-five. The most that can be said is that group members comparably prepared for college were retained at comparable rates through to the start of their sophomore year. Students in each group obtained a passing cumulative GPA and had about the same number of accumulated credit hours at the end of their freshman year. While there were some differences between the two groups in terms of retention, cumulative GPA, and accumulated credit hours, the differences were not statistically significant. In all three cases the differences between the two groups can be attributed to chance rather than course duration.

If taking a college success course has neither clear academic benefits nor disadvantages for students, then making a college success course available could outweigh the alternative of not offering the course at. For some students, the opportunity to take a college success course may have been the key to their retention, their passing cumulative GPA, or their accumulated credit hours, or some combination of all three.

Conclusion. The ascribed goal of the first two research questions was to assess whether one college success course length was better than another and whether taking a

college success course was better than not taking a college success course. With the exception of accumulated credit hours for those students in the one-week course no statistical significance was found in either research question. However, there was no statistically significant difference in the opposite direction either. In the end, all that can really be said is that both course lengths appear to be equally beneficial, and that for students who appear to be prepared for college taking a college success course does not appear to detract from academic success. Thus requiring enrollment in a college success course might be unnecessary for everyone, but offering a college success course will, perhaps, meet the needs of some students. Further research is obviously needed, particularly looking at those students who are at-risk (i.e., have an index score of below 80) and in need of some form of academic support.

Hypothesis 3 and 4 – Gender and Ethnicity and College Success Courses

Questions three and four compared the gender and ethnicity of students enrolled in either college success course on retention, cumulative GPA, and accumulated credit hours. Tinto (1993) showed that women are more likely than males to be retained and finish their degree and that Caucasians are more likely than Hispanics or African Americans to be retained and finish their degree. Astin (1997) suggested that gender (female) and ethnicity (Caucasian) are both strong predictors of college grades. Whether or not these findings are replicated in a college success course is the focus for questions three and four.

Statistically significant results in question three favoring women would suggest that females enrolled in a college success course are retained at a higher rate, have a

higher cumulative GPA, and accumulate more credit hours. This finding might indicate that females in college success courses perform in ways that are similar to what is reported for females in other higher education studies. Statistical significance results found in question four might indicate that non-minority students in a college success course are reflective of non-minority students in other research projects as defined by retention to the sophomore year, cumulative GPA, and accumulated credit hours. No statistically significant findings might suggest once again that college success courses at the very least do no harm to a student's academic success. However, results might also suggest that a college success course has a positive impact on academic success for males and minorities, but are apparently negative for women and minority students.

Hypothesis 3. Question three asked if female research participants enrolled in the college success course would compare favorably to males in terms of retention to the sophomore year, cumulative GPA at the end of their first year, and the number of credit hours accumulated at the end of their first year.

With respect to retention at the start of their sophomore year, the rates for males and females were almost equal. Forty-eight percent of the males who enrolled in a college success course continued on to their sophomore year compared to fifty-five percent of females. Both genders appear to have an equal chance of continuing on and that the college success course did not benefit one group over another. The difference between the two groups can be attributed to chance.

In terms of cumulative GPA, there was a difference between the two groups, and this difference was not statistically significant. Women averaged a cumulative GPA of

2.50 compared to males receiving an average cumulative GPA of 2.13. This noticeable statistically significant difference appears to reinforce that women tend to do better academically than men.

The last area of interest between the genders was that of a comparison of the number of accumulated credit hours. In this area both males and females faired equally. At the end of their freshman year, male students averaged twenty-three credit hours attained compared to twenty-four credit hours attained by female students. The fact that females averaged one credit hour more than males can be attributed to chance.

Hypothesis 4. The fourth research question hypothesized that non-minority research participants enrolled in the college success course would compare favorably to minorities in terms of retention to the sophomore year, cumulative GPA at the end of their first year, and the number of credit hours accumulated at the end of their first year. For this question ethnicity was broken down into two groups, students who were in the minority and students who were not in the minority.

The first aspect of the question, retention, considered whether or not non-minority students faired better than minority students. There was a difference between the groups, but it was too small to be significant. Forty-eight percent of students in the minority group who enrolled in the college success course were retained to the sophomore year, compared to 52% of students in the non-minority group. This difference is not statistically significant, and could easily be attributed to chance.

Research on the aspect of cumulative GPA also found differences between the two groups, but these differences were also not statistically significant. Students in the

minority group averaged a GPA of 2.09, which is lower than the average GPA of the non-minority research participants, which was 2.40. The results indicate that while there is a difference, this difference could be attributed to chance.

Finally, was there a difference between minority and non-minority students in terms of hours accumulated? The research suggests that there is a difference, but this difference is too small to be statistically significant. Students in the minority group averaged twenty-two credit hours at the end of their freshman year, compared to the twenty-four credit hours averaged by students in the non-minority group. This difference of two-credit hours could be due to chance.

Conclusion. Upon review, the results from questions three and four found that females generally did slightly better than males and that non-minority research participants did better than minorities, just as was indicated by both Tinto and Astin. However, in all the areas there was no statistical significance to reinforce the concept that females and non-minorities did better in term of retention, or accumulated credit hours, nor was there any statistical significance suggesting the opposite either; the differences apparently are all due to chance. Females did have statistically significantly higher cumulative GPAs. To be sure, there were minor differences across the board, but while these small differences usually favored females and non-minorities, most could be attributed to chance.

The argument that was made for questions one and two needs to be restated here. Because the results of gender and ethnicity research in this study do not reflect the statistical significance found in other projects, it would seem that offering a college

success course and enrolling in a college success course, at the very least, does no harm to a student's academic success.

Hypothesis 5 – Final Course Grade

Academic intervention of some sort can be an important part of helping students to succeed academically. This student intervention can be done based on student characteristics that identify the student as high-risk, or this intervention can be done based on institutional defined criteria that classify the student as at-risk. A course grade (among other things) could be used to define a student as being at-risk. Particularly, the grade a student receives in a class designed to facilitate college success could indicate a degree of risk. Such is the idea behind looking at the final course grade received in a college success course.

Finding any statistical significance in question five regarding course grade on retention, cumulative GPA, and/or accumulated credit hour should not be misconstrued as suggesting that doing well in the course guarantees academic success. While relationships have been found between college success course grades and academic success by other researchers (Fidler, 1991; Hyers and Joslin, 1998; & Raymond and Napoli, 1998) there are other variables that might also result in subsequent academic success. Any amount of information learned in a college success course is only one variable that might lead to academic success. From a program perspective, a statistical significance showing that students who do well in a college success course, and who also do better academically really speaks to the intervention potential of the college success course. In other words, if students who do poorly in a college success course are not

retained, have a lower cumulative GPA, and don't accumulate as many credit hours, than perhaps these students should be contacted as soon as possible and provided with information regarding on campus academic resources for academic support.

Question five looked at whether participants who completed a college success course with a "C" or better compared favorably to research participants who completed a college success course with a "D" or lower in terms of retention, cumulative GPA, and the number of credit hours accumulated.

The relationship between a student's final course grade and retention is evident when we realize that 56% of those students who received a C or better were retained to the start of their sophomore year compared to the 24% who received a D or lower. This difference was found to be statistically significant. The effect size (.7) is medium to large according to Cohen (1988). Effect size speaks to the magnitude of difference between the two groups; in this case implying that there is a larger than typical amount of difference between the two groups compared to other social science studies. Keeping in mind that retention is primarily a goal of the institution, the statistical significance found between the college success course grade and retention, combined with the possibility that the course does not detract from academic success suggests that using the course grade as an indicator of academic trouble may increase retention.

Cumulative GPA also appears to be related to final course grade. Students who received a C or better in the course had a C+ average level (2.58) at the end of their first year or when they left Mesa State College. Students who received a D or lower in the course had an average of .89 at the end of their freshman year or when they left Mesa State College. This difference was found to be statistically significant at the 95%

confidence interval. The effect size in this case is (1.9) is very large according to Cohen (1988). This large effect size indicates that there is considerable difference between the two groups. There may be, and probably are numerous variables other than the college success course that can account for this disparity in cumulative GPA. However, it seems reasonable to assume that a student who was having trouble in a class designed to help them succeed in college might also be having trouble attaining a acceptable cumulative GPA. Suggesting once again that a college success course can be used as an indicator of academic misfortune requiring some forms of intervention by the institution.

Not surprisingly, based on the statistical significance found in the areas of retention and cumulative GPA related to college success courses, there was also a statistically significant difference on accumulated credit hours between the group of students who obtained a C or better in the course and those who received a D or lower in the course. Students who received a C or better averaged twenty-four credit hours at the end of their freshman year, conversely, students who received a D or lower averaged twenty-one credit hours. The effect size in this case is (.5) is medium according to Cohen (1988). This medium effect size indicates that there is some difference between the two groups. College requires a lot of effort; students who have to work hard just to meet the minimum academic requirements are probably having trouble carrying the course load of a full-time student.

Using the college success course grade as an indicator of a student's chance of being at-risk in subsequent semesters appears to be a sound observation. If a student does poorly in a college success course, a course designed to improve academic success, it is not surprising that the chances of being retained, having a higher GPA and accumulating

sufficient credits hours are unlikely. In addition to not doing well in the college success course, chances are that the student isn't doing well in the other courses they are presently taking. As such they will probably have trouble in any future course they might enroll in. Given this, it would seem that an institution's administrators would be wise to intervene on the student's behalf at the start of the student's following semester, if not sooner. Sooner would seem to be the preference and given the possibility of mid-term grades, this intervention could start before the end of the student's first semester.

Results from research question five seems to indicate that students who receive a D or lower experience less academic success, supporting the idea that course grade can be used as a means for determining the need for academic intervention. This intervention could be very intrusive, i.e., requiring taking the course again, requiring the use of resources from the campuses learning assistance center, or something else. On the other hand this intervention could be less intense, i.e., sending a letter informing the student of the learning resources on campus, a phone call following-up to see if there are specific areas of need, other options could be explored as well. The benefits of college success courses may go beyond simply developing college success skills within students. The unforeseen benefit of the college success course may be that it has the potential to become a diagnostic tool by which college administrators and professors can identify and provide academic assistance to those students who need additional help in order to stay in college.

Hypothesis 6 – Who is in Need of a College Success Course?

Based on the findings of the previous questions, which dealt with specific

research populations, it is important to determine if some generalizations can be made to the initial research population of 780 students. The original population contained eighteen and nineteen-year-old first time full time students enrolled in either the one-week or the sixteen-week, or no course at all, and who also had a CCHE Index Score (n=780). Research questions one and two attempted to make a case for taking one course over another, or enrolling in a course or not enrolling in a course. CCHE Index Scores may be a determining factor whether a student should enroll in a college success course and if so which one.

When compared to students who did not enroll in a college success course and those who enrolled in the one-week college success course, the students who were in the sixteen-week college success course had a much higher percentage with a CCHE index score below 80 (41%). The effect size result (.267) indicates that there are medium or typical differences among the groups for social sciences.

Results from this question indicate that possibly an index score of 79 and below is an indicator of risk, either at-risk or high-risk. Keeping in mind the direction of question one, that students in the sixteen-week course would do better than students in the one-week course, and the results; that neither group did significantly better than the other. When this is combined with the fact that there were more students with an index below 80 in the sixteen-week group, the question that needs to be asked is why. Why were so many potentially at-risk or high-risk students in this group? Unfortunately the researcher cannot be sure as to whether these students were required to take the sixteen-week course, advised into the sixteen-week course, or whether they enrolled in the course on their own. As a matter of fact, the researcher cannot be sure how many of the students

who took either course (one-week or sixteen-week) did so because they had to, were advised to, or they enrolled in the course on their own. However, it is clear that a much higher percentage of students with CCHE Index Scores below 80, took the sixteen-week course than either the one-week or no course options.

Supplemental Question –Retention, Cumulative GPA, and Accumulated Credit Hours for Students with Low CCHE Index Scores

Based on results from research question six, that there were more students than expected in the sixteen-week course with an index score of 79 or below, it was determined that more research in the area of course benefit was required. Thus, a seventh question was asked, what relationship, if any does taking a success course have to academic success for students who have low CCHE Index Scores; i.e., students who really need such a course. The question considered the same three variables as on the first six questions; retention to the start of the sophomore year, cumulative GPA at the end of the freshman year, and accumulated credit hours at the end of the freshman year. The difference being that this question considered those students who were either enrolled in a college success course or not enrolled in a college success course, but whose CCHE Index Score was 79 or lower.

Statistical significance in favor of those students enrolled in either course might speak to the value of requiring students with index scores below 80 to enroll in a college success course. No statistical significance, or statistical significance in favor of those students not enrolling in college success course might suggest that CCHE Index Scores are not a clear indicator of whether one should be required to take a college success

course.

In order to answer this question, a final series of independent samples *t* tests were run considering all those students with a CCHE Index Score less than 80 in the research population of 780, except those who had no CCHE Index Score and those who enrolled in the eight-week college success course. There were differences between the two groups, but they were so small they do not appear to suggest supporting CCHE Index Scores as criteria for required enrollment in a college success course. In other words, students with CCHE Index Scores below 80 who enrolled in the course fared no better off than those not enrolled in a course.

Once again, an important point to keep in mind is the distinction between at-risk and high-risk students. At-risk students are those students who meet specific college mandated criteria, which in turn directs students into specific support programs. Examples of these types of criteria include high school GPA, results from standardized tests (ACT or SAT), and possibly CCHE Index Scores. High-risk students on the other hand are those students who possess characteristics similar to other students who historically have experienced difficulty in higher education, as such theses students are encouraged to participate in specific support programs. Examples of high-risk students include being a first time student, low socio-economic background, first generation students, and many more. One such support program that an at-risk student might be required to take, and a high-risk student might be encouraged to participate in is a college success course. Given that the two groups of students did not show any statistical difference, perhaps CCHE Index Scores should be considered as indicators of being high-risk, as opposed to indicators of being at-risk.

In terms of retention, the differences between those low index students enrolled in the course who were retained, and those not enrolled is not statistically significant (50% vs. 43%). However, the low index score students who took the course were retained at almost the same rate (50% vs. 52%) as the higher index score students who took the course. Because low index scores sometimes indicate lower retention and lower GPAs, this lack of increase of dropouts for students who took the course is somewhat encouraging. Furthermore, the low index students who didn't take the course were much less likely to be retained than the higher index students who didn't the course (43% vs. 63%). A group of students, of whom only 50% are retained, would seem to be very high-risk. That is to say that on any given campus, there are probably other groups of students (first generation, minority status, etc.) of whom only about 50% are retained.

The same observation can be made for cumulative GPA and accumulated credit hours. When students, either enrolled in the course or not, have an index score below 79 have a cumulative GPA of about 1.90 they would appear to be high-risk.

Likewise, an average number of credit hour of twenty is well below the average of thirty credit hours that might be expected for a traditionally aged, first time and full time student.

Astin (1993) suggests that the two best predictors of a student's college academic success is their high school GPA and scores on their admission tests, and of the two, GPA is almost always a better predictor of college success than test scores. Colleges usually find that it is best to use high school GPA as the primary indicator of risk type (either at-risk or high-risk), and standardized test scores as a secondary indicator of risk.

Since index scores are based on high school GPA and standardized test scores,

and because these two outcomes have been identified as academic success indicators (Astin, 1993), students who have a low index score had either a low high school GPA, a low standardized test score, or both. Thus it would seem clear that they are either high-risk or at-risk college students, so making a college success course available for these students would seem to be a prudent choice if facilitating academic success is the goal of the college. So, once again an important benefit of a college success course appears to lie in the fact that it is a program that for some students, not all students, is a worthwhile choice.

Observations

While results from each research question are not in line with all the other research that has been done in this area, results in most cases are at least similar to that of previous research. While not all differences are statistically significant, in many cases there were small differences. As a means of reflection the following observations in terms of the three key variables; retention to the sophomore year, cumulative GPA after the freshman year, and accumulated credit hours after the freshman year are provided.

Retention

The first area of research considered how the variables of course length, taking or not taking a course, gender, ethnicity, and final college success course grade seems to impact retention. Retention isn't so much a question of a student's academic success as it is one of institutional success, the ability of a college to keep students beyond one semester. True, students might not return due to their academic failures, but those who

do not return due to moving to another college may, in fact, be academically successful, just at a different college.

When taking a college success course, students appear to benefit equally whether they take the one-week or the sixteen-week course in terms of starting their sophomore year. The researcher was surprised to find small retention differences in favor of those students who were not enrolled in a college success course versus students enrolled in a college success course. Apparently taking the course is not beneficial in terms of keeping students at their original college, at least not in terms of a statistical difference. At the same time though, no statistical difference was found suggesting that offering the course did not compromise retention either.

Neither the gender nor the ethnicity of students enrolling in a college success course was related to retention.

Students who did better in their college success course were retained at a higher degree than those who did poorly. While there was statistically significance found in the relationship between a course grade of C or above and retention, caution should be used in assuming that improved retention was the result of the course. Rather this statistical significance seems to speak to the intervention potential of the course as opposed to the guaranteed academic success of students enrolling in the course.

Low index students who didn't take the course were much more likely to drop out than higher index students who didn't take the course. But there was essentially no difference between low and high index students' retained if they did take the success course. It could be speculated that taking the success course might well have helped increase the retention of high-risk students who didn't take the course.

Cumulative GPA

Student cumulative GPA was the next area of focus. A student's GPA is probably the most commonly thought of indicator of academic success, at least for students. Whereas retention is often the means by which a college judges it's success, GPA is how students assess their success.

In terms of course duration, the students enrolled in the one-week course did seem to do slightly better, but not significantly better than those students in the sixteen-week course. In addition, those who enrolled in either course did slightly better, but once again not significantly better than those who did not take a course at all.

As was the case with retention, ethnicity of students enrolled in a college success course did not show a statistical relationship on cumulative GPA. However, female students had a higher GPA than males.

Finally, those students who received a C or better had a much higher GPA than those who had a D or lower. Again, it seems that a student receiving less than a C in a college success course should be the target of some form of academic intervention.

Accumulated Credit Hours

The final variable was that of accumulated hours. There was a difference of three hours between students in the one-week course and the sixteen-week course. As discussed, this was probably due to the fact that students in the one-week course could start their first semester taking eighteen credit hours as opposed to the usual fifteen credit hours. Surprisingly, students who didn't take a college success course averaged one hour more than those who took either course. This one hour was not significant, nor was it

any more than what you would expect to have happen by chance. Yet again, neither gender nor ethnicity played a part in the average number of accumulated credit hours. Again the course grade is what seemed to have the greatest impact on accumulated credit hours.

Directions for Future Research

Because the majority of this research found very little statistical significance in results, but more in terms of minor differences, future research should consider the impact of the value-laden aspects of the course. As was discussed, there does not appear to be a statistically significant relationship of the course and academic success, but neither is there any statistical significance against the course.

Perhaps the value of the course doesn't lie in the course curriculum, but rather in the hidden agenda of the course. Those aspects of the course that can't be graded, but rather build on the student's purpose for attending college. In other words does the curriculum of the course offer something other than skills for academic success for students enrolled in the course? For example the discussion of career options might help students to focus on a major/career. These unspecified value aspects of the course might be the keys to the college success course, and as such might be the next area of research.

A qualitative research approach might be the best means to follow-up for this course. Visits with students, in either small groups or one-on-one, designed to focus on the course length and content of the course might provide the needed insight. Specifically what about the course was useful and how was it useful for the students. This information could help distinguish between what areas of the course curriculum

helped students academically and what information helped acclimate students to campus. If the goal of the course is increasing academic success, these insights could clarify specific areas to improve on. In addition to asking students what aspects of the course curriculum were beneficial, students could report on those aspects they would like to see added to or deleted from the course, and in some cases what aspects need to be expanded upon.

The best results for determining areas of improvement for the course would seem to come from students who are in their senior year and who took the course early on in their academic career. However, in order to constantly improve the course, students could be interviewed on a regular basis in the semesters/years following their completion of the college success course. In time, a picture could be developed of the value of the course in the sophomore, junior an senior year. Perhaps in time the course curriculum could be developed in such a way as to help students at specific times in their academic career.

Program Implications

Creswell (2002) offers three primary reasons as to why educational research is important; first, research adds to knowledge about educational issues, second, research can improve practice, and finally, research informs/educates stakeholders and policy makers about educational issues. This research project has attempted to follow these goals of educational research, specifically as the results relate to Mesa State College (MSC). The issue of developmental education versus remedial education is a hot topic at MSC as well as around the country. Whether courses similar to the MSC *Introduction to*

Higher Education course are developmental or remedial in nature is an issue many other colleges and universities grapple with constantly. Any research that can provide additional knowledge about this issue will most assuredly be well received. No matter whether the course is defined as developmental or remedial, the goal of such courses is that of improving student academic success. Research that can improve college success courses will not only help students, but will in turn benefit those colleges and universities that offer these types of courses. Related to adding knowledge and improving practice is the concept of informing stakeholders and policy makers. Informing and educating policy makers and stakeholders regarding college success courses will help enable them to make sound decisions. With this in mind, the following relationships between Creswell's reasons for research and the present research results are provided as they might relate to MSC.

Adding to the Present Knowledge of the MSC College Success Course

For MSC, like most colleges and universities in America today, student academic success is an important issue. Specifically, there are three academic success issues that most colleges deal with: retention, GPA, and credit hours. The researcher began this project in hopes of finding statistical evidence supporting the value of offering and enrolling in college success course in terms of academic success in terms of all three of these variables. Statistical evidence supporting this philosophy was not found; however, neither was any evidence to the contrary found either. Based on this research project several sound implications can be set forward that enhance the knowledge and understanding of the course on campus.

First, enrollment in a college success course does not appear to hinder a student's academic success. The college should continue to make the college success course available to all students. In order to achieve maximum benefit, this course needs to be offered in such a manner as to meet the needs of as many students as possible. Thus:

- Continue to offer the course in either a one-week or a sixteen-week format so as to meet the needs of as many students as possible.
- Semester long course offerings need to be numerous, offering the course more than once or twice a semester.
- The course needs to be offered at times convenient for students.
- Because the course is developmental as opposed to remedial it needs to be offered as a 100-level, credit-bearing elective course.
- Offering the course as an elective allows students to take advantage of the course and at the same time maximize the credit hours of the course.
- The college should do research focusing on those students who have low CCHE Index Scores, the group of students who might be in more need of the course.

Second, while it does not appear that enrollment in a college success course needs to be mandatory, advising students into a college success course looks as if it has advantages. It would appear that a CCHE Index Score below 80 might not meet the standard of being at-risk; but it does appear to meet the standard of being high-risk. In other words the low index score suggests a characteristic similar to other students who experience academic difficulty. This characteristic should not be overlooked in the college admission process. Students with a low index score, in particular, a low high school GPA might be advised to enroll in a college success course.

Finally, the college needs to pay attention to how students in these courses do. At the very least, final college success course grades of students enrolled in the course should be reviewed, and appropriate action taken. Students who receive a "D" or lower in the course should be advised of possible on-campus academic resources. Better yet, college success course mid-term grades should be reviewed in order to flag those students who might already be experiencing academic difficulty, then these students should be directed to available academic resources. It should not be enough for a college to offer a course that may or may not help a student succeed in college; the school should go further by taking the steps needed to help students succeed.

Improving the MSC College Success Course

This course has been touted as an "academic success course", and as "a course that will help students do better in college". College administrators have often used these statements as a definitive rationale for enrolling in the college success course; these administrators may actually be going beyond suggesting that students will do better because of the course, they might actually be on the verge on promising academic success. It appears that these statements, while making sense, don't appear to be statistically sound, at least not for students who are well above the at-risk cutoff of a 79/80 index score. To be sure, students enrolled in the course did appear to do slightly better than those not taking the course in some areas, but not all, and these differences are probably due to chance. The question that must be asked is that if the course is going to be marketed as a course that will improve a student's success, what about the course needs to be improved upon in order to make this statement factual? The researcher is not

presently prepared to answer this question, however, there are some steps that can be taken to address the question.

First, until such time as research can be completed on students near or below the 80 index score, college administrators who are in the position to market the course should be cautious in terms of how they describe the course to new students who might enroll in the course. Guaranteeing that the course will improve academic success for all students may be similar to guaranteeing that a diet supplement will provide weight loss; it is a nice claim, but not one that presently can be proven. Rather administrators might speak to how the course acclimates a student to campus, how it can help students transition from high school to college, and how the course can build on their present study skills. There might be other points that could be made regarding the benefits of the course, but they should be made with caution so as to not provide a false sense that the course guarantees academic success.

Second, a follow-up research project should begin looking at specific aspects of the course curriculum to determine which portions provide academic success and which don't, and for whom. This follow-up research project might be better addressed through a mixed method, using quantitative research to focus on specific curriculum variables, and qualitative research to focus on the personal variables of the course. Armed with this knowledge the course might be revamped, or perhaps a whole new course will be created. The format of the MSC college success course is by no means the only college success course model being used today in higher education. In addition to research looking into the MSC college success course model, research into course models at other colleges and universities needs to be completed. Determining what has worked for colleges similar to

MSC could be a jumping off point for improving the MSC course.

If the MSC *Introduction to Higher Education* course is not meeting the prescribed goals of the program, then it needs to be reviewed and, as much as possible changes need to be made in order to bring the course in line with the college's goals and the mission of the course. It would seem that a program that increases retention, GPA, and credit hours for a specific group of students would be a welcome offering, but if the specific group or need can't be determined or if a positive impact can't be supported than changes need to be considered for the course.

Informing Policy Makers and Stakeholders About MSC College Success Course Issues

Academic programs such as the *Introduction to Higher Education* course do not develop and grow in a vacuum, rather a dialogue about this course and the findings from this research needs to begin with campus policy makers and stakeholders about this course and it's impact on the school and the students. Numerous college offices should be involved in these discussions.

- The Admission Office needs to be advised that CCHE Index Scores, while an indicator of risk; may not be the best indicator for mandatory enrollment in a college success course. Rather students with low index scores should be considered high-risk students, and as such be advised into a college success course upon enrollment to the college. Admission counselors also need to be careful in how they present the course so as to avoid making promises the college can't keep.
- Academic Advising, Academic Services, and faculty advisors should be made

aware that students doing poorly in a college success course might require some form of intervention in order to improve their chances of academic success.

- Professors need to know there is a course available in which they (professors) can direct students who might be experiencing academic difficulty.
- Upper college administration (Vice-Presidents and the President) need to be advised of these research results as well as kept up to date on any changes made in the program.
- Perhaps most importantly, students enrolled in the course or considering enrollment in the course need to have a clear understanding of the role and limitations of the course in terms of their academic success.

Once these discussions have happened, these same groups need to be brought together so as to begin the process of making the *college success course* into *an academic success course*.

Conclusion

"Do no harm", this key phrase in the medical professions Hippocratic Oath seems to also be applicable in relation to college programs, in this case college success courses. Development and implementation of college programs should first and foremost do no harm to college students. Specifically these programs should not undermine a student's academic success. Higher education in America is in a constant state of flux. Colleges and universities, just like their business counterparts in the real world, are constantly reviewing and revamping their programs to meet the needs of their clients, in

the case of higher education, college students. This constant change is and should continue to be an important part of higher education history. Like businesses outside of academia, programmatic decisions need to be based on research, ideas developed, implemented, reviewed, and possibly restructured to meet the needs of our student clients.

Chapter one of this research paper suggested that a *freshman connection* needed to be made between the college and the student so as to provide a seamless transition from home and high school to college. This research project is one of many looking at the results of the decision to offer college success courses to the clients of higher education. If nothing else is clear, it is evident that college success courses do no harm, and in some cases may actually provide the support and direction college students need in order to make a connection to college and to succeed academically.

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APPENDICES

MESA STATE COLLEGE
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April 18, 2003

Ms. Cynthia Lueb, Director of Sponsored Programs
Mr. William A. Horstman, Coordinator of Freshman Programs
Mesa State College
1100 North Ave.
Grand Junction, CO 81501

Dear Ms. Leub and Mr. Horstman:

This letter grants you permission to use Mesa State College non-personally identifiable student data for the dissertation titled "A Quantitative Comparison of Two Different College Success Course Formats on Freshmen at a Four Year College". There is no risk to participants as the data is aggregated and identifying data removed before release.

Sincerely,

Patrick L. Hampton
Registrar/FERPA Officer

cc: Erin Holmes, Director of Institutional Research
Colorado State University
HRC Administrator
Regulatory Compliance
410 University Services Center
Campus 2048

MESA STATE COLLEGE
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June 16, 2003

To: Bill Hortsman

From: Cindy Lueb
Director, Sponsored Programs

Subject: Human Subjects Protocol 03-029
"A quantitative comparison of two different college success course formats on freshmen at a four-year college"

The above Human Subject Protocol has been deemed exempt from Human Subjects Committee Review in accordance with the criteria in 45 CFR 46.101(b)(4).

Any changes you make to the protocol, including changes to the type of data you are collecting, will require resubmission and approval of the protocol through my office.

You must provide my office with a copy of the approval letter for this project from Colorado State University's Human Research Committee.

If you have any questions regarding Mesa State or federal regulations relating to the use of human subjects in research, please do not hesitate to contact me at x1424 or via email at clueb@mesastate.edu.

Approved by Mesa State IRB Chairperson:

Jeanne Marie — Jeanne Marie

6-16-03
Date

Colorado State University

Office of Regulatory Compliance
Office of Vice President for Research
and Information Technology
Fort Collins, CO 80523-2011
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MEMORANDUM

TO: Bill Timpson, School of Education, 1588

FROM: Janell Meldrem, Administrator for the
Human Research Committee

SUBJECT: **PROJECT APPROVAL**
Title: A Quantitative Comparison of Two Different College Success Course Formats on Freshmen at a Four-Year College
Protocol No.:03-192H
Funding Agency: N/A

DATE: July 18, 2003

I am pleased to inform you that the above-referenced project was approved by the Human Research Committee on July 11, 2003 for the period July 11, 2003 to July 7, 2004. Because of the nature of this research, it will not be necessary to obtain a signed consent form. Consent is waived under § _ _.116 (d).

Approval is for 823 records.

A status report of this project will be required within a 12-month period from the date of approval. You will be sent a reminder approximately two months before the protocol expires. The Principal Investigator will report on the numbers of subjects who have participated this year and project-to-date, about problems encountered, and provide a verifying copy of the consent form or cover letter used. The necessary form (H-101) is available from the Regulatory Compliance web page (see below). Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

It is the responsibility of the investigator to immediately inform the Committee of any serious complications, unexpected risks, or injuries resulting from this research. It is also the investigator's responsibility to notify the Committee of any changes in experimental design, participant population, or consent procedures or documents. This can be done with a memo which completely describes the changes and their consequences (new consent form or cover letter, or altered survey instrument, for example). Students serving as Co-Principal Investigators may not alter projects without first obtaining PI approval. The PI is ultimately responsible for the conduct of the project.

This approval is issued under Colorado State University's OHRP Federal Wide Assurance 00000647 issued July 1, 2001. If approval did not accompany a proposal when it was submitted to a sponsor, it is the researcher's responsibility to provide the sponsor with the approval notice.

Please direct any questions about the Committee's action on this project to me for routing to the Committee.

Additional information is available from the Regulatory Compliance web site at
www.research.colostate.edu/rcoweb
cc: Bill Horstman