ABSTRACT

HINSHAW, GARRETT DENTON. Developmental and Non-Developmental Community College Transfer Students’ Performance and Experiences in Higher Education. (Under the direction of Don C. Locke.)

Ideally, developmental education programs provided in the community college accomplish their objective of enhancing the basic learning skills of under-prepared students and preparing them for further college level coursework. The number of students that place into developmental education programs in North Carolina community colleges has grown to approximately 60 percent since the initial implementation of developmental education in the 1960’s. After successful completion of developmental coursework, students that enter the community college with deficiencies in basic reading, English, or math (developmental students) should exhibit performance and have experiences that are consistent with their peers who enter without those identified academic deficiencies (non-developmental students).

This study compared the academic performance and experiences of developmental and non-developmental community college transfer students after their first year at the university. The participants had completed an Associate in Arts (A.A.), Associate in Science (A.S.), or Associate in Fine Arts (A.F.A) degree from one of nine selected rural community colleges in North Carolina and matriculated into one of the 16 public universities of the University of North Carolina system. The North Carolina Transfer Student Questionnaire (NC-TSQ) was administered during the Summer of 2003.

A comparative analysis of demographics, community college questions, and university questions guided the investigation into identifying differences in academic performance and experiences of the two groups at the community college and university. Using Chi-Square
analysis (with Bonferroni adjustment) for nominal data and Analysis of Variance (ANOVA) (with Bonferroni adjustment) for synthesized interval scales, this study reported that the two groups were quite similar in most areas assessed by the NC-TSQ. However, significant differences were identified in time of transfer, high school average grades, hours spent working while enrolled at the community college, experiences with faculty at the community college, participation in activities at the university, and self ratings on academic abilities and social skills.

The findings of this study provide important comparisons on the responses between developmental community college transfer students and non-developmental community college transfer students in their profiles, community college related questions, and university related questions. The findings support previous studies that used community college transfer students as a homogenous group. It is difficult to generalize the findings of this study beyond rural community colleges in North Carolina.
Developmental and Non-Developmental Community College Transfer Students’
Performance and Experiences in Higher Education

By
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Biography

Garrett Denton Hinshaw was born on January 30, 1967, in Mt. Airy, North Carolina, the second of two sons born to Paul and Letty Hinshaw. He grew up on a farm in Yadkin County and graduated from Starmount High School in Boonville, North Carolina in 1985. Hinshaw completed his Bachelor of Science degree from Appalachian State University in 1990, where he also served as the captain of the baseball team and earned All Southern Conference and All Atlantic Region honors. He married Beth Marie Murray of Valdese, North Carolina in 1989. They have a daughter, Jordan (1989), and a son, Garrison (1998).

After completing his bachelor’s degree, Hinshaw began his career in community college education as Coordinator of Occupational Programs at Surry Community College in Dobson, North Carolina. He earned his Master of Arts degree in Higher Education Administration in 1994 from Appalachian State University under the direction of Dr. James Jackson. Hinshaw was promoted to Director of Occupational Programs and eventually to Dean of Continuing Education during his 10 years of service to Surry Community College. He applied and was accepted into the doctoral program in Adult and Community College Education at North Carolina State University- Asheville Cohort under the direction of Dr. Don C. Locke in 1998.

In 2000, Hinshaw accepted a position with Caldwell Community College and Technical Institute in Hudson, North Carolina as Dean of Student Services. In 2003, he was promoted to Vice President of Student Services and served as Chair of the North Carolina Community College Student Development Administrators’ Association. In his role at CCC&TI, Hinshaw also has responsibility over institutional effectiveness and grant activities. He participated in the North Carolina Community College System’s Future President’s Institute in the Summer
of 2003. Hinshaw completed his course work and finals for the doctorate degree in December of 2003.
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I will always be grateful for the support and friendship of all the members of the NCSU-Asheville Cohort II, who supported and challenged me to persist throughout this program. Two members of our cohort, Jeanette Staley and Duane Crane, who died before the end of our work, served as an inspiration to us all.

Most of all, I would like to thank my family for their patience, love, encouragement, and support throughout my life. My wife, Beth, has stood by me through the most difficult times in my life and has served as my inspiration to be the best that I can be in all aspects of this journey. My children, Jordan and Garrison, have sacrificed time and financial resources to assure that their “dad” is able to achieve his dreams. My brother Brad and his family have
always encouraged me to continue forward in the pursuit of my goals. And lastly, my parents, Paul and Letty Hinshaw, have always been there for me through thick and thin and have helped me to understand that life long learning is a key to a fulfilling life.
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CHAPTER ONE:

INTRODUCTION

Context of the Problem

North Carolina community colleges enroll over 800,000 students each year, offering them a diverse curriculum of vocational, technical, transfer, continuing education, and personal enrichment opportunities (North Carolina Community College System, August 2001). These students enter the 58 community colleges in North Carolina with varying levels of academic ability and social preparation. The challenge to accommodate the needs of the adult learner in these institutions creates an environment that is rich with opportunity for study and analysis by today’s educational researchers.

The long-term implications of a community college education, in relation to life long learning, continues to be controversial and widely debated (Brint & Karabel, 1989; Dougherty, 1994; Parnell, 1982; Zwerling, 1976). One of the primary factors that influence this debate is the mission of community colleges to serve anyone who wishes to continue his or her education. Open door admission creates a diverse student population with varying academic abilities and sociological needs. As a method of responding to open-door admission, virtually all community colleges offer a comprehensive array of services and programs that contribute to the overall development of their students (Roueche & Roueche, 1993).

One strategy associated with addressing academic student abilities is developmental education. Through these programs, community colleges provide a second chance for under-prepared and low achieving students to pursue higher education (Hoyt, 1999). Community college students are assessed through placement tests that require proficiency in reading,
writing, basic mathematics, and arithmetic. Some form of developmental education has been in existence at colleges and universities since the early nineteenth century (Roueche & Roueche, 1993). These programs are designed with a wide range of interventions to assist under-prepared students in reaching their higher education goals (Boylan, 1999). Demashak (1999) suggested that entering first year students needing developmental coursework at some institutions make up the majority of the total class. The public resources that are allocated to programs of this nature require administrators to rigorously measure the effectiveness of developmental education programs.

The ability to measure effectiveness for community college programs establishes a direct link to other institutions of higher education through its transfer function. Shearon, Brownlee, and Johnson (1990) found that 48 percent of North Carolina community college students intended to pursue a baccalaureate degree at some point in their future. This influx of community college students into universities has led researchers to investigate the performance and experiences of this unique population. Fredrickson (1998) developed a useful profile of this group and concluded that the makeup of the university student body has dramatically changed as a result of the growth in the numbers of community college transfers. She also reported that as students do transfer to universities, their courses of study become more homogenous and reflect higher levels of success in the university setting (Fredrickson, 1998). Student population studies provide future researchers with a framework for studying community college students’ characteristics, abilities, experiences and needs.

The critical point for predicting community college transfer student success occurs during the first year of study at the university. Davies and Casey (1999) suggested that academic and social integration are primary factors for transfer students to make the vital connection to
their chosen universities. Attending a community college lessens the chance of completion for students pursuing four-year degrees as compared to native freshmen of the university (Astin, 1971; Brint & Karavel, 1989; Dougherty, 1992). This information, along with the importance of the first-year experience for community college students leads to a perplexing problem for both university and community college professionals. An analysis of community college transfer students who enroll in developmental education and community college transfer students who do not enroll in developmental education at the community college should prove to be of importance to faculty and administrators in dealing with this population of students from the time they begin their educational pursuits until they complete their educational goals.

Statement of the Problem

Ideally, developmental education programs provided in the community college setting accomplish their objective of enhancing the basic learning skills of under-prepared students and preparing them for further college level coursework. The number of students that place into developmental education programs in North Carolina community colleges has grown to approximately 60 percent since the initial implementation of developmental education in the 1960’s. This growth has resulted in increased expenditures, the addition of developmental education departments, and a changing role for the system in general. Measuring effectiveness of developmental education is an essential part of determining appropriate funding allocations and objective attainment throughout the community college structure in the United States. After successful completion of developmental coursework, students that enter the community college with deficiencies in basic reading, English, or math (developmental students) should exhibit performance and have experiences that are
consistent with their peers who enter without those identified academic deficiencies (non-developmental students).

However, determining the effects of developmental education in the community college has been described with inconsistent research practices and reports. Therefore, it is important to examine the long-term impact of developmental education programs based on future academic performance and experiences beyond the community college environment in order to establish its effectiveness for community college transfer students. This can be accomplished through intra-group comparisons of students who have extended their academic pursuits into the university setting through the community college transfer function.

Researchers have used various methods to examine the impact of developmental education and its goal of bridging the academic gap for students who enter community colleges under-prepared. Some have concluded that students who take developmental courses tend to lag behind students who do not take developmental courses (Boylan & Bonham, 1994). Other studies have indicated that students who take developmental courses perform better than students who do not enroll in these programs (Napoli & Hiltner, 1993). With these conflicting reports, it is necessary for researchers to continue the study of various aspects of developmental education to determine its value.

Additionally, it is important to assess the overall student experience in determining the success or failure of a major program area. Pace (1990) focused on the effect of students’ experiences and quality of effort as major factors for predicting student success. He found that these two factors had more to do with a students’ persistence than their academic performance in the classroom. The non-academic aspect of a student’s educational
experience is more difficult to measure and requires additional analysis beyond the basics of performance measures such as grade point averages and completion rates. Grimes and David (1999) conducted a study based on the experiences of under-prepared students that provides a basis for conducting a comprehensive study on the value of developmental education for community college transfer students participating in the university setting. However, it is important to expand on the current research by focusing on the transfer students’ first-year university experience to determine if developmental education programs are having the desired outcomes for specific groups of students that participate in these types of interventions.

Roueche and Roueche (1999) suggested in their studies that although major expenditures continue to be dedicated to developmental education, researchers have failed to provide convincing evidence of the overall value of these programs. Additional studies may provide data that can result in changes and modifications of current educational plans and policies to better prepare the students in higher education to reach their desired outcomes.

Research Questions

This study focuses on the academic performance and experiences of students attending universities who transferred from community colleges. Students will be grouped according to their community college participation in developmental education. The overarching question that is the focus for debate throughout the current literature is: “Does participation in developmental programs in community college level the differences between developmental and non-developmental transfer students?”

Demographic variables for developmental and non-developmental community college transfer students will be evaluated based on the frequency of responses. These variables will
be discussed to develop a profile of the developmental and non-developmental community college transfer students.

For the purpose of this study two research questions will be presented to assist in the understanding of the overarching question as follows:

**Research Question One.** Are there differences in community college performance and experience variables between developmental transfer students and non-developmental transfer students?

**Research Question Two.** Are there differences in college/university performance and experience variables between developmental transfer students and non-developmental transfer students?

Null hypotheses will be presented in Chapter Three of this study for consideration. In order to increase the strength of the comparisons in this study, a Bonferroni adjustment will be used to establish a functional level of significance for Chi-Square and ANOVA, large enough to substantiate the findings. An alpha<.0042 for Chi-Square analyses and an alpha<.0018 for ANOVA analyses will be used to test the hypotheses. Systematic data analyses will be used to determine the differences between the two groups of students and to explain the rationale for these differences. The data will be gathered from students who transferred from nine rural community colleges in western North Carolina. These students will be grouped based on their participation or non-participation in developmental education courses at the community colleges. All transfer students from the participating community colleges will be identified and then tracked to the university that they chose to continue their education.
To study the research questions, the data will be presented in three categories; the demographic profiles of developmental transfer students and non-developmental transfer students, the community college performance and experiences of developmental and non-developmental transfer students, and the university performance and experiences of the developmental and non-developmental transfer students. Variables will be categorized based on their relevance to community college or university experiences and performance. This process is necessary to identify levels of difference before and after entrance into the university.

**Demographic Variables**

The purpose of these variables will be to address differences between the two groups in average grades in high school, age, racial or ethnic identification, gender, parents’ educational level, academic goals, parents’ total household income, and self perception. These items will be used to develop intra-group comparisons. Hudson (1991) determined that demographic differences were significant in predicting academic performance of community college transfer students.

**Community College Variables**

Variables will also be presented for the purpose of analyzing performance and experiences at the community college attended prior to transfer. The responses will be grouped based on developmental or non-developmental program participation. These questions focus on community college study habits, campus life, time spent at work, social life, academic performance, coursework, access of academic counseling services, transfer advisement, pre-university perceptions, learning styles, experiences with faculty,
participation in clubs and organizations, and experiences in writing. Inter-group comparisons will be made for developmental and non-developmental community college transfer students.

University Variables

The final set of variables will address the students’ performance and experiences after their first year at the university. These variables include graduation plans, university residence, field of study, reasons for attendance at the chosen university, participation in a transfer orientation, experiences with faculty, participation in clubs and organizations, course learning, involvement in activities, use of academic counseling services, perceptions of the university after transfer, the adjustment process, satisfaction with the university, social life, and academic performance. Inter-group comparisons will be made for developmental and non-developmental transfer students at the university. An example of the comparisons that will be used for the purposes of this study are presented in Table 1.

Table 1. Inter-group Comparisons of Developmental and Non-developmental Community College Transfer Students.

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Significance of the Study

Community colleges and universities must continue to develop their working relationships to effectively deal with their prospective students as their student populations continue to grow. Educational professionals must continue to evaluate their major programs that are aimed at providing every student the opportunity to succeed. Boylan (1999) wrote, “…just
because students may enter a university under-prepared does not mean that they cannot be successful there given appropriate interventions…” (p. 3). This realization should guide community college and universities in the direction of evaluating, planning, and providing interventions that are appropriate for the populations they serve.

Through the evaluation of the interaction, perceptions, effort, and performance of community college transfer students, educators at community colleges and universities should be able to identify primary interventions that are effective in providing prospective students the best opportunities to succeed both academically and socially. Specifically, critically comparing the academic performance and experiences of students who enroll in developmental education with those students who do not enroll in developmental education at community colleges will assist professionals in determining if the desired outcomes of such programs are being reached. As resources continue to be allocated in significant proportions to these efforts, administrators must be able to demonstrate the impact through adequate qualitative and quantitative research.

Therefore, data from this study should indicate if differences are evident in specific functions of the students’ progress toward attaining the baccalaureate degree. Analyzing differences will be useful in determining appropriate modifications for developmental education programs within North Carolina community colleges. The analysis should also provide important information concerning the development of services needed by these students at universities and allow professionals the opportunity to better understand the composition of these populations.

Given the conflicting findings of previous researchers, this study should add to the body of knowledge available to educators in the field of higher education specifically related to
community college transfers and developmental education. The role of developmental coursework has been an object of debate for policy makers throughout the United States over the past decade. The completion of this study should provide future researchers with avenues of continued study.

There is considerable literature available on the topics of community college transfer students and developmental education. However, very little research has been conducted on the specific performance and experiences of community college transfer students who take developmental courses and those community college transfer students who do not take developmental courses in their preparation for the university setting. These data from the proposed research should be valuable in understanding the complexities of student success and the factors that impact the students’ progress. As public financial resources continue to be allocated to large programs within systems of higher education, professionals will be held accountable for assuring that these resources are being spent on interventions and programs that are proven to be effective.

Limitations of the Study

1. Participants in this study were limited to those students who matriculated in one of the nine community colleges and subsequently enrolled in one of the sixteen public universities/colleges in North Carolina.

2. The findings from this study apply only to university and rural community college transfer students within North Carolina. Developmental education programs vary in scope and content throughout the United States, thus limiting the inferential power of the findings.
3. In measuring variables associated with student success, researchers are limited in determining if factors not measured would have higher levels of significance than those that are measured.

4. It will be difficult to administer surveys through mailings made to the students in the university setting. Response rates may be low, affecting the statistical power of the study.

Assumptions of the Study

1. Community colleges included in the study follow the course content guidelines established in the common course library of the North Carolina Community College System establishing general consistencies in programs and students.

2. The researcher will rely on accurately recorded data concerning students at each of the community colleges included in the study to produce an adequate sample for each group of students.

3. It is assumed that students will accurately and honestly report their experiences on their community college and first-year experience at the university.

4. It is assumed that students will accurately report their academic performance at the community college and university.

Definitions

For the purposes of this study, the following definitions will apply:

1. Developmental Education- Those courses designed to remediate students in specific subject areas as defined by the North Carolina Community College
System Common Course Library. For the purposes of this study, developmental education will be courses that students are required to take prior to advancing into regular curriculum course work at the community college. Developmental education is instruction or coursework for students who would not ordinarily be expected to succeed in college (Kulik & Kulik, 1991).

2. Under-prepared- Students that enter community colleges with deficiencies in basic reading, writing, or math based on placement instruments. These deficiencies may be attributed to inadequate high school preparation, test anxiety, or historical lower achievement abilities in academic programs.

3. Developmental Students- Students who are required to take one or more developmental education courses based on placement testing requirements at the participating community colleges.

4. Non-developmental Students- Students who are not required to take developmental education courses based on placement testing requirements at the participating community colleges.

5. Transfer Students- Students who graduated from a community college with an A.A., A.S. or A.F.A degree in the Spring semester of 2001 and who have subsequently transferred to a public university in North Carolina.

6. Placement Tests- Instruments used to assess the ability levels of students planning to pursue coursework through a community college.
7. Cutoff Scores- Minimum scores on placement tests used at community colleges that determine if students are to be placed into developmental education courses or non-developmental education courses.

8. G.P.A.- Grade Point Average- a numerical calculation of academic performance.

9. Retention- continued enrollment in an institution of higher education.

10. Academic performance- analysis of data related to community college and university G.P.A., university retention, and hours earned versus hours attempted at the university.

11. College experiences- analysis of self reported data associated with community college and university interaction with faculty, level of effort, course learning activities, social activities, interaction with staff, interaction with other students, psychological adjustment, academic adjustment, writing activities, and overall satisfaction with the university.

12. Inform Statements- a means of generating data from the community college information system that describe specific characteristics to be included in the data output from the system.

13. Bonferroni adjustment- a statistical method used to establish a functional level of significance in a study that is comparing several factors with Chi-Square and univariate analysis of variance (ANOVA). Alpha<.05 divided by the number of comparisons.
CHAPTER TWO:
LITERATURE REVIEW

Historical Foundations

Basic democratic ideas of the United States institutionalized the right for all citizens to develop to their fullest potential. This drive for enlightenment and human development has emerged as the foundation for the historical development of community colleges. During the late nineteenth century, the state of Massachusetts created common schools that became the basis for the idea of free education in the United States (Roueche & Baker, 1987). However, during this same time period, most of the successful entrepreneurs in the United States had not been educated through systems of higher education, but rather through their experiences in the marketplace (Brint & Karabel, 1989). The elitist view of access to higher education for only white, upper class males was a developing crisis that affected the social and economic survival of the United States. In 1862, the passage of the Morrill Land Grant Act, establishing land-grant colleges, was the first step to breaking down the traditionalist views of access to higher education (Roueche & Baker).

Fostered by an economic downturn in the late 1890’s, educational reformers such as William Raney Harper and Reverend J. M. Carroll, developed strategies to increase social access to higher education through the development of the first junior colleges in Texas and Chicago (Ratcliff, 1994). Along with this movement, legislation in California authorized secondary schools to offer education beyond the twelfth grade in the early 1900’s (Cohen & Brawer, 1996). Through the creation of these educational initiatives, many of the barriers associated with access to higher education began to dissolve further.
The passage of the GI Bill after World War II further advanced the opportunities for adult access to higher education through financial aid packages targeted at significant numbers of veterans (Cohen & Brawer, 1996). The Truman Commission on Higher Education in 1947 advanced the rights of the United States’ citizenry to access higher education as a requirement for the survival of the economic and social growth of the country (Roueche, Baker, & Roueche, 1987). Brint and Karabel (1989) noted that the Great Depression was also a driving force that prodded a more intense focus and increased participation in higher education. These historical occurrences substantiated the development and focus of community colleges.

As the population of adults entering colleges and universities across the United States continued to increase, the composition of the traditional student body also evolved, presenting different challenges for institutions of higher education. The passage of the 1964 Civil Rights Act, the Higher Education Act of 1965, the 1965 Affirmative Action Executive Order 11246, the 1967 Executive Order 11375 prohibiting sex discrimination, the 1971 Basic Educational Opportunity Grants, and the 1972 Adams decision, essentially eliminated the last legal racial, religious, and sexist barriers to higher education (Cohen & Brawer, 1987; Wilson, 1986). The philosophy of open access in the United States’ community colleges focused the majority of the higher education population expansion into these institutions.

Community College Students

According to the American Association of Community Colleges (2002), approximately 10.4 million students attended community colleges in the United States in 2001. Most of these students were employed and only attended college part-time. The average age of this new student body is significantly higher than the traditional 18-year-old population expected
to attend institutions of higher education (Griffith & Connor, 1994). The curricular goals, expectations, and academic abilities of these individuals are diverse, creating difficult challenges for the community colleges that serve them. The curricular functions as described by most states’ legislative documents for community colleges includes academic transfer preparation, vocational-technical education, continuing education, developmental education, and community service (Cohen & Brawer, 1996). Due to the expansion in admissions and enrollments of the adult population in the United States, many of the students entering into community colleges lack the basic academic skills necessary to be successful (Deegan, Tillery, & Associates, 1985). These students are a product of the breakdown in the secondary educational systems of the United States and the mass growth in opportunities for access to higher education in the 1960’s (Cohen & Brawer). The scope of under-preparedness of the student body in the community college places developmental education as an overarching focus in curriculum development for community college educators.

Some researchers suggest that attendance at a community college lessens the likelihood of baccalaureate attainment (Astin, 1971; Brint & Karabel, 1989; Dougherty, 1992). These studies assess the degree attainment of students entering community colleges and those entering four-year institutions based on longitudinal data that is also inclusive of community college students that do not complete the transfer function. However, there are additional works that indicate for those community college transfer students that complete the transfer function to four-year institutions, baccalaureate attainment is equal to attainment by native students at the four-year schools (Piland, 1995). Pascarella (1999) identified primary differences in these types of studies and provided the rationale for their differences. He noted that community colleges serve a more diverse student population in relation to their
cognitive abilities and that those who are successful in the community college environment are similar in relation to demographics and academic abilities. Therefore, it becomes as important to assess the characteristics of community college transfer students upon entry at four-year institutions, as it is to assess the persistence rates of all students entering community colleges with aspirations to attain a baccalaureate degree (Pascarella).

**Evolution of Community Colleges and the Transfer Function**

One of the driving forces that led to the development of community colleges in the United States was the transfer function (Cohen & Brawer, 1996). According to Brint and Karabel (1989), William Raney Harper, David Starr Jordan, and Alexis F. Lange were the three major reformists who sparked national interest in creating public junior colleges in the 1890’s for the purpose of offering the first two years of instruction of a four-year baccalaureate degree. Their intentions were not necessarily tied to the humanistic movement of the times to address social problems that were present during the era, but rather to improve their own institutions by allowing them to focus on research and scholarship. However, their philosophies were the springboards for the ideology necessary to create a new class of institutions in higher education called community colleges.

For approximately 50 years, junior colleges operated primarily to reduce the demand on universities to offer lower-division work as well as to meet the growing demands for higher education in the United States as the population continued to grow (Cohen & Brawer, 1996). However, during the time period of the 1900’s through the 1930’s, there were three primary influences that served as catalysts for change within junior colleges. These three influences were the rapid industrialization of the United States, the democratization of public schools, and the establishment of the great American research universities (Deegan, et al., 1985).
Even though these new institutions of higher education began to diversify in the way they were created, governed, and operated, their central tendency remained constant with a primary focus on the liberal arts programs designed for transfer to a four-year university (Brint & Karabel, 1989). It should be noted that many of the junior colleges established in the early 1900’s were associated with technical institutes created by the Morrill Act of 1862 and its later amendments; still these junior colleges maintained a transfer function to their mother institutions (Baker III, 1994).

One of the major problems that junior and community colleges have faced since their inception is the demonstration of their worth within all systems of education in the United States (Brint & Karabel, 1989). Throughout the history of community colleges, these schools have struggled with their associations with elementary, secondary, and higher education, creating an identity crisis that permeates the core of these institutions even today (Cohen & Brawer, 1987; Ratcliff, 1994). This identity crisis dramatically impacts the transfer function of community colleges as they attempt to negotiate transfer credit with four-year institutions. During the late 1930’s, a large number of the students who were entering junior colleges were not able to transfer to four-year institutions due to a lack of required academic skills or a lack of transfer articulation between the junior college and the four-year institution (Deegan, et al., 1985). However, researchers during this time period minimized these findings by focusing on the success of those students who were able to transfer and indicated high success and completion rates (McGrath & Spear, 1991). This trend compounded the questions surrounding the value of a junior college education from the traditional higher education institutions and from the growing student body. During this same time period, junior colleges were breaking away from their close ties with public schools, creating
additional tensions and neglect (Deegan, et al.). The negative forces that were attacking the role of the junior college created a de-emphasis on transfer education and an overall diversified focus.

During the 1950’s a paradigm shift occurred in junior colleges across the United States and the new community college began to emerge as a predominant philosophy (Cohen & Brawer, 1996). According to Deegan, et al. (1985), “although faculty members generally identified themselves with colleagues in the university, they increasingly committed themselves to the open-door mission of the community college” (p. 13). New courses in technical, paraprofessional, cooperative, and remedial education began to emerge. This paradigm shift continued through the 1960’s and into the 1970’s when the Carnegie Commission for Higher Education issued a statement on “The Open Door Colleges” (Deegan, et al.). This document recognized the importance of community colleges in higher education and emphasized a need for greater federal support, expansion of community colleges, and greater articulation between other institutions of higher education.

The student population and the curriculum focus of community colleges had changed. The early junior colleges reported that transfer and liberal arts students “…accounted for 60 to 70 percent of total enrollment” (McGrath & Spear, 1991, p. 38). However, during the 1960’s and 1970’s, a focus on socio-economic support emerged and the transfer function had been diminished to levels below that of technical/vocational, occupational, and community education (Cohen & Brawer, 1996). The shifts in enrollment and program structure of community colleges have been denounced by some critics as a loss of the collegiate function of the community colleges and a contributor to limiting the social mobility of community college students (Eaton, 1994). Pascarella and Terenzini (1991) suggested that attending
community colleges lessens the chance for community college students of attaining a baccalaureate degree and may therefore lessen students’ ability to advance occupationally or economically. These reports during the late 1980’s and early 1990’s were the impetus behind new legislative accountability measures aimed toward improving the stature of community colleges in the higher education system.

Fredrickson (1998) saw the role of transfer education as being integrated into all facets of community college education and that transfer is not as clearly defined as previous research had indicated. This idea provides us with a new understanding of the historical role of transfer education in the functioning of community colleges. McIntyre (1987) suggested that the transfer function is one of the most important aspects of the community college mission, but is also the most poorly measured. This further challenges the theory that the transfer function has diminished in community colleges in the United States. According to Eaton (1994), the transfer function of community colleges must not only be a part of the mission of these institutions, but should also provide the foundation for the community college environment. These philosophies relating to the role of transfer education coincide with the current growth in arts and sciences programs over the past five years in North Carolina community colleges (North Carolina Community College System, 2001). The traditional liberal arts classes are becoming integral parts of all programs in the community college environment. Therefore, the need to investigate developmental education as it relates to the transfer function has re-emerged. As community colleges continue to project substantial future growth and universities continue to increase admission standards, the numbers of students who attend community colleges for the purpose of pursuing baccalaureate degrees is expected to increase substantially over the next ten years (Eaton, 1994).
Transfer Student Adjustment

Traditionally, researchers have used GPA and retention as the primary factors that indicate a student’s academic success. However, Tinto (1975) focused on the importance of social adjustment as a key indicator of academic success and persistence. One of the emerging concerns for researchers studying the function of community college transfer is the ability of the students to adjust academically and socially to the four-year institutional environment upon entry (Laanan, 1996). Many of the community college students who transfer report substantial difficulty in adjusting to the culture of the four-year institution which may be a more effective determinant of persistence than slight drops in their grade point averages (Davies & Casey, 1999). This growing field of research may provide important insights for faculty and staff at four-year colleges and universities relating to their management of first-year university experiences for community college transfer students.

Application of adult learning theories to the first-year university experience for community college transfer students could provide directions for a student’s psychological, sociological, and academic development. Applying the theory of andragogy and the humanistic orientation to the first-year university experience of community college transfer students would seem to be initially appropriate. Based on the five assumptions of Knowles (1984), this experience would meet four of the five assumptions.

The transfer student would move from a more dependent self-concept to one that is of a more self-directed nature. To understand this comparison, one must look at the current literature reporting that community college transfer students relate a feeling of close family, friends, faculty, and staff relationships within the relative simplicity of the community college compared to expectations of a more independent lifestyle at the university (Davies &
Casey, 1999). This is an important assumption based on the fact that the majority of community college students are commuters who remain in their hometowns (Cohen & Brawer, 1996). Transfer students in their first-year at universities would continue to build on experiences that enhance their ability to learn. The transfer student would also experience a new social role as interactions with new students, faculty, and staff increased. The university experience would force the transfer student to develop internal motivators rather than receiving motivation from family and other external motivators associated with their local environment. By applying four of the five assumptions of andragogy to community college transfer students, university professionals should seek to place emphasis on these changes and assist the student in environmental adaptation.

The social learning orientation described by Merriam and Caffarella (1991) would also provide insights into the effective adjustment into the first-year university experience for community college transfer students. These students would have opportunities to learn through interaction and observations of a new social context. University faculty members would have an opportunity to model new roles and offer mentoring for the purpose of increasing social integration for the transfer students. Just as community colleges have evolved developmental education practices for the under-prepared students who enter the open door, universities should focus comprehensive programs of social integration for the college transfer population.

One could also argue that the behaviorist orientation would be effective in identifying interventions for the first-year university experience for community college transfer students. These theories would match with this student population as they enter the new educational environment. These students may be more willing to experience behavioral changes as a
result of the perceived knowledge and abilities of university faculty and staff. The skill development aspect of this orientation could be focused on enhancing the transfer students’ ability to change their behavior related to living skills, social integration, and academic practices. Professionals could implement strategies to engage the student through specialized activities specifically developed for the community college transfer population.

Applying the basic principles of adult learning theories to specific at-risk populations within the university environment could prove to be an effective practice in increasing the opportunities of success for all students. A substantial body of research has emerged on the first-year experience at universities in general, but further work needs to focus specifically on community college transfers. Some of the social and academic experiences of native first-year university students would also apply to the first-year university community college transfer population. However, there would be major differences in levels of maturity, past educational performance, and basic academic abilities based on the assumption that the majority of students that begin at a community colleges are academically, socially, and demographically different than students that begin at the university. Community colleges have attempted to effectively prepare students for transfer, but due to the nature of their missions and environment, major differences may be evident in students’ expectations compared to the expectations of traditional first-year university students. Therefore, it is important for community colleges and universities to communicate effectively in order to meet the needs of the students who use both to achieve their educational goals.

Transfer Student Success

Many studies have demonstrated the differences in baccalaureate attainment for students who begin at public two-year community colleges and those students who begin at
universities (Dougherty, 1992). The survival process for entering community college students aspiring to attain a baccalaureate degree can be broken down into three stages; surviving at the community college, transferring to a university, and persisting in the university. Tinto (1975) demonstrated that one of the key risks for drop-out occurs during the first year of a student’s involvement in higher education. The combination of initial academic performance and the community college’s ability to engage the student into the college environment are primary indicators of student persistence. Various studies have indicated that community colleges do not integrate their students as effectively as four-year universities. The commuter nature of community college students does not provide the same engagement opportunities as the on campus residency experienced in universities (Dougherty). Obligations outside of the participation in higher education in community colleges contribute significantly to a community college student’s ability to succeed.

Those individuals who do survive at the community college and intend to transfer must face the challenges of transfer adjustment as mentioned earlier in this chapter. In North Carolina, community college transfers are benefited by a comprehensive articulation agreement that guarantees the acceptance of a predetermined core set of courses by the 16 universities of the University of North Carolina System (North Carolina Community College System, 2001). This agreement provides transfers with an increased opportunity of success and satisfaction with their experiences in higher education. However, this does not guarantee that transfer students will be able to adjust adequately to the university environment. Social and academic integration is a dilemma for all transfers as they enter into an institution where the majority of their classmates have already experienced academic success, become involved in student clubs and organizations, developed relationships with faculty and staff,
and are familiar with the overall campus environment. The transfer process affects the higher education continuum for community college students and many times is the ultimate barrier for the attainment of a baccalaureate degree.

Making it through the first two years of college and the transfer process does not guarantee that community college transfer students will be successful in attaining their four-year degrees. Many studies have indicated that transfer students are older than students with the same academic status and deal with more barriers associated with external factors away from the university in attempting to complete their degree requirements (Dougherty, 1992). Anglin, Davis, and Mooradian (1995) suggested that traditional university student support services were not effective in dealing with the issues associated with transfer students. Transfer students are affected less by academic performance and more by responsibilities outside of the university.

Pace’s (1984) concept on “Quality of Effort” describes student differences in level of effort committed to the educational experience and what colleges offer in determining student success. Colleges and universities are accountable for the educational process, while students are accountable for the level of effort provided to the experience. These factors combined determine whether a student will be successful in higher education. Transfer student success depends on the amount of time and effort students spend engaged in quality activities provided by the university. This study will provide data to determine if community college students that participate in developmental education at the community college engage in quality activities at the same level of those students that do not participate in this intervention prior to transfer and after their first year at the university. Determining the types of activities that engage these two groups will also assist community colleges and
universities in developing appropriate strategies to enhance the opportunity for success of their transfer students.

Characteristics of Developmental Students

In order to understand the historical development of developmental education programs in community colleges, one must also understand the characteristics of the students who participate and the scope of these programs as they relate to the curriculum. Spann and McCrimmon (1994) reported that from the late 1800’s to the early 1900’s, poor academic performance was thought to be a result of poor study habits. However, current researchers have developed theories that lead us to believe that there are a number of related variables that impact the success of students in higher education. The developmental education function of the community college became prevalent during the 1960’s as a result of the expansion of higher education to all social classes (Cohen & Brawer, 1996; McGrath & Spear, 1987; Roueche & Baker, 1987). Under-prepared students in the community colleges are defined as students who lack the academic ability to perform successfully in college level curriculum courses (Maxwell, 1988). This new ideology for understanding the dynamics of students who have difficulty in academic programs changed the way institutions of higher education viewed their new student bodies. According to a 1995 report from the National Center for Education Statistics, approximately 41 percent of the students who attend community colleges place into developmental education courses. This large population within community colleges requires extensive resources. In 1995, developmental education programs involved almost three million students, and over 100,000 faculty and staff nationwide (Boylan, 1995a). Almost every community college in the United States offers some form of developmental education courses (Boylan, 1999).
The pressures to create programs of developmental education stemmed from societal expectations for community colleges to provide open door access while maintaining academic integrity (Roueche & Roueche, 1993). Cross (1974) described three eras in the historical development of higher education known as the aristocratic period characterized by upper-class admissions, the meritocratic period characterized by admissions based on ability, and the democratic or egalitarian period characterized by open access to higher education. Each of these periods is based on philosophies of access to higher education and how our society has responded to the issue. The democratic or egalitarian period is best represented by community colleges and their roles in addressing the social and economic issues that were prevalent in the 1960’s and 1970’s. Developmental education programs evolved initially to assist with new enrollments of ethnic minorities, women, and socio-economically disadvantaged students in higher education that historically had not experienced the same educational opportunities as the white male, upper-class (Cross, 1974). However, Boylan (1995a) reported that the majority of the students enrolled in developmental education programs are white males, demonstrating the breakdown in the ability of secondary education to prepare all students for college.

In response to these changing idealisms, institutions began to establish methods to identify and place students into appropriate academic programs. Effective placement practices are essential to student success (Boylan, Bliss, & Bonham, 1997). The origins of the placement movement for community colleges occurred during the 1970’s with restricted admissions to certain courses. This movement resulted in the transition from stand-alone remedial courses to the development of complete developmental programs including comprehensive support services. The first state mandated placement practices were
implemented in Florida and Georgia during the 1980’s, with several other states implementing similar policies soon afterwards (Cohen & Brawer, 1996). The use of placement practices varies from institution to institution and has developed into the primary foundation for implementing developmental education in the United States. The application of adult learning theories to the testing and placement functions of the community college may affect the effective implementation of developmental education programs. Addressing the common components of human development theories such as, motivation, cognitive functioning, behavioral changes, and learning readiness should provide a theoretical background for use during the testing and placement process. These theories also support the notion of mandatory testing and placement.

Dougherty (1991) stated, “pre-transfer academic preparation would be improved by familiarizing community college teachers with the university’s academic expectations for students and by more rigorously testing students when they enter the community college and not allowing them to enter transfer courses until they are functioning at the collegiate level” (p. 205). Placement and testing offices could use the adult learning theories to effectively interpret scores and increase students’ awareness of their abilities, skills, and potential. Integration into the community college environment usually begins during the testing, placement, and admissions processes. The barriers associated with this suggestion would be the lack of resources and time constraints. To effectively connect the student to the institution, student services professionals must exhibit caring attitudes about the individual student. Through effective placement and testing practices, opportunities for what Knowles and Associates (1984) described as the “readiness to learn” are increased for community college educators to prepare prospective students. When students are evaluated, they
perceive that their worth, as well as their academic abilities, are being judged. Therefore, student services professionals could use personable methods in interpreting, advising, and counseling to assure that the critical first connection is made.

Implementation of Developmental Education

According to Boylan (1995b), the full implementation of developmental education programs was a result of the educators’ realization that students not only needed specific basic skills courses to assure academic success, but that they also needed full support services, counseling, learning centers, and special advising. This realization created an organizational dilemma for community college faculty and administrators throughout the United States. Understanding the dynamics of developmental education forced community colleges to rethink their traditional instructional practices as well as their overall andragogy and administrative structures (McGrath & Spear, 1987). To explore the organizational impacts of developmental education one must discuss fiscal, legislative implications, program evaluation, administrative practices, student support services, and departmental organization.

Financial Resources

An important influence in the decision-making processes for developmental education in higher education has been funding. Community colleges were applauded for developing strategies that served the growing under-prepared student population of the 1960’s and 1970’s, but few external reviewers understood the costs of these organizational changes (Cohen & Brawer, 1996). Community colleges in the United States rely heavily on subsidies from their respective states and are questioned about the large expenditures on developmental education programs (Levin & Koski, 1998). Legislators who appropriate monies are
justifiably concerned about paying twice for educational services that should have been provided in high school. This scrutiny has resulted in the adoption of performance accountability standards for developmental education programs in many states (Boylan, 1995b).

Levin and Koski (1998) suggested that the only way to increase financial support for the programs that support the under-prepared student population in community colleges is to prove that they are effective in enhancing student success. The primary goal of this initiative would be to increase the number of under-prepared students that can complete developmental coursework on the first attempt and advance successfully in traditional college level coursework. This would increase the number of courses that could be taken with higher proficiencies resulting in quicker degree completion and potentially higher returns in the labor market. The cost to the institution would also be decreased because developmental students would take developmental courses less often and therefore reduce the need for additional support services over time. Community colleges will likely be pressured to justify expenses of developmental education programs and encouraged to find cost effective ways to reduce the need to re-educate their student body through collaboration with secondary school systems.

**Legislative Implications**

With the philosophical changes in community colleges and the full implementation of developmental education programs, federal and state governments have changed their political focus in higher education. Legislation such as the GI Bill of 1944, and the findings of the Truman Commission of Higher Education in 1947, advanced the premise of open access within the community college environment (Rouche & Baker, 1987). The
government committed to the theory that higher education was a viable mechanism for dealing with a deteriorating social structure. However, legislators left the processes and procedures of these institutions to educational professionals. Roueche and Baker also indicated that the challenge to deal with the removal of the economic, academic, social, and geographical barriers in higher education was thrust upon community colleges in the United States. Offering open access while providing quality education was the dilemma created for community colleges directly through this legislation.

To deal with this challenge community colleges have necessarily developed very close ties with the communities in which they exist (Griffith & Connor, 1994). Local autonomy and governance have also evolved as the preferred means of operation for most community colleges as they attempt to find identities in their hometowns. Local boards of trustees, presidents, administrative staff, faculty, and students have traditionally provided the strategic directions for their own institutions. These stakeholders believe that they know best about what is effective in their local environments.

However, Cohen and Brawer (1996) suggested that the current trends are moving toward more state level coordination. This creates uneasiness for those administrators and faculty that have built the community college systems throughout the United States based primarily on local decision-making. Increasing state control means that more extensive accountability measures will be employed to justify funding levels currently in place. This issue can result in both positive and negative effects for individual community colleges. Local administrators will have to rely more heavily on state mandates in decision-making processes that will impact their local communities and affect their local autonomy. The movement to a more centralized governance system can be associated with more reporting requirements and
compliance with regulations. Presidents and local boards of trustees will still maintain strong voices through their respective statewide organizations.

These changes in legislative involvement will impact programs associated with the primary mission of community colleges more than some of the lower profile functions. Developmental education will be affected through a more thorough evaluation process, required reporting, and increased accountability measures focused on student success. This will result in more support of developmental programs that are already operating effectively. However, those that are deemed to be ineffective will have to transform to meet the necessary accountability standards or risk losing already limited state funding. This issue will require institutions to develop more extensive and meaningful internal developmental education evaluation programs to assure that they are operating in a manner that will produce effective results.

Program Accountability

The developmental education impact on the organizational structure of community colleges in the United States has been dramatic. Many critics have asserted that the results of the implementation of developmental education have substantially decreased the collegiate function of community colleges in the United States (Cohen & Brawer, 1987). Administrative concepts have evolved from the 1960’s to the present in relation to developmental education. Four-year institutions are moving more freely to a centralized structure for these programs, while community colleges continue to lag somewhat behind in this movement and remain predominantly decentralized (Shaw, 1997). Community colleges will be held more accountable for the success of developmental education as governance moves gradually toward statewide coordination in most areas within the United States. The
adoption of comprehensive programs continues to progress, but institutions must improve on
the evaluation processes used in order to adequately depict the value of developmental
programs for the growing number of under-prepared students who enter the open doors of
community colleges.

Systematic program evaluation is lacking in developmental education (Boylan, et al.,
1994). Boylan, et al. suggested that the majority of community colleges that offer
developmental education programs do evaluate individual courses through student
evaluations, gain scores, or analysis of completion rates, but that other components of
effective programs are essentially ignored. Community colleges must develop evaluation
methods for assessment and placement, tutoring, advising and counseling, and instructional
methods. Comprehensive, systematic evaluation is time-consuming and expensive for
institutions that are already stretched to the limit in human and fiscal resources. However,
without a systematic process, it is impossible to tell if a program is accomplishing its primary
or secondary objectives. Overall, this is the weakest practice in today’s developmental
education programs.

Rossi, Freeman, and Lipsey (1999) defined program evaluation as “...the use of social
research procedures to systematically investigate the effectiveness of social intervention
programs that is adapted to their political and organizational environments and designed to
inform social action in ways that improve social conditions” (p. 20). This definition can be
applied to a systematic plan of evaluation for developmental education programs in
community colleges. Developmental program evaluation generally meets the criteria
established by Rossi, et al., by having a description of program performance expectations and
having standards by which the performance is judged. The organizational structure of
developmental education programs in individual community colleges would have to be assessed to assure that these criteria are indeed present. Evaluators of developmental education programs would also need the flexibility to access academic-related data to provide a comprehensive report on most program evaluation processes initiated at institutions of higher education. As discussed earlier, the historical development of developmental education attempted to address societal needs for expanding access and accommodating the diversified needs of under-prepared students. Therefore, the application of a systematic approach to evaluation would serve these programs well.

Organizational evaluation for developmental education programs would need to be a comprehensive and continuous process due to the diverse needs of those who are the intended primary target of the developmental intervention. The objectives and relevance of the program evaluation methodologies would need to be instilled into the departmental mission, goals, and objectives. The evaluation process would also need to be built into all components of comprehensive developmental programs to assure that the reporting of results is inclusive and presents practitioners with viable improvement strategies.

**Student Support Services**

Student support services in higher education have changed dramatically over time. Faculty members performed the functions of student services in the early universities (Delworth, Hanson, & Associates, 1980). As the enrollments in higher education diversified, the need for trained counselors emerged. During the development of community colleges, these services expanded and became a separate functional department of the organizational structure. With the evolution of the traditional student body into the predominantly non-traditional student body in community colleges and the exponential enrollment growth in
universities, student services developed into a legitimate profession. Today’s organizational groupings of student support services functions in community colleges typically consist of academic support, student activities, financial assistance, personal and career counseling services, and testing. These services are vital for the success of under-prepared students. Academic support usually is associated with admissions, registration, and advising in community colleges. Cross (1981) identified several institutional barriers for adult learners that are directly related to the academic support function of the organization such as; lack of information about programs and procedures and time consuming registration processes. Under-prepared students are usually intimidated by the higher education environment and can be easily discouraged from engaging with the institution if these initial barriers exist without mechanisms to overcome them.

Student activities may be one of the most important functions of student services in community colleges. Tinto’s (1975) model of student retention suggests that social integration is just as important as academic integration in relation to persistence for students in higher education. Cohen and Brawer (1996) characterized community college students as primarily commuters with little interaction on community college campuses in the United States. This characteristic challenges student services departments to create activities that meet the varied and highly individualized schedules of their students. The most successful mechanism to achieve participation in student activities in the community college is to connect the activity with an academic department. This is especially important to developmental education departments due to the cross-departmental and at-risk nature of their students.
The financial assistance function of student services is also critical for students. According to Boylan, Bonham, and Bliss (1994), 45 percent of the students enrolled in developmental programs at community colleges received federal financial aid compared to 75 percent of the students enrolled in developmental education programs at four-year universities. This disparity creates new challenges for community college financial assistance personnel to identify additional sources of aid for this population. The figures presented could be skewed due to the lack of federal aid qualification for some of the lowest level developmental courses. Cohen and Brawer (1996) concluded that financial aid availability affects both the students’ initial intent to enter higher education and their ability to stay enrolled. Noel, Levitz, Saluri, and Associates (1985) also concluded that financial difficulty is one of the primary reasons students leave college. Therefore, specific grants and scholarships should be explored to increase the financial assistance opportunities for developmental students in order to minimize this issue as a barrier to their persistence at community colleges.

The organizational structure of the student services department should also promote accessible personal and career counseling services. This function of student services is another important aspect of student engagement. Developmental students have a tendency to have lower self-esteem due to their perceived failure of community college placement tests (Spann, & McCrimmon, 1994). Developmental students should be encouraged to participate in career assessment inventories to further determine their strengths and weaknesses in relation to their job skills and to reduce further delays in their educational goals attainment. The organization of personal and career counseling services should be integrated into the
academic function of community colleges through effective orientation and awareness initiatives.

The initial experience for students with admissions and placement testing in the student services departments of community colleges can determine success or failure for the participants in higher education. The open door mission of the community college creates a great challenge for this system of higher education to meet the diversified needs of the adult learner. Placement testing practices were developed in the 1970’s to guide students into appropriate programs of study within the community college setting (Cohen & Brawer, 1996). Spann and McCrимmon (1994) suggested that the dilemma of appropriately placing under-prepared students is magnified due to their avoidance of what they perceive to be painful or threatening, such as basic skills courses. Morante (1994) believes that community colleges should make testing and placement mandatory for entering students. The implementation of mandatory testing and placement affects the organization of the community college dramatically. This action increases the scope of developmental education at the community college and also becomes a part of interdepartmental collaboration. The organizational adoption of mandatory testing and placement also impacts an institution’s philosophy as it relates to career education. By requiring all under-prepared students to complete a course or program of developmental work, the institution redefines its focus on the collegiate function of the community college.

However, many researchers and community college educators question the validity of such testing practices and argue that mandatory testing and placement create another barrier for students considered to be at-risk from the beginning (Cohen & Brawer, 1987). Standardized tests, in general, are considered to contain biases against diverse populations
creating more questions concerning their use and worth. Another argument against mandatory testing and placement practices questions the economic legitimacy of such programs (Morante, 1994). This argument is based on the premise that the institution will have to hire more faculty and staff members to accommodate the numbers of students placed into developmental programs and that the increased cost to the student who is required to take additional courses, creates a financial barrier. Thus, the policies and procedures used in testing and placement differ from community college to community college (Roueche & Roueche, 1993).

Testing and placement will continue to be primary forces in organizational practices as they relate to developmental education in community colleges. Some states are taking the lead in developing required practices for their community colleges in determining testing and placement practices (Cohen & Brawer, 1996). As the nation continues to place emphasis on accountability within higher education, community colleges must continuously evaluate their student populations to determine the efficacy of their admissions practices and the impacts that these practices have on their students’ ability to succeed in the classroom.

Most researchers agree that testing and placement cannot be effective without integration with student support services (Boylan, 1999; Boylan, et al., 1997; Cohen & Brawer, 1996; Hughes & Nelson, 1991; Morante, 1994). Testing and placement must be accompanied by effective test interpretation, counseling, and advisement. The organizational structures of community colleges usually place testing centers within the student services departments. The counselors and advisors within this department play an important role in the success of under-prepared students. In a study by Hughes and Nelson (1991), “…data suggest that the use of only one assessment tool is not the best predictor of success for entry-level community
college students, and additional support data need to be included in the placement process” (p. 46). Placement tests are the best predictors of academic ability, but other social needs should also be assessed with a complete assessment battery. This theory further defines the organizational role of student services as an integral part of the developmental education programs in community colleges.

Boylan, et al. (1994) suggests that most developmental programs in the United States offer a combination of coursework and support services. The organizational structure of these programs integrates student support functions with academic functions to provide stability and the opportunity for developmental students to experience success in higher education.

Student development professionals should embrace the challenge of acculturating community college transfer students into the university environment. These students should also receive transitional support from their local community college student development staff. By developing proactive measures to address the issues of academic and social integration, student development would further establish itself as a vital player in higher education. Pascarella and Terenzini (1991) indicated that effective orientation and advisement processes at four-year institutions dramatically increase students’ ability to attain a baccalaureate degree. Therefore, student development professionals should become astute at assessing different populations that are entering their institutions and developing formal processes that encourage student engagement with the school. Pascarella and Terenzini base their interpretation on a synthesis of the literature on the college effects for different groups of students. Understanding adult cognitive, social, and human development models provides perspectives in working with diverse groups of students, which has become increasingly
important in higher education as the barriers for access have been dissolved (Delworth, et al., 1980).

Historically, faculty involvement in student development has shifted from consistent involvement to limited contact (Delworth, et al., 1980). According to Pascarella and Terenzini (1991), interactive faculty and student development models during orientation and advisement have positive impacts on degree attainment. Therefore, administrators at four-year universities and community colleges should provide appropriate resources to encourage innovative approaches in increasing social and academic integration for their first-year community college transfer students.

Difficulty in encouraging at-risk students to access services provided by student services has been identified as a primary factor in the inefficiencies of student development practices in higher education (Noel, et al., 1985). This creates a need for institutions to establish practices that will increase student awareness of the services available and also encourages strong communication processes between faculty and student development. According to Noel, et al., students will generally approach faculty members or other students first during times of crisis. This first contact is crucial in the dealing effectively with issues that may impede academic success. If the student development department and services are well established and integrated throughout the institution, individuals will be more likely to seek initial assistance from these strong support units.

Another important issue for student development professionals in four-year institutions concerns the attitudes of the faculty and staff toward community college transfer students. This population of students traditionally experiences low expectations relating to their academic abilities and goals from higher education in general (Dougherty, 1992). This is
primarily due to the open-door nature of the community college and the association with the under-preparedness of the students who arrive there. These poor perceptions are also found at the receiving institutions, decreasing the focus and resources needed for the retention of community college transfer students. Student development can play a key role in changing these perceptions by working more rigorously to understand the transfer function and using that increased awareness to educate other faculty and staff. Increased communication and articulation should be encouraged between the student development professionals at four-year institutions and those working in the community colleges.

An understanding of adult learning theories and the characteristics of first-year community college transfer students within the university are imperatives for effective implementation of support services. Delworth, et al. (1980) discussed the importance of effective professional development opportunities for the student services profession. Membership in formal associations and specialty area training create more effective applications of the processes established to meet the needs of the adult student. Research in student development is relatively limited when compared to other formal functional units within four-year institutions and community colleges. Therefore, student development professionals should engage in systematic research practices to add to the body of knowledge currently available in their field (Shaw, 1989).

**Developmental Education Program Organizational Structure**

Developmental education programs in community colleges usually exhibit organizational characteristics that classify them as decentralized or centralized (Boylan, et al., 1997). The decentralized approach consists of developmental courses organizationally positioned within existing academic departments. This structure was created during the initial stages of the
development of developmental education practices in community colleges (McGrath & Spear, 1987). Proponents of this organizational design suggest that this practice builds integration into non-developmental coursework and creates a seamless transition for students who participate in developmental education at the beginning of their studies. However, the decentralized approach is criticized for lowering the standards of traditional courses to meet the demands of growing under-prepared student populations. Opponents also discuss the lack of sound instructional methods for basic skills improvement.

The centralized approach to developmental education creates a separate organizational unit to work with students. This approach is characterized by having a single administrator who is responsible for the overall operation of the department and faculty members who specialize in this field by subject area. Proponents of the centralized organizational structure emphasize the importance of including student support services as a part of the overall program (Boylan, et al., 1994). However, researchers and administrators have identified some shortcomings associated with this approach. First, the creation of an additional organizational unit is costly to the institution. Hiring and training additional faculty and staff further strains already stretched budgets in the community colleges. Another drawback that has been discussed is the perceived lack of integration into the traditional academic units. Members of a centralized developmental department are perceived as not having an adequate understanding of the collegiate function of the community college. A third concern exists with the overall mission and philosophy of community colleges in the United States. Some opponents of this approach argue that creating comprehensive programs encourages the development of strict policies that may impede the progress of students and discourage them from completing their educational goals (McGrath & Spear, 1987).
In a study by Boylan, et al. (1994), only 47% of the 160 institutions surveyed had adopted the centralized approach to developmental education. They concluded that there seems to be no definite trend to create centralized or decentralized developmental education programs in higher education. It appears that the organization of developmental departments will continue to be debated throughout community colleges across the United States.

Increased emphasis on accountability in developmental education has forced administrators to carefully assess their philosophies on curriculum and reevaluate the mission of their institutions. Cohen and Brawer (1996) discussed Richardson’s three primary organizational models that can be related to the administration of developmental education programs in community colleges. These three models are the bureaucratic, the political, and the collegial. The bureaucratic model is based on a top down structure that focuses on the authority of the administration down to the faculty and students. The political model is characterized by four contingencies consisting of the students, the faculty, the administration, and the trustees. The collegial model is based on group process, the concept of community, the sharing of authority, and decision-making through consensus. All three of these models are currently being practiced in the organizational structures of community colleges across the United States.

Effective developmental education programs require the programs’ establishment within the institution, engagement of students by skilled professionals, and adequate funding (Shaw, 1997). Given these criteria, one must apply the consequences of each of the organizational models mentioned above to determine the appropriateness of the administrative concepts that are associated with each in relation to the operation of developmental education programs in community colleges. The bureaucratic model would adequately meet the criteria of
establishment within the institution if the administration were supportive of the benefits associated with addressing the needs of under-prepared students. Making developmental education an institutional priority would also foster adequate funding based on the institutional mission and goals as determined by the administration. However, the bureaucratic model would not guarantee that the presence and loyalty of skilled professionals would foster student engagement. This could create a disconnection for operating an effective developmental education program within this type of organizational structure.

The political organizational structure model would create a level of engagement for the students in developmental education programs as they supported the needs of each other and developed a sense of belonging. It would also encourage adequate cross-departmental support among the faculty. However, the establishment of developmental education within the institution would be tenuous, depending on the views of the administration and trustees regarding the cost effectiveness of the developmental program offerings. This model possibly would create tension among the contingencies and fail due to a lack of multidimensional support.

The collegial model applied to developmental education programs in community colleges would strongly encourage student engagement and establishment within the institution based on learning centered environments and the students’ needs. Students would hypothetically demand quality of instruction from the faculty, enhancing the overall instructional skills of the employees. However, the financial requirements to support the development of the faculty and maintain small class sizes would stretch the limited resources of publicly supported community colleges.
The analysis of these organizational structure models demonstrates the difficulty that community college educators face in dealing with comprehensive developmental education programs. Each model meets different criteria, but none of the three create an ideal setting for developmental education. Therefore, faculty, staff, and students must work together and thoroughly understand all factors involved in decision-making processes in order to create effective programs that will meet accountability standards and be perceived as valuable commodities in higher education. The complex nature of organizations requires continuous and efficient evaluation of services provided in order to assure that the missions and goals of the institutions are an accurate match for the diverse populations served within them (Merriam & Brockett, 1997).

**Adult Learning Theories and Developmental Education**

The application of adult learning theories to the administration of developmental education provides insight to the functional role of the departments responsible for developmental education in higher education. Primary concepts from the cognitivist and the humanist orientations can be applied to programs of developmental education. One of the major challenges for developmental educators is the enhancement of the students’ ability to learn effectively. These two theories of learning applied to developmental education would promote the goal of enabling students to perform basic skills at a level that would bridge the learning gap and promote future success in traditional college curriculum programs.

The individuals who participate in developmental education programs are characterized by having some level of below standard understanding of a particular concept or concepts (Boylan, et al., 1994). The lack of cognitive development in specific core academic areas is identified through assessment instruments, high school transcripts, and past persistence in
formal education. The focus of learning theory then moves to the developmental education practitioners. The responsibility of program structure and content of learning activities must be developed to encourage a change in the cognitive insights, perceptions, and memory functions of the adult learner.

However, the presence of the learner, the content, the teachers and the program are not enough to guarantee positive changes in students’ cognitive abilities (Cross, 1981). The motivation of the learner must also accompany the cognitive concepts. Houle’s typology of goal-oriented learning provides the best fit for motivation in developmental education programs. Learners realize that their inadequacies in core academic skills will prohibit them from attaining their educational goals. Therefore, this fact should be emphasized in developmental education programs through explanations of the benefits of gaining necessary competencies for future academic success. In essence, the primary function of developmental programs should be to teach learners how to learn.

The humanist orientation also can be applied to the administration of developmental education programs in community colleges. The ability level of developmental adult learners restricts them from maximizing their personal potential in academia, therefore discouraging them from continuing their education. The first step in applying the humanist orientation to developmental education is to assist learners in understanding their basic needs. Maslow’s hierarchy of needs describes the steps necessary for adults to experience self-actualization and maximize their potential (Merriam & Caffarella, 1991). This can be accomplished in developmental education programs through initial testing, advising, and counseling. As the humanist orientation is applied to instruction in these programs, the faculty members’ role
expands from teaching the basic skills associated with a particular academic deficiency to improving a student’s understanding of the cognitive processes necessary for skill mastery.

Once learners understand the concepts of the course content, they can become autonomous and will then be able to maximize their abilities to reach their educational goals. This may involve intensive tutoring on the progression of basic skills outside of the classroom environment where most of the instruction is focused on the applicability of the concepts and the rationality of skill advancement. Boylan et al., (1997), proposed components that have been effective in affecting student performance. These components are the institution of a centralized developmental education department, mandatory placement, tutoring services and tutor training, advising and counseling, and program evaluation.

The application of adult learning theories can assist administrators and practitioners in understanding the concepts necessary for the effective implementation and administration of developmental education programs in community colleges. The use of major concepts found in several theories should provide a foundation for the conceptual framework depending on the characteristics of the students who attend the individual schools. Adult learning and adult education can be integrated to create effective formal educational settings (Cross, 1981).

Program Planning and the Open Door

Program planning of developmental education programs in community colleges is a vital component to assuring college transfer student success at universities. The negative implications of poor programming at the community college level can have a dramatic impact on the academic success rates of universities. As a result of the open door philosophy of community colleges in the United States, nearly 50 percent of the students
accessing higher education are enrolled in community colleges (Griffith & Connor, 1994). This fact, along with the diversity in student characteristics, presents community college educators with the dilemma of providing comprehensive programs in order to meet the educational needs of the communities they serve. The use of systematic programming practices is essential to assure that the socio-economic environment and four-year systems within the United States value the educational results of students who choose to attend these institutions. The programming process in adult education consists of principles organized into five general steps (Cervero & Wilson, 1994). The steps consist of assessing learner needs, defining objectives based on the needs, identifying learning experiences to meet the objectives, organizing the learning experiences, and evaluating the programs based on completion of the objectives.

The open door mission of community colleges reflects the egalitarian ideology of the society in the United States in that those who enroll have the opportunity to be successful (Roueche, Baker, & Roueche, 1987). In order to assure this success, community colleges must use the principles and practices of educational programming across their services. Cervero and Wilson (1994) described three viewpoints in relation to the role of planners in educational programs. These three viewpoints encompass the basic steps of program planning, but disagree on what planners actually do. These three viewpoints are the classical, the naturalist, and the critical. Each of these is supported by different theorists who have developed models based on their views of adults as learners and their personal experiences.

The classical viewpoint stresses that there are specific steps and concepts to planning and that these steps, if followed in a systematic process, can be applied to all educational environments and situations (Cervero & Wilson, 1994). However, critics of this viewpoint
indicate that the application of a set of procedures is impractical in real life scenarios. The community colleges’ open door is not conducive to this idealism. The nature of the student body is extremely diversified and the needs of the community change dramatically overtime. Legislative influences also impact the way community college planners develop programs based on performance standards and other legislative action. There are also external constituents that affect the day-to-day program operations of community colleges, such as accrediting agencies and other social systems. Yet the use of the classical viewpoint may be applicable to larger social systems as suggested with Boone’s (1997) community-based programming model. Community college planners should attempt to understand the structures of the classical viewpoint in order to improve their comprehension of the basic functions of a planning process.

The naturalist viewpoint also embraces the five basic steps to effective program planning, but focuses on making decisions in specific contexts. The theorists who support this idea contend that the individual planners should be allowed to make judgments based on their assessment of the environment in which they are developing programs. The weakness in this viewpoint lies within the inconsistencies of how judgments are made and how effective the judgments turn out to be for the learners (Cervero & Wilson, 1994). Based on the open door nature of community colleges and the number of community colleges in the United States, this viewpoint would be open to constant debate. However, it may be the preferred ideology given the desire for local autonomy of each institution. Applying this viewpoint would maintain the inconsistencies that exist concerning quality of education in the overall community college environment. Some programs would be planned, implemented, and evaluated effectively, while others would suffer based on the quality of judgments by those
given the responsibility of planning. This inconsistency would tend to perpetuate the devaluing of community colleges in the United States.

The critical viewpoint also uses the basic premises of effective planning and allows planners to make judgments based on their specific contexts. However, it expands on the naturalist viewpoint and identifies the negotiation of interests within the political and social environments in which they exist (Cervero & Wilson, 1994). This viewpoint also addresses the impacts of internal and external power within a social environment. Applying this concept in community colleges would be desirable for program planners in these institutions. However, their ability to negotiate power and interests would depend greatly on the status and social position of the individual planner and community college in its community and state.

Cervero and Wilson (1994) suggested that the planners’ ability to understand the basic concepts of planning and to be able to apply those concepts in an environment where they can negotiate power and interests creates the best opportunities for programs to meet the needs of the learners. The process of negotiation allows planners to adequately assess their internal and external environments to determine appropriate positioning of the program within the social context of their target publics. Community college program planners should use this as a conceptual framework for providing programs that meet the needs of their students. If the program is valued and students can be successful, then the general outcomes should be positive.

It is important to discuss the five basic principles of planning as they relate to the open door admissions of community colleges in order to understand the impacts of program planning in this system of higher education. These principles can be used from the bottom
level planners within a community college through the upper level planners at the administrative level. Planning should occur in every function of the community college structure. College planners should focus on community needs rather than standardized processes used year after year.

Assessments of learners needs can be conducted through student, employer, and external constituent surveys. It is important for community college planners to identify the target population comprehensively to determine appropriate assessment tools. Assessments can also consist of conversations and research relating to the specific social context of the community colleges. These assessments should be conducted on a continuous basis in order to address the changing environment of the local community college. Planners should assure that these assessments are measuring relative information to provide a clear picture of what their stakeholders need (Boone, 1997).

Based on the results of assessments, planners should then use the information to define objectives for their programs. The objectives should be clear and attainable based on the overall mission of the community college. They should provide stakeholders with an understanding of the potential outcomes and their impact on those who participate in the program (Cervero & Wilson, 1994). The development of objectives should involve the stakeholders to assure that outcomes are perceived as valuable to the target population.

The third step of the planning process should be to identify learning experiences that will promote the completion of the objectives. Depending on the nature of the program to be planned, community college practitioners should pursue this task with a basic conceptual framework relating to adult learning, programming, historical foundations, organizational concepts, and external expectations within the community and state. Learning experiences
should be designed to engage the various learning styles of the adults that attend community colleges in order to maximize attendance, persistence, and successful goal completion.

The fourth step in planning should be to organize the learning experiences to meet time, location, and environmental preferences of the learners. For community colleges, this process is crucial. According to Griffith and Connor (1994) two thirds of the students who attend community colleges are enrolled part-time and even a larger percentage work while attending. Cohen and Brawer (1996) suggested that most community college students commute to the schools. Planners in community college should consider these issues when they are organizing any type of formal educational activity. Planners should also be considerate of the cultures that make up their target populations in order to avoid conflicts based on program organization. It should be noted that the most well planned and designed programs in the world would be ineffective if no one participated.

The final step in program planning is to evaluate the program in terms of the defined objectives. Evaluation is a complex, continuous process that involves the systematic assessment of program outputs and inputs to determine necessary revisions to make the program more effective (Boone, 1997). Community colleges should increase the use of evaluation as an integral part of their organizational structure. Communities and learners place high expectations on the programs provided by their community colleges. Using the results of evaluation processes can assist planners in determining the next phase of development for their institutions.

The integration of systematic program planning principles in open door community colleges can enhance the value of the institution within the communities they serve. Community colleges should encourage planners to participate in professional development
activities that reinforce the theoretical foundations for effective educational planning. As enrollments continue to grow, the ability of community colleges to provide quality programs such as developmental education on a consistent basis will impact their communities exponentially.

**Conceptual Model for Community College Students and the Transfer Function**

The conceptual model (Figure 1) for this study demonstrates the transfer function of community colleges as it relates to the open-door admission philosophy and the progression of transfer students into the university. This model is based on the findings of Astin (1971), Tinto (1975), and Pace (1979). Students enter community colleges with diverse educational histories and abilities. Their ability levels are measured during the admission process through placement instruments. These instruments provide community college professionals with the information necessary to determine if students need additional basic skills coursework prior to enrollment in traditional college level courses. Approximately 60 percent of the students who enter North Carolina community colleges require some developmental classes. The other 40 percent of students measured may enter directly into transfer courses. Student support services are an integral part of the success of all students. Students that place into developmental education courses are required to successfully complete remedial coursework prior to entering into traditional transfer programs of study. Ideally, this intervention bridges the academic gap for students and results in a homogenous group of transfer students entering into the university setting with similar academic performance and experiences.
Figure 1. Developmental and Non-developmental Community College Transfer Students’ Performance and Experiences at the Community College and University.
Summary

The creation and development of community colleges in the United States has led to innovative academic approaches in meeting the diverse needs of a new genre of adult learners. Access to higher education became possible for all social classes regardless of their age, gender, religion, or ethnic background. This diversity and growth in numbers of adults that pursue higher education created new opportunities for educators to become more focused on student needs, learning styles, and variances in values. Community colleges across the United States were created to enhance the quality of life within the communities they served and to provide an alternative for all people to access higher education.

The students who enter community colleges are reflective of the areas they reside in and bring expectations never before seen in the field of higher education. According to the National Center for Educational Statistics (2002), 58 percent of community college students are women and over the age of 30. This new group of participants in higher education required professionals in the field of higher education to rethink services, academic programs, policies, and instructional methods. The ratio of minority students in community colleges is also higher than minority students traditionally enrolled in four-year colleges and universities. The open-door admission policies of most community colleges have changed the face of higher education across the United States forever.

One of the major goals of students enrolling in community colleges is to transfer to a baccalaureate degree granting institution. This process has been a focus of study for educational researchers since it began with the first junior colleges in the late 1890’s (Brint & Karabel, 1989). Students in transition from community colleges to universities have traditionally shown a drop in academic performance during the first-year of their university
experience. This process of adjustment has been difficult for community college and university practitioners to address prior to and upon transfer to the four-year institution.

This adjustment process varies between students due to the difference in academic ability and social maturity of transfer students. Students who enter community colleges with academic deficiencies are placed into developmental education programs to level their abilities with those community college students without deficiencies. Transfer adjustment for students who may already be behind in their academic abilities is a crucial factor for professionals in higher education. Some researchers have concluded that a community college education lessens a student’s ability to attain a baccalaureate degree, while others believe that community college transfer students perform better than individuals who entered the university first. These contradictory conclusions are a result of the difficulties in studying community college students who vary greatly in their academic backgrounds and abilities.

Researchers must continue to focus on distinct groups within community college transfer students to determine appropriate programs and services for these individuals. Developmental students make up approximately 60 percent of the community college student body in North Carolina. Therefore, comparisons of their long-term academic accomplishments with the accomplishments of non-developmental students are critical. Developmental education students are deficient in one or more core academic area and may have other barriers that prohibit them from learning as quickly and effectively as the non-developmental students. Combining appropriate programmatic intervention programs with student support services must be a priority in order to serve the majority of community college students.
The implementation of developmental education programs varies within community colleges across North Carolina. Some programs are separate from other curricular areas, while others are an integral part of the overall educational program. Financial resources appropriated to these programs have continued to grow as the importance of early intervention has become more prevalent in the community college environment. Developmental program accountability must be a priority for community college practitioners in order to assure its effectiveness and the success of the students who participate in developmental education.

Student services are a key in assisting students to overcome the barriers not associated with academic ability. Under-prepared students are often intimidated by the higher education environment and can easily be discouraged from engaging with the community college if appropriate student support services are not provided. Recognizing the differences within developmental and non-developmental students is the first step in developing practices that truly meet the needs of all students.

The open-door creates challenges and opportunities for community college professionals as they continue to pursue means of assisting adults to reach their educational goals. Community colleges must continue to bridge the gaps that exist in students’ academic abilities in order to adequately prepare them for the future. By using a combination of adult learning theories, effective program planning, and appropriate retention interventions, the community colleges will continue to create access for adults to a better way of life. The attainment of a baccalaureate degree greatly enhances the earning potential of people as they move into the workforce. Through the implementation of appropriate academic and social interventions, higher education will continue to enrich the social and economic well-being of
the United States. Therefore, researchers must continue to study the outcomes of students who choose education as a means of enhancing their quality of life.

The transfer adjustment process is critical in determining transfer student success. Understanding the differences within transfer student groups will assist educational professionals in developing strategies to assist transfer students in attaining their educational goals. The level of effort put forth by the student and the quality of the activities that they engage in at the community college and university provide important information on determining the level of success that transfer students can achieve. Identifying and reducing barriers associated with academic achievement creates greater opportunities for all students involved in higher education to improve their quality of life and enhance the communities where they reside. Creating an environment that engages students at the highest levels is an appropriate goal for all institutions of higher education. Understanding who transfer students are is the first step in determining what institutions should focus on to assist them in achieving their academic potential.
CHAPTER THREE: METHODOLOGY

Introduction

This chapter describes the research design of the study, the groups compared, the instruments applied, the method for data collection, and the statistical techniques used to analyze the data. This study focused on the overarching question: “Does participation in developmental programs in community college level the differences between developmental and non-developmental transfer students?”

To address this overarching question, two research questions were examined to aid in the understanding of the complex factors that impact student success. These questions were categorized based on their relation to academic performance and experiences in community colleges and universities. The first set of variables focused on the populations’ demographic profile. These variables consisted of information on age, race, gender, parents’ household income, parents’ education, and other questions concerning their past academic performance. The second set of variables focused on community college students’ academic performance and abilities. These variables were analyzed based on the responses of the transfer student population after they left the community colleges. The third set of variables focused on community college transfer students’ university academic performance and experiences after their first year at a North Carolina public university. These three sections were then analyzed to determine if a significant difference was evident between students that placed into developmental education at the community college and students that did not place into developmental education courses at the community college.
Research Design

This project used a comparative research methodology to determine differences between the two groups, one with a particular characteristic and one without the characteristic (Gall, Borg, & Gall, 1996). The components of the study consisted of three different parts of description and analysis. The first analysis was based on the demographics of all community college transfer students from the nine community colleges. The researcher accessed student identification within the population of community college transfer students based on developmental and non-developmental enrollment through the use of inform statements. The demographic variables were compared to examine differences between the developmental and non-developmental groups. The second analysis was computed on variables related to the groups’ community college performance and experiences as reported on a survey instrument. The third component consists of an analysis on the university variables of developmental transfer students and non-developmenttransfer students as reported on a survey instrument.

The community college placement tests provided the basis for placing students into one of the two groups to be studied. These instruments are used at all community colleges in North Carolina to determine the level of a student’s preparedness to enter college. The three instruments used for this purpose in the North Carolina Community College System are the Assessing Student Success Entry and Transfer (ASSET) and Computerized Placement Assessment Support Services (COMPASS) developed by ACT, and Computerized Placement Tests (CPT) developed by The College Board. For purposes of this study, community colleges that use different placement instruments were used under the assumption that regardless of which instrument is used for placement, student placement in developmental
education is similar across community colleges. However, one of the key criteria in selecting
the community college for participation in this study was their policy on mandatory
placement and cut-off scores. Some community colleges in North Carolina do not require
students to take developmental courses even if their placement test scores recommend that
they participate, while other community colleges require all students who place into
developmental courses to take them as prescribed. This study used those community
colleges that use the latter process.

Population

For the purposes of this study, a population was used in order to attain an adequate
response rate. The population consisted of students who were enrolled in one of the nine rural
community colleges in North Carolina selected for the study and who earned an Associate in
Arts (AA), Associate in Science (AS), or an Associate in Fine Arts (AFA) degree and
subsequently transferred to one of the 16 public universities in North Carolina. The nine
community colleges selected for the study were Caldwell Community College & Technical
Institute, Asheville-Buncombe Technical Community College, Western Piedmont
Community College, Catawba Valley Community College, Surry Community College,
Stanly Community College, Mitchell Community College, Mayland Community College,
and Haywood Community College. These colleges were chosen based on their common
geographical area and their mandatory placement policies and procedures. The access of
educational student records were obtained through the use of inform statements from the
participating community colleges and through student directory information access from the
University of North Carolina Office of the President.
One group consisted of community college transfer students who took developmental education courses at the community college prior to transferring. The subjects of this group were then compared to those community college transfer students that did not take developmental education courses at the nine community colleges prior to transfer. According to student records obtained from the nine rural community colleges in North Carolina that participated in this study, 715 students had completed an A.A., A.S., or A.F.A. and graduated during the Spring of 2001. Student information on the 715 students was then submitted to the University of North Carolina Office of the President (UNC-OP) to determine whether they actually transferred to one of the 16 public universities in North Carolina or not. According to the administrative records of the UNC-OP, of the 715 students submitted, 235 had transferred to one of the 16 public universities in North Carolina and were currently enrolled. Forty-four percent (104) of the community college transfer students had taken developmental courses at the community college prior to transfer. Fifty-six percent (131) of the students had not taken developmental courses prior to transfer to one of the 16 public universities in North Carolina.

Instrumentation

The CPT, ASSET, and COMPASS provide community college educators with a numerical scaled score that can be applied to a normative table for student placement (The College Entrance Examination Board, 1994). All students who enroll in transfer related programs in the North Carolina Community College System are required to take a placement test prior to enrollment. The primary function of these instruments is to determine appropriate course placements and to determine whether developmental studies are needed. Assessments in reading comprehension, English, and mathematics are performed through the use of
placement tests. The tests provide normative, scaled scores for the students’ abilities in each area.

The College Board and ACT provide information on particular scores to assist community colleges in the development of a standardized placement score level. Each community college has the ability to set cut-off scores based on the recommendations of the test providers that provide the basis for placement.

Data for this study were collected using the North Carolina- Transfer Student Questionnaire (NC-TSQ) (Appendix A) adapted from the UCLA- Transfer Student Questionnaire (UCLA-TSQ) developed by Frankie Santos Laanan in 1998. The instrument was selected and adapted based on an extensive review of the literature and past survey instruments for transfer students (Astin, 1993; Baker & Siryk, 1984, 1986; Laanan 1995, 1998; Pace, 1979, 1980, 1984, 1990, 1992). Based on the theoretical ideas of the Pace Quality of Effort Scales (1984, 1990, 1992), the items selected for inclusion in this survey reflect questions included in the College Student Experiences Questionnaire (CSEQ) developed by Robert C. Pace in 1979. Laanan (1998) adapted the CSEQ to study the academic and social integration of transfer students at the University of California- Los Angeles (UCLA). The instrument for this study was adapted from Laanan’s instrument with only minor changes in wording such as substituting “the university” for “UCLA” and by eliminating items that are not associated with all North Carolina universities such as, the “Transfer Center.”

McMillan (1996) indicated that students’ level of motivation is directly associated with their preferences and perceptions in higher education. Therefore, the use of an instrument designed to examine students’ experiences, academic performance, and perceptions is
appropriate for the purposes of this study. The Community College Student Experiences Questionnaire (CCSEQ) uses a “set of scales to measure the quality of effort students put into using facilities and opportunities for learning and development that college provides” (Pace, 1992, p. 1).

The basic concepts of the methodology of this study were closely related to those used by Laanan (1998) in his study of UCLA transfer students and their participation in the university’s Transfer Assistance Program (TAP). However, this does not imply that this was a replication of Laanan’s work. The constructs were similar, but the purposes of the programs were different. Therefore, making minor adjustments to the survey instrument developed by Laanan and using the instrument to study North Carolina community college transfer students that participated in developmental education programs as compared to those transfer students that did not participate in developmental education is justified.

Validity and Reliability of the Instrument

The psychometric properties of the NC-TSQ are based on the historical use of the instruments from which it was adapted. Laanan (1998) conducted extensive validity and reliability tests on the instrument after he made changes and adapted Pace’s (1974) CSEQ to meet the criteria needed to study UCLA transfer students. The researcher conducted phone and e-mail conversations with Laanan to confirm that the minor changes made to create the NC-TSQ did not affect the validity or reliability of the instrument. The complete psychometric properties of the UCLA-TSQ can be found in Laanan (1998).
The North Carolina- Transfer Students’ Questionnaire (NC-TSQ)

The NC-TSQ is divided into three sections: 1) demographics; 2) community college experiences; and 3) university experiences. The following information describes these three sections.

*Demographics:* Factors such as racial or ethnic identification, gender, employment status, residence, parents’ educational level, and parents’ household income were included to allow for comparisons of developmental and non-developmental transfer students as a method to determine if these factors affected academic performance and experiences for the two groups. This information was also useful in determining if there are differences between the two groups in their academic performance and experiences.

*Community College Experiences:* This section examined self reported experiences and participation in activities at the community colleges. Areas such as grade point average, class preparation, time spent on campus, academic counseling, and writing experiences were all used to establish the impact of the community college experiences on experiences of the students at the university.

*University Experiences:* A record of experiences was collected to evaluate the perceptions and performance of transfer students during their first year at the university. Information such as grade point average, course learning experiences, transfer stigma, interaction with faculty, academic preparation, academic counseling, and residency was evaluated to establish the complete academic performance and social experiences of the students after they had transferred to the university setting.

These sections, along with the group profile, provide a sound investigation into the academic performance and experiences of community college developmental and non-
developmental transfer students. The information gathered should also provide a strong foundation for future research into the transfer function and developmental education.

Data Collection

During the Fall of 2002, permission was obtained from the nine participating community colleges to access student records. Appropriate processes were observed in obtaining this access by the researcher. During the Spring semester of 2003, the UNC-OP provided the researcher with transfer information on the students provided from the nine community colleges that participated in the study.

235 participants were mailed a letter of explanation (Appendix B), the NC-TSQ instrument, and a return envelope for ease of completion and return. Students were given two weeks from the date of the mailing to return the completed instrument. Forty-seven percent (n=111) of the community college transfer students returned the completed instruments. Forty-three percent (n=48) of the respondents had taken developmental courses at the community college prior to transfer and 57 percent (n=63) of the respondents had not taken developmental courses at the community college prior to transfer.

Data Analysis

The first analysis for this study was the presentation of the differences in demographics between the two groups of all developmental and non-developmental students who have transferred from one of the nine community colleges included in the study to one of the universities in the UNC System. Chi-Square and Univariate Analysis of Variance (ANOVA) analyses were used on the demographic variables of the NC-TSQ to establish a profile of the developmental and non-developmental transfer students based on the responses of the participants.
Laanan (1998) conducted a factor analysis on sets of variables to establish a smaller number of variables on the UCLA-TSQ by combining variables that are moderately or highly correlated with each other. However, for purposes of this study, it was determined by the researcher that a factor analysis to identify variables that had higher levels of influence was not warranted. This conclusion was based on preliminary factor analyses by the researcher that indicated only minor variance between the variables in their levels of influence. After discussion with the statistical advisor for this project, the researcher made an early commitment to treat the variables consistently throughout the instrument. Therefore, all variables were analyzed individually and considered to contribute the same level of influence to determine differences between community college transfer students that had taken developmental courses at the community college and community college transfer students that had not taken developmental courses at the community college prior to transfer. The variables were divided into three groups for analysis; demographic variables, community college variables, and university variables.

**Demographic Variables**

Table 2. Description of the Demographic Variables from the NC-TSQ

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Year students transferred to the university.</td>
<td>TRANSYR</td>
</tr>
<tr>
<td>2. Students high school average grade.</td>
<td>HSAVGGRD</td>
</tr>
<tr>
<td>3. Current age.</td>
<td>AGE</td>
</tr>
<tr>
<td>4. Gender.</td>
<td>GENDER</td>
</tr>
<tr>
<td>5. Race</td>
<td>RACE</td>
</tr>
<tr>
<td>6. Highest level of education attained by the mothers.</td>
<td>MOMED</td>
</tr>
<tr>
<td>7. Highest level of education attained by the fathers.</td>
<td>POPED</td>
</tr>
<tr>
<td>8. Highest academic degree students plan to complete.</td>
<td>HIDEGREE</td>
</tr>
<tr>
<td>9. Parents’ household income.</td>
<td>PARINC</td>
</tr>
<tr>
<td>10. Self rating of students’ traits.</td>
<td>SELF</td>
</tr>
</tbody>
</table>
The analysis conducted on the demographic variables will be described in detail in Chapter Four of this study. Chi-Square analysis was computed on nominal data and ANOVA was computed on synthesized interval scales.

*Year students transferred to the university (TRANSYR)*

For purposes of this study, it was important to determine the semester and year that community college students transferred to the university. Differences in time of entry provided a basis for determining whether developmental or non-developmental students took time off prior to transfer, took longer to complete their course of study at the community college, were early leavers, or had been at the university for more than one year. The NC- TSQ provided two options for participants to consider; *Fall 2001* or *Spring 2002.*

*Students’ high school average grade (HSAVGGRD)*

The participants were then asked to provide information on their high school grade average to determine their level of success prior to attending a community college. Students were not asked to share their high school g.p.a. since methods of computation of the high school g.p.a. varies from system to system within North Carolina. Participants were asked to select from eight possible choices that represented their average grade in their high school experience. These choices were: *A or A+, A-, B+, B, B-, C+, C, or D.*

*Current age (AGE)*

Participants in the study were asked to provide their current age. This variable is relevant to determine if the transfer students’ average age is similar to that of the traditional university students. Traditionally, community college attendees are older than university attendees at the same point in their academic progress. Analyzing these data will provide the researcher with a profile of the participants in relation to their current age.
Gender (GENDER)

The gender variable demonstrates another demographic characteristic of the community college transfer student. The majority of community college students are female. Differences in academic performance and social adjustment between males and females were determined for the purposes of this study.

Race (RACE)

Ethnic profiles of the participants from the nine rural community colleges in western North Carolina were examined to demonstrate the ethnic make-up of the community college transfer students that enrolled in one of the 16 public universities in North Carolina.

Highest level of education attained by mothers (MOMED) and by fathers (POPED)

The education levels of the mothers of the students were examined based on the choices: elementary school or less, some high school, high school graduate, some college, associate’s degree from two-year, bachelor’s degree, some graduate school, or graduate degree.

The instrument also asked the participants to provide their fathers’ highest level of education attainment based on the same choices that were provided for the mothers’ levels of education attainment.

Highest academic degree students plan to complete (HIDEGREE)

The participants were asked to indicate the highest level of education that they planned to complete. Choices for this variable included: Bachelor’s degree (BA or BS), Master’s (MA or MS), Ph.D. or Ed. D, (MD, DDS, DO, or DVM), LLB or JD (Law), or other.

Parent’s household income (PARINC)

Participants were asked to estimate their parent’s total annual household income. The choices for this variable were: Less than $14,999, $15,000-$19,999, $20,000-$24,999,
$25,000-$29,999, $30,000-$34,999, $35,000-$39,999, $40,000-$49,999, $50,000-$59,999, 
$60,000-$74,999, $75,000-$99,999, and $100,000+.

**Self rating of students’ traits (SELF)**

The NC-TSQ asked the participants to rate themselves on 13 personal traits. These traits included: academic ability, artistic ability, competitiveness, cooperativeness, creativity, drive to achieve, leadership ability, mathematical ability, public speaking ability, self-confidence (intellectual), self-confidence (social), understanding of others, and writing ability. In preliminary factor analyses, there was little difference in the importance of each variable in relation to developmental and non-developmental groups.

These data provided a profile of the participants. Information was presented using Chi-Square or ANOVA for each variable as described in Chapter Four of this study.

**Community College Variables**

Variables that were related directly to community college experiences and academic performance were categorized to demonstrate differences at the community college between transfer students that took developmental courses and transfer students that did not take developmental courses at the community college. Chi-Square analysis was computed on nominal data and ANOVA was computed on synthesized interval scales. Table 3 provides a description of the community college variables that were collected using the NC-TSQ for the purposes of this study.
Table 3. Description of the Community College Variables from the NC-TSQ

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Weekly hours on the community college campus.</td>
<td>CCHRSCAM</td>
</tr>
<tr>
<td>2. Weekly hours studying attending community college.</td>
<td>CCHRSTD</td>
</tr>
<tr>
<td>3. Weekly hours working attending community college.</td>
<td>CCWRKHRS</td>
</tr>
<tr>
<td>4. Community college g.p.a.</td>
<td>CCGPA</td>
</tr>
<tr>
<td>5. Weekly hours in activities at the community college.</td>
<td>CCACTIV</td>
</tr>
<tr>
<td>6. Perceptions on coursework at the community college.</td>
<td>CCCOURSE</td>
</tr>
<tr>
<td>7. Experiences with academic counseling services at the community college.</td>
<td>CCACOUNS</td>
</tr>
<tr>
<td>8. Experiences related to the transfer process at the community college.</td>
<td>TRANSFER</td>
</tr>
<tr>
<td>9. Experiences with course learning at the community college.</td>
<td>CCLEARN</td>
</tr>
<tr>
<td>10. Experiences with faculty at the community college.</td>
<td>CCEXFAC</td>
</tr>
<tr>
<td>11. Experiences with clubs and organizations at the community college.</td>
<td>CCCLUBS</td>
</tr>
<tr>
<td>12. Experiences in writing at the community college.</td>
<td>CCWRITE</td>
</tr>
</tbody>
</table>

Weekly hours on the community college campus (CCHRSCAM)

This variable represents the amount of time per week that the participants spent on the campus of a community college outside of class. The participants were given the following choices: *none, 1 to 3 hours, 4 to 6 hours, 7 to 9 hours, 10 to 12 hours, and more than 12 hours.*

Weekly hours studying while attending community college (CCHRSTD)

Students were asked to estimate how many hours a week that they usually spent studying, not including time in class while enrolled at the community college. Participants were given the following choices: *1 to 5 hours, 6 to 10 hours, 11 to 15 hours, 16 to 20 hours, and more than 20 hours.*

Weekly hours working while attending community college (CCWRKHRS)

This variable represented the number of hours a week that the students spent working on a job for pay while attending the community college. The following choices were presented:
none (I didn’t have a job), 1 to 10 hours, 11 to 15 hours, 16 to 20 hours, 21 to 30 hours, and more than 30 hours.

Community college g.p.a. (CCGPA)

Participants were asked to report their final community college g.p.a. This variable was based on the students’ self report. Official g.p.a.’s were not accessed by the researcher due to privacy requirements.

Weekly hours in activities at the community college (CCACTIV)

This variable asked the participants to describe the amount of time spent doing various activities during their last year attending the community college. The choices on time included none, less than 1 hour, 1 to 2 hours, 3 to 5 hours, 6 to 10 hours, 11 to 15 hours, 16 to 20 hours, and over 20 hours. The list of activities was summed to provide a single score for analysis on each student. The activities included in this variable were: socializing with friends, talking with teachers outside of class, exercise or sports, partying, volunteer work (or community service), student clubs/groups, watching TV, housework/childcare, reading for pleasure, doing independent research, and commuting.

Perceptions on coursework at the community college (CCCOURSE)

Ten aspects of course learning experiences at the community college were identified. The responses on the NC-TSQ were summed to create one score for each student. Participants were asked to identify their agreement with the aspects on a Likert type scale based on the choices of 1 representing disagree strongly to 4 representing strongly agree. Experiences such as: critical thinking, intensive writing, working with faculty, intellectual challenge, preparation for the academic standards of the university, preparation for the major field of
study, rigor of the course requirements, requirement of extensive reading and writing, experience with academic tutoring, and group studying were included for consideration.

Experiences with academic counseling services at the community college (CCACOUNS)

Students’ experiences with academic counseling services at the community college were examined using eight statements. Agreement with the statements ranged in choice on a Likert type scale from 1 representing disagree strongly to 4 representing strongly agree. The eight responses were summed to create a single score for each student. The eight statements included information on the following: consultation regarding transfer, helpfulness of the information received, information received on the right courses to complete the transfer articulation agreement, frequency of meeting with academic counselors, conversations relating to requirements and educational plans, reading information on the chosen university, making appointments with a counselor to discuss transfer, and identification of courses needed to meet the major requirements of the university.

Experiences related to the transfer process at the community college (TRANSFER)

This variable pertained to the perceptions of the respondents relating to the transfer process while they were enrolled at the community college. Eleven statements representing the students’ perceptions concerning the transfer process were presented. Participants were given choices on a Likert type scale of 1 representing disagree strongly to 4 representing strongly agree. The scores were summed for each student on the statements to create one score. The information included for consideration in this variable included: research conducted on the university concerning the environment and academic experience, academic expectations at the university, visitation of the campus of the university, sitting in on lectures within the students projected major at the university, conversations with academic
counselors at the university regarding transfer, level of confidence about the challenges of the university, feelings of insecurity about making new friends at the university, anxiety relating to the thousands of students attending the university, levels of comfort about being in large lecture classes, visitations with the admissions office at the university, and conversations with other community college transfers to gain their insight on the adjustment experience.

Experiences with course learning at the community college (CCLEARN)

This variable consisted of nine statements related to the respondents’ course learning experiences while enrolled at the community college. The students were given choices based on a Likert type scale of 1 representing disagree strongly to 4 representing strongly agree. These responses were summed on the nine items to produce a single score for each student. The items contained within this variable included: information relating to taking detailed notes in class, participating in class discussions, establishing how facts and ideas fit together, thinking about practical applications of the material, integrating ideas from various sources, summarizing major points in readings and notes, explaining course material to another student or friend, making outlines from notes or readings, and doing additional readings on topics discussed in class.

Experiences with faculty at the community college (CCEXFAC)

This variable asked about the frequency that the students engaged in 12 activities related to experiences with faculty while attending the community college. The students were asked to make a choice on a Likert type scale consisting of 1 representing never to 4 representing very often on the 12 statements. The responses were summed on the 12 statements to create one score for each student. The statements consisted of information such as; visiting and
seeking advice from faculty on assignments, feeling comfortable approaching faculty outside of class, talking with a faculty member, asking faculty for information on assignments, visiting informally with a faculty member, making an appointment to meet with a faculty member in his/her office, discussing ideas for a term paper or other project with a faculty member, discussing career plans and ambitions with a faculty member, asking for comments or criticism on work, having coffee or snacks with a faculty member, working directly with a faculty member on a research project, and discussing personal problem and concerns with a faculty member.

Experiences with clubs and organizations at the community college (CCCLUBS)

This variable examined the students’ involvement in clubs and organizations while attending a community college. Ten statements were provided on the frequency of involvement in clubs and organizations. Respondents were given a choice on a Likert type scale consisting of 1 representing *never* to 4 representing *very often*. The responses were summed to create one score on the students’ involvement in clubs and organizations for each participant. The context of the variable consisted of statements such as; holding an office in a club or organization, looking in student newspapers for campus events and student organizations, attending a program or event sponsored by a student group, reading or asking about clubs or organizations, attending meetings of clubs and organizations, voting in a student election, discussing policies and issues relating to campus activities or student government, working in a student organization on projects, discussing reasons for success or lack of for student organizations or events, and discussing activities or student organizations with a faculty advisor or administrator.
Experiences in writing at the community college (CCWRITE)

This variable addressed the students’ experience in writing while enrolled at the community college. Nine activities were presented to the participants and a Likert type scale was used with 1 representing never to 4 representing very often in relation to the writing experiences of the respondents. The responses were then summed to create one score for each student relating to their writing experiences at the community college. The activities included for this variable were: using a dictionary or thesaurus to look up meaning of words, thinking about grammar and sentence structure while writing, writing a rough draft of a paper, spending at least five hours writing a paper, asking others to read something the students had written, referring to a book or manual concerning writing style, revising a paper two or more times, asking faculty member for advice or help to improve writing, and making appointment with faculty member that had criticized a work the student had presented.

University Variables

Variables that were directly related to the university experience and performance on the NC-TSQ were categorized to determine differences between community college transfer students that took developmental courses and community college transfer students that did not take developmental courses prior to transfer to the university. Chi-Square analysis was computed on nominal data and ANOVA was computed on synthesized interval scales. Table 4 provides a description of the variables associated with the university in the NC-TSQ.
Table 4. Description of the University Variables from the NC-TSQ

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Weekly hours working while at the university.</td>
<td>UNWRKHRS</td>
</tr>
<tr>
<td>2. Place of residence while attending the university.</td>
<td>UNRESIDE</td>
</tr>
<tr>
<td>3. Expected graduation date from the university.</td>
<td>UNGRADDT</td>
</tr>
<tr>
<td>4. Description of the students’ major field of study at the university.</td>
<td>UNFDSTUD</td>
</tr>
<tr>
<td>5. Reason that the students attended their university.</td>
<td>UNREAS</td>
</tr>
<tr>
<td>6. Students’ current g.p.a. at the university.</td>
<td>UNGPA</td>
</tr>
<tr>
<td>7. Reasons that influenced the students to attend the university.</td>
<td>INFLUENC</td>
</tr>
<tr>
<td>8. Participation in a summer transfer orientation.</td>
<td>STO</td>
</tr>
<tr>
<td>9. Experiences with faculty at the university.</td>
<td>UNEXFAC</td>
</tr>
<tr>
<td>10. Experiences with clubs and organizations at the university.</td>
<td>UNCLUBS</td>
</tr>
<tr>
<td>11. Experiences in learning at the university.</td>
<td>UNLEARN</td>
</tr>
<tr>
<td>12. Involvement in various activities at the university.</td>
<td>INVOLVE</td>
</tr>
<tr>
<td>13. Experiences with academic counseling services at the university.</td>
<td>UNACOUNS</td>
</tr>
<tr>
<td>14. Perceptions about the university.</td>
<td>PERCEPT</td>
</tr>
<tr>
<td>15. Experiences with adjustment to the university.</td>
<td>ADJUST</td>
</tr>
<tr>
<td>16. Level of satisfaction about the university.</td>
<td>SATISFAC</td>
</tr>
<tr>
<td>17. Participation in various activities at the university.</td>
<td>UNACTIV</td>
</tr>
<tr>
<td>18. Chances that various things will happen to the students while they are attending the university.</td>
<td>CHANCES</td>
</tr>
</tbody>
</table>

**Weekly hours working while attending the university (UNWRKHRS)**

This variable presented the hours per week that the students spent working at a job for pay while attending the university. Six responses were available for selection. These responses consisted of: none (I didn’t have a job), 1 to 10 hours, 11 to 15 hours, 16 to 20 hours, 21 to 30 hours, and more than 30 hours.

**Place of residence while attending the university (UNRESIDE)**

Students were asked to identify their place of residence while attending the university. Choices consisted of: residence hall or other university housing, fraternity or sorority house,
private apartment within walking distance from campus, house or apartment away from campus, and with parents or relatives.

Expected graduation date from the university (UNGRADDT)

Participants were asked to project their expected graduation semester from the university. Choices included: Spring 2003, Summer 2003, Fall 2003, Spring 2004, and after Spring 2004.

Description of the students’ major field of study at the university (UNFDSTUD)

This variable asked the students to identify their major field of study at the university. Eleven choices were presented as follows: Arts, Biological Sciences, Computer Science, Engineering, Humanities, Physical Sciences, Social Sciences, Foreign Language, Area Studies, Interdepartmental Majors, and Other (write in).

Reason that the students attended their university (UNREAS)

Students were asked to identify the most important reason that they attended their university. Reasons included: to obtain a bachelor’s degree, to gain skills necessary for a job, to pursue graduate or professional school, and to satisfy personal interest.

Students’ current g.p.a. at the university (UNGPA)

Participants were asked to report their current university g.p.a. This variable was based on the students’ self report. Official g.p.a.’s were not accessed by the researcher due to privacy requirements.

Reasons that influenced the students to attend the university (INFLUENC)

This variable addressed reasons that may have influenced the students to attend their university of choice. The respondents were given a Likert type scale consisting of choices from 1 representing not important to 4 representing very important. The choices of the
students were summed to create a single score for each participant on the variable. Items of influence included: teacher advisement, academic reputation of the university, social activity reputation of the university, financial assistance, low tuition, academic counselor advisement, location, suggestion from friend, recruitment to the university, admission to top graduate and professional schools, graduates in good jobs, ranking in national magazines, recommendation of parents, and attendance of brother or sister.

Participation in summer transfer orientation (STO)

Students were asked if they attended a summer transfer orientation program at the university. Responses consisted of yes or no.

Experiences with faculty at the university (UNEXFAC)

This variable asked about the frequency that the students engaged in 12 activities related to experiences with faculty while attending the university. The students were asked to make a choice on a Likert type scale consisting of 1 representing never to 4 representing very often on the 12 statements. The responses were summed on the 12 statements to create one score for each student. The statements consisted of information such as; visiting and seeking advice from faculty on assignments, feeling comfortable approaching faculty outside of class, talking with a faculty member, asking faculty for information on assignments, visiting informally with a faculty member, making an appointment to meet with a faculty member in his/her office, discussing ideas for a term paper or other project with a faculty member, discussing career plans and ambitions with a faculty member, asking for comments or criticism on work, having coffee or snacks with a faculty member, working directly with a faculty member on a research project, and discussing personal problem and concerns with a faculty member.
Experiences with clubs and organizations at the university (UNCLUBS)

This variable examined the students’ involvement in clubs and organizations while attending the university. Ten statements were provided on the frequency of involvement in clubs and organizations. Respondents were given a choice on a Likert type scale consisting of 1 representing never to 4 representing very often. The responses were summed to create one score on the students’ involvement in clubs and organizations for each participant. The context of the variable consisted of statements such as; holding an office in a club or organization, looking in student newspapers for campus events and student organizations, attending a program or event sponsored by a student group, reading or asking about clubs or organizations, attending meetings of clubs and organizations, voting in a student election, discussing policies and issues relating to campus activities or student government, working in a student organization on projects, discussing reasons for success or lack of for student organizations or events, and discussing activities or student organizations with a faculty advisor or administrator.

Experiences in learning at the university (UNLEARN)

This variable consisted of nine statements related to the frequency of specific activities in course learning experiences while enrolled at the university. The students were given choices based on a Likert type scale of 1 representing never to 4 representing very often. These responses were summed on the nine items to produce a single score for each student. The items contained within this variable included: taking detailed notes in class, participating in class discussions, establishing how facts and ideas fit together, thinking about practical applications of the material, integrating ideas from various sources, summarizing major points in readings and notes, explaining course material to another
student or friend, making outlines from notes or readings, and doing additional readings on topics discussed in class.

Involvement in various activities at the university (INVOLVE)

This variable examined the level of involvement in various activities while attending the university. Choices of response were presented in a Likert type scale with 1 representing never to 4 representing very often. The responses on the items were summed for each student creating a single score. Twelve activities were presented and included: attending academic workshops, using student psychological services, using placement and career planning services, using tutorial services, purchasing lecture notes or study guides for class, using writing program services, visiting a museum on campus, attending an event sponsored by a student cultural organization, attending an athletic event, participating in intramural sports, participating in recreational classes, and participating in an internship.

Experiences with academic counseling services at the university (UNACOUNS)

This variable asked about the frequency that the students used the academic counseling services as described by three activities while attending the university. A Likert type scale with 1 representing never to 4 representing very often was used to determine the level of interaction for the students with academic counseling services at the university. The three statements for response included: meeting with academic counselors on a regular basis, talking with a counselor from my major department, and using services offered by culturally-based retention programs.

Perceptions about the university (PERCEPT)

This variable was presented to examine the students’ general perceptions about the adjustment process and overall satisfaction with their universities. A Likert type scale was
used with 1 representing disagree strongly to 4 representing agree strongly. The responses to eighteen statements were then summed to create a single score for each participant. The eighteen statements that were presented for student perceptions included: information on approachability of university faculty, accessibility of faculty, level of interest in students as compared to faculty research, level of assistance from the teacher assistant versus faculty, underestimation of academic abilities by other students as the result of being a community college transfer, stigma concerning community college transfers, university students interest in getting a good grade rather than learning the material, competitiveness among students, fitting into the university, interest of faculty in the academic development of undergraduates, being treated like a number instead of a person, responsiveness of student services, initiative of the students, interest in courses, intellectual stimulation at the university, recommending the university to other transfers, and selecting this university again if starting over.

Experiences with adjustment at the university (ADJUST)

Students were asked to describe their adjustment process at the university by responding to fourteen statements. A Likert type scale was used with 1 representing disagree strongly to 4 representing agree strongly. The choices of the students were summed to represent a single score for each participant. The fourteen statement included in the variable consisted of: information related to adjusting to academic standards and expectations, adjusting to the social environment, feeling overwhelmed by the size of the student body, feeling alienated at the university, being involved in social activities, meeting as many friends as preferred at the university, intimidating class sizes, finding their way around campus, increasing level of stress since transferring to the university, experiencing a dip in grades after transfer, making friends easily, feeling most comfortable spending time with a friend made at the community
college, feeling most comfortable making friends with transfers rather than non-transfers, and experiencing a sense of competition between students that is not found at the community college.

Level of satisfaction about the university (SATISFAC)

This variable describes the satisfaction with 19 experiences at the university. A Likert type scale with 1 representing dissatisfied to 4 representing very satisfied was presented to determine level of satisfaction with the nineteen experiences. The choices were summed for each student created a single satisfaction score. The 19 items consisted of: satisfaction level with sense of belonging at the university, decision to transfer, overall quality of instruction, sense of community on campus, academic advising, career counseling and advising, student housing, courses in their major field of study, financial aid services, amount of contact with faculty, opportunities for community service, job placement services, health services, class size, interaction with other students, ethnic diversity of the faculty, leadership opportunities, recreational facilities, and overall college experience.

Participation in various activities at the university (UNACTIV)

This variable asked the participants to describe the amount of time spent doing various activities during their last year attending the university. The choices on time included: none, less than 1 hour, 1 to 2 hours, 3 to 5 hours, 6 to 10 hours, 11 to 15 hours, 16 to 20 hours, and over 20 hours. The list of activities was summed to provide a single score for analysis on each student. The activities included in this variable were: socializing with friends, studying, talking with teachers outside of class, exercise or sports, partying, volunteer work (or community service), student clubs/groups, watching TV, housework/childcare, reading for pleasure, doing independent research, and commuting.
Chances that various things will happen to students while attending the university

(CHANCES)

This variable examined the chance that various things could happen to the students while attending the university. The 13 items within this variable were presented with a Likert type scale with 1 representing no chance to 4 representing very good chance. The choices of the participants were summed to create a single score for each student. The 13 items consisted of: failing one or more classes, graduating with honors, being elected to student office, working full-time while attending college, being elected to an academic honor society, making at least a “B” average, being satisfied with their universities, participating in volunteer or community service, participating in demonstrations or protests, pursuing graduate school, participating in an ethnic student organization, attending an ethnic awareness workshop, and needing more than two years to complete their degrees.

Statistical Methods

The Statistical Package for Social Sciences (SPSS) software was used to produce the statistical analyses for this study. Chi-Square analysis was computed on nominal data and ANOVA was computed on synthesized interval scales. A profile was developed for the developmental and non-developmental groups within the community college transfer students.

The initial intention of the researcher was to conduct a factor analysis on the variables to determine the differences in the level of impact for each variable on specific dimensions of the study. However, during the process of factor analysis it was determined that the differences in the level of impact were minimal between the variables within many of the
dimensions. Therefore, the researcher committed to treating all variables individually in order to provide consistency throughout the data analyses.

For purposes of this study, variables were evaluated to determine if multiple responses could be treated as individual variables. It was determined that variables consisting of multiple questions could be treated as independent variables and reported as a summed score. Demographic variables for developmental and non-developmental community college transfer students were evaluated based on the frequency of responses to the content questions within the individual variables. These variables were discussed to develop a profile of the developmental and non-developmental community college transfer students. Other variables within the study consisted of one response to a question and therefore remained independent from the summed score variables.

Chi-Square and ANOVA analyses were used to demonstrate differences between community college transfer students that took developmental courses and community college transfer students that did not take developmental courses at the community college. The analyses were then used to address the two research questions that were considered to explore the leveling effects of developmental education on community college transfer students.

Hypotheses

Hypotheses were developed and presented in the null. The following null hypotheses for each of the two research questions were tested. Using a Bonferroni adjustment, the p<.0042 (Chi-Square) and p<.0018 (ANOVA) levels of significance were set for analyses of the results.
**Research Question One.** Are there differences in relation to community college performance and experiences between developmental transfer students and non-developmental transfer students?

Null Hypotheses:

$H_{1a}$ There is no significant difference between developmental and non-developmental community college transfer students’ weekly hours spent on the community college campus (CCHRSCAM).

$H_{1b}$ There is no significant difference between developmental and non-developmental community college transfer students’ weekly hours spent studying while attending the community college (CCHRSSTD).

$H_{1c}$ There is no significant difference between developmental and non-developmental community college transfer students’ weekly hours spent working while attending the community college (CCWRKHRS).

$H_{1d}$ There is no significant difference between developmental and non-developmental community college transfer students’ community college g.p.a. (CCGPA).

$H_{1e}$ There is no significant difference between developmental and non-developmental community college transfer students’ weekly hours spent in activities at the community college (CCACTIV).

$H_{1f}$ There is no significant difference between developmental and non-developmental community college transfer students’ perceptions on coursework at the community college (CCCOURSE).

$H_{1g}$ There is no significant difference between developmental and non-developmental community college transfer students’ experiences with academic counseling services at the community college (CCACOUNS).

$H_{1h}$ There is no significant difference between developmental and non-developmental...
community college transfer students’ experiences with the transfer process at the community college (TRANSFER).

H₁: There is no significant difference between developmental and non-developmental community college transfer students’ experiences in course learning at the community college (CCLEARN).

H₁j: There is no significant difference between developmental and non-developmental community college transfer students’ experiences with faculty at the community college (CCEXFAC).

H₁k: There is no significant difference between developmental and non-developmental community college transfer students’ experiences with clubs and organizations at the community college (CCLUBS).

H₁l: There is no significant difference between developmental and non-developmental community college transfer students’ experiences in writing at the community college (CCWRITE).

Research Question Two. Are there differences in relation to university academic performance and experiences between developmental transfer students and non-developmental transfer students?

Null Hypotheses:

H₂a: There is no significant difference between developmental and non-developmental community college transfer students’ weekly hours spent working at the university (UNWRKHRS).

H₂b: There is no significant difference between developmental and non-developmental community college transfer students’ place of residence while at the university (UNRESIDE).

H₂c: There is no significant difference between developmental and non-developmental
community college transfer students’ expected graduation date from the university (UNGRADDT).

H$_{3d}$ There is no significant difference between developmental and non-developmental community college transfer students’ descriptions of their major field of study (UNFDSTUD).

H$_{3e}$ There is no significant difference between developmental and non-developmental community college transfer students’ reasons that they attended the university (UNREAS).

H$_{3f}$ There is no significant difference between developmental and non-developmental community college transfer students’ university g.p.a.’s (UNGPA).

H$_{3g}$ There is no significant difference between developmental and non-developmental community college transfer students’ reasons that influenced them to attend the university (INFLUENCE).

H$_{3h}$ There is no significant difference between developmental and non-developmental community college transfer students’ participation in a summer transfer orientation program at the university (STO).

H$_{3i}$ There is no significant difference between developmental and non-developmental community college transfer students’ experiences with faculty at the university (UNEXFAC).

H$_{3j}$ There is no significant difference between developmental and non-developmental community college transfer students’ experiences with clubs and organizations at the university (UNCLUBS).

H$_{3k}$ There is no significant difference between developmental and non-developmental community college transfer students’ experiences in learning at the university (UNLEARN).
H$_{3l}$  There is no significant difference between developmental and non-developmental community college transfer students’ involvement in activities at the university (INVOLVE).

H$_{3m}$  There is no significant difference between developmental and non-developmental community college transfer students’ experiences with academic counseling services at the university (UNACOUNS).

H$_{3n}$  There is no significant difference between developmental and non-developmental community college transfer students’ perceptions about the university (PERCEPT).

H$_{3o}$  There is no significant difference between developmental and non-developmental community college transfer students’ overall level of satisfaction with the university (SATISFAC).

H$_{3p}$  There is no significant difference between developmental and non-developmental community college transfer students’ participation in various activities at the university (UNACTIV).

H$_{3q}$  There is no significant difference between developmental and non-developmental community college transfer students’ chances that various things will happen to them while attending the university (CHANCES).

H$_{3r}$  There is no significant difference between developmental and non-developmental community college transfer students’ experiences with adjustment to the university (ADJUST).

Summary

The purpose of this study was to understand and describe the experiences of community college transfer students that took developmental courses at the community college, as compared to community college transfer students that did not participate in developmental education prior to transfer. The challenge to accommodate the needs of the adult learner in
these institutions creates an environment that is rich with opportunity for study and analysis by today’s educational researchers.

Through the use of a statistical package, the variables included in this study as represented by the NC-TSQ, were evaluated to describe the academic performance and experiences of community college transfer students. The evaluation of the interaction, perceptions, effort, and performance of community college transfer students should be useful to educators in identifying primary interventions that are effective in providing prospective students the best opportunities to succeed both academically and socially. Specifically, critically comparing the academic performance and experiences of students who enroll in developmental education with those students who do not enroll in developmental education at community colleges will assist professionals in determining if the desired outcomes of such programs are being reached. As resources continue to be allocated in significant proportions to these efforts, administrators must be able to demonstrate the impact through adequate qualitative and quantitative research.

Therefore, data from this study should indicate if differences are evident in specific functions of the students’ progress toward attaining the baccalaureate degree. Analyzing differences will be useful in determining appropriate modifications for developmental education programs within North Carolina community colleges. The analysis should also provide important information concerning the development of services needed by these students at universities and allow professionals the opportunity to better understand the composition of these populations.

Given the conflicting findings of previous researchers, this study should add to the body of knowledge available to educators in the field of higher education specifically related to
community college transfers and developmental education. The role of developmental coursework has been an object of debate for policy makers throughout the United States over the past decade. The completion of this study should provide future researchers with avenues of continued study.
CHAPTER FOUR:

FINDINGS

Introduction

In previous chapters, the need for more information on the differences in the academic performance and experiences after the first year at a university of community college transfer students that took developmental courses at the community college and community college transfer students that did not take developmental courses at the community college was established. The data were collected using a survey adapted from the UCLA-TSQ that was validated by Laanan (1998). Minor adaptations were determined to have no effect on the psychometric properties of the instrument. The NC-TSQ was mailed to 235 community college transfer students from nine rural community colleges in North Carolina.

The purpose of this chapter is to present the analyses of the data collected regarding factors associated with academic performance and experiences of community college transfer students. For the purposes of this study, the data will be presented in the following sequence.

1. Demographic data regarding participants will be presented to show characteristics of the two groups, developmental and non-developmental.

2. Community college data will be presented to show differences between the two groups in relation to the academic performance and experiences at the community college.

3. University data will be presented to show differences between the two groups in relation to their academic performance and experiences at the university after their first year of participation establishing longitudinal comparisons of the two groups.
Demographics

Nine rural community colleges in North Carolina agreed to provide information on college transfer students that graduated with an A.A., A.S., or A.F.A. degrees in the Spring of 2001. The population of students consisted of 715 graduates from the nine schools. The graduates were then compared with the UNC-OP records to identify current enrollment in one of the 16 public universities. Of the 715 graduates, 235 (33 percent) were enrolled in one of the 16 public universities in North Carolina. In the Summer of 2003, the NC-TSQ was mailed to the students. Forty-seven percent (n=111) of the community college transfer students returned the completed instruments. Forty-three percent (n=48) of the respondents had taken developmental courses at the community college prior to transfer and 57 percent (n=63) of the respondents had not taken developmental courses at the community college prior to transfer. Figure 2 demonstrates the methodology for data collection in this study.

Figure 2. Process of Population Identification and Data Collection.

The NC-TSQ provided participants the opportunity to respond to 10 demographic related questions. These questions included year student transferred to the university, students’ high school average grade, current age, gender, race, education level of the mother, education
level of the father, parents’ household income, and a self rating on various attributes. Chi-
Square and ANOVA analyses were used to develop a profile of the respondents. Tables 5.1
to 5.6 describe the demographic profile of the participants included in this study.

Table 5.1 Chi-Square Analysis by Group on Responses Related to Year of Transfer to the
University.

<table>
<thead>
<tr>
<th>Group</th>
<th>Developmental</th>
<th>Non-Developmental</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2001</td>
<td>81.3% (39)</td>
<td>36.1% (22)</td>
<td>.000*</td>
</tr>
<tr>
<td>Spring 2002</td>
<td>18.8% (9)</td>
<td>63.9% (39)</td>
<td></td>
</tr>
</tbody>
</table>

Chi-Square=22.254
Cramer’s V= .452
*p<.0042

Year student transferred to the university

Of the 48 developmental respondents, 81.3 percent (39) transferred during the Fall of 2001. Of the 63 non-developmental respondents, 61 answered the question and 36.1 percent (22) indicated transfer during the Fall of 2001. A Bonferroni adjustment of p<.0042 was established for Chi-Square analyses to increase the strength of the significant differences. According to the p-value (p=.000), there is a significant difference between developmental and non-developmental community college transfer students in when they enrolled in the university. Cramer’s V coefficient (.452) indicates that the relationship between the two groups and there time of transfer is not relatively strong.
Students’ high school average grade

Based on the information in Table 5.2, approximately 38 percent of the developmental transfer students reported high school average grades in the “A” range (A+ to A-) as compared to approximately 66 percent of the non-developmental group that reported high school average grades in the “A” range. A Bonferroni adjustment of p<.0042 was established for Chi-Square analyses to increase the strength of the significant differences. The p-value (p=.003) indicates that there is a significant difference between the two groups in relation to their average grades in high school. Cramer’s V coefficient, .427, indicates that the relationship between the two groups and their average grades in high school is not relatively strong.
Table 5.3. Chi-Square Analysis by Group on Responses by Gender and Race.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Developmental</th>
<th>Non-Developmental</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>43.8% (21)</td>
<td>39.7% (25)</td>
<td>.666</td>
</tr>
<tr>
<td>Female</td>
<td>56.3% (27)</td>
<td>60.3% (38)</td>
<td></td>
</tr>
<tr>
<td>Chi-Square=.186</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cramer’s V=.041</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td>.131</td>
</tr>
<tr>
<td>African-American/Black</td>
<td>8.3% (4)</td>
<td>4.8% (3)</td>
<td></td>
</tr>
<tr>
<td>Mexican/Chicano</td>
<td>4.2% (2)</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Other Spanish-American</td>
<td>0%</td>
<td>4.8% (3)</td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaskan</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Filipino/Filipino American</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Vietnamese/Vietnamese-Amer.</td>
<td>0%</td>
<td>1.6% (1)</td>
<td></td>
</tr>
<tr>
<td>Chinese/Chinese-American</td>
<td>4.2% (2)</td>
<td>1.6% (1)</td>
<td></td>
</tr>
<tr>
<td>East Indian/Pakistani</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Japanese/Japanese-American</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Korean/Korean-American</td>
<td>4.2% (2)</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Whice/Caucasian</td>
<td>77.1% (37)</td>
<td>87.3% (55)</td>
<td></td>
</tr>
<tr>
<td>Chi-Square=11.175</td>
<td></td>
<td></td>
<td>.317</td>
</tr>
<tr>
<td>Cramer’s V=.317</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Gender**

The majority, approximately 60 percent, of students in the North Carolina Community College System are female (North Carolina Community College System, 2001). The respondents for this study were similar in gender to those throughout the North Carolina system. Fifty six and three tenths percent of the developmental group was female and 60.3 percent of the non-developmental group was female. According to the p-value (.666) there was no significant difference between the developmental and non-developmental groups in relation to gender. Cramer’s V coefficient, .041, indicates that the relationship between the variables is not strong.
Race

According to the data reported in this study, the majority of community college transfer students from the nine rural community colleges are white; 77.1 percent of the developmental group and 87.3 percent of the non-developmental group. According to the p-value (.131) there was no significant difference between the two groups in relation to ethnic origin. Cramer’s V coefficient, .317, indicates that the relationship between the variables is not strong.

Table 5.4 ANOVA Analysis by Group on Responses Related to Students’ Age.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>D</td>
<td>27.5</td>
<td>8.29</td>
<td>1.67</td>
<td>.199</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>ND</td>
<td>25.7</td>
<td>6.40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: D=Developmental, ND=Non-Developmental

Current Age

The respondents for this study ranged in age from 20 years to 54 years. The average age of community college students in North Carolina is approximately 30 years (North Carolina Community College System, 2001). According to the ANOVA, there is no significant difference (p=.199) between the two groups in relation to age.
Table 5.5. Chi-Square Analysis by Group on Responses to Parents’ Level of Education and Highest Level of Education Students Plan to Complete.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highest level of education attained by mothers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school or less</td>
<td>4.3% (2)</td>
<td>0%</td>
</tr>
<tr>
<td>Some high school</td>
<td>0%</td>
<td>1.6% (1)</td>
</tr>
<tr>
<td>High school graduate</td>
<td>46.8% (22)</td>
<td>42.9% (27)</td>
</tr>
<tr>
<td>Some college</td>
<td>19.1% (9)</td>
<td>9.5% (6)</td>
</tr>
<tr>
<td>Associate’s degree</td>
<td>14.9% (7)</td>
<td>11.1% (7)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>10.6% (5)</td>
<td>28.6% (18)</td>
</tr>
<tr>
<td>Some graduate school</td>
<td>2.1% (1)</td>
<td>1.6% (1)</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>2.1% (1)</td>
<td>4.8% (3)</td>
</tr>
<tr>
<td><strong>p-value=.170</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi-Square=10.350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cramer’s V=.301</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Highest level of education attained by fathers</strong></th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school or less</td>
<td>2.2% (1)</td>
<td>0%</td>
</tr>
<tr>
<td>Some high school</td>
<td>0%</td>
<td>3.2% (2)</td>
</tr>
<tr>
<td>High school graduate</td>
<td>28.3% (13)</td>
<td>28.3% (15)</td>
</tr>
<tr>
<td>Some college</td>
<td>17.4% (8)</td>
<td>15.9% (10)</td>
</tr>
<tr>
<td>Associate’s degree</td>
<td>21.7% (10)</td>
<td>6.3% (4)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>19.6% (9)</td>
<td>41.3% (26)</td>
</tr>
<tr>
<td>Some graduate school</td>
<td>4.3% (2)</td>
<td>3.2% (2)</td>
</tr>
<tr>
<td><strong>p-value=.101</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi-Square=11.976</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cramer’s V=.331</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Highest degree students plan to complete</strong></th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s</td>
<td>45.8% (22)</td>
<td>42.9% (27)</td>
</tr>
<tr>
<td>Master’s</td>
<td>45.8% (22)</td>
<td>46% (29)</td>
</tr>
<tr>
<td>Ph.D or Ed.D.</td>
<td>8.3% (4)</td>
<td>9.5% (6)</td>
</tr>
<tr>
<td>MD, DDS, DO or DVM</td>
<td>0%</td>
<td>1.6% (1)</td>
</tr>
<tr>
<td><strong>p-value=.835</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi-Square=.860</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cramer’s V=.088</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Highest level of education attained by mothers

The highest level of education attained by the mothers of the community college transfer students also represents the mothers’ level of involvement in higher education. It is assumed by the researcher that parents’ involvement in higher education would have a positive impact on the performance and experiences of the sons or daughters in higher education by increasing the awareness level and expectations in relation to higher education by the sons or daughters. Approximately 49 percent of the developmental respondents’ mothers had experienced some degree of higher education. Similarly, approximately 52 percent of the non-developmental respondents had experienced some degree of higher education. According to the Chi-Square analysis, there was no significant difference (p=.170) in the students’ mothers’ level of education between developmental and non-developmental groups.

Highest level of education attained by fathers

With regards to level of education attained by the community college transfer students’ fathers, the data indicate that approximately 69 percent of the developmental groups’ fathers had experienced some degree of higher education. Similarly, approximately 73 percent of the non-development groups’ fathers had experienced some degree of higher education. According to the Chi-Square analysis, there is no significant difference (p=.101) in the fathers’ level of education between the developmental and non-development groups.

Highest degree students plan to complete

Based on the percentages as presented in Table 5.5, the higher education plans of the community college transfer students were similar in relation to developmental and non-development groups. Approximately 90 percent of the students in each group indicated plans to complete at least a bachelor’s or master’s degree. According to the Chi-Square
analysis, there was no significant difference (p=.835) in the students’ plans to complete specific degrees in higher education.

Table 5.6. ANOVA by Group on Responses to Parents’ Household Income and the Students’ Self Rating

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>etas square</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARINC</td>
<td>D</td>
<td>7.04</td>
<td>2.73</td>
<td>2.41</td>
<td>.124</td>
<td>.024</td>
</tr>
<tr>
<td></td>
<td>ND</td>
<td>7.73</td>
<td>1.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SELF</td>
<td>D</td>
<td>46.67</td>
<td>3.92</td>
<td>27.75</td>
<td>.000*</td>
<td>.200</td>
</tr>
<tr>
<td></td>
<td>ND</td>
<td>50.30</td>
<td>3.34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0018
Note: D=Developmental, ND=Non-Developmental

Parents’ total annual household income

The NC-TSQ asked students to report their estimated parents’ total household income. Based on the responses provided, approximately 34 percent of the developmental students’ parents had an annual household income of less than $40,000 as compared to 16 percent of the non-developmental students’ parents. Proportionately, approximately 66 percent of the developmental students’ parents had an annual household income of $40,000 or more as compared to 84 percent of the non-developmental students. According to the ANOVA, there is no significant difference (p=.124) in the parents’ total annual household income between community college developmental and non-developmental transfer students.

Self rating of students’ traits

Students were asked to respond to a self rating on personal abilities and perceptions related to academic ability, artistic ability, competitiveness, cooperativeness, creativity, drive to achieve, leadership ability, mathematical ability, public speaking ability, self-confidence (intellectual), self-confidence (social), understanding of others, and writing ability. Students were given choices in a Likert type scale with 1 representing lowest 10% to 5 representing
highest 10%. For the purposes of this study the responses on each question were summed to create a single score for each student. A Bonferroni adjustment was established of p<.0018 to increase the strength of significant differences. According to the ANOVA, there was a significant difference (p=.000) between the developmental and non-developmental groups in relation to their self rating on specific abilities. The eta square statistic indicates that 20 percent of the variance between the two groups in relation to their self rating is attributed to whether the students participated in developmental programs at the community college.

Community College Questions

The second analysis was conducted on questions related to the community college transfer students’ experiences and academic performance while attending the community college. For the purposes of this study, variables for this section included community college g.p.a. (CCGPA), perceptions about coursework at the community college (CCCOURSE), weekly hours spent on the community college campus, weekly hours spent studying at the community college, weekly hours spent working while attending the community college, weekly hours involved in activities at the community college, experiences with academic counseling services at the community college, experiences related to the transfer process at the community college, experiences with course learning at the community college, experiences with faculty at the community college, experiences with clubs and organizations at the community college, and experiences in writing at the community college. Analysis of Variance was computed on each variable for community college transfer students that took developmental courses and community college transfer students that did not take developmental courses prior to transfer.
Table 6.1 reports the differences between developmental and non-developmental community college transfer students in relation to community college g.p.a. and perceptions concerning coursework at the community college.

Table 6.1. ANOVA by Group on the Responses to Community College g.p.a. and Perceptions Concerning Coursework.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCGPA</td>
<td>Developmental</td>
<td>3.29</td>
<td>.533</td>
<td>9.071</td>
<td>.003</td>
<td>.082</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>3.56</td>
<td>.366</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCCOURSE</td>
<td>Developmental</td>
<td>26.20</td>
<td>3.75</td>
<td>8.050</td>
<td>.005</td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>28.03</td>
<td>3.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Community college g.p.a. (CCGPA)*

The community college transfer students that took developmental courses (developmental) and community college transfer students that did not take developmental (non-developmental) self reported their final g.p.a.’s at the completion of their associate’s degree. According to the ANOVA, there was no significant difference (p=.003) between the g.p.a.’s of the two groups.

*Perceptions on coursework at the community colleges (CCCOURSE)*

The perceptions on coursework at the community college variable asked students to respond to statements related to community college coursework using a Likert type scale with 1 representing *disagree strongly* and 4 representing *strongly agree*. The responses to the 10 statements relating to coursework at the community college were summed for each student, creating a single score. The ANOVA indicated that there was no significant difference (p=.005) in perceptions of coursework at the community college between developmental and non-developmental groups.
Table 6.2 reports the weekly time spent by community college transfer students engaged in various experiences while attending the community college.

Table 6.2. ANOVA by Group on the Responses to Weekly Hours Spent on Campus, Studying, Working, and Involvement in Activities.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCHRSCAM</td>
<td>Developmental</td>
<td>2.77</td>
<td>1.24</td>
<td>.124</td>
<td>.725</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>2.86</td>
<td>1.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCHRSSTD</td>
<td>Developmental</td>
<td>2.54</td>
<td>1.18</td>
<td>2.013</td>
<td>.214</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>2.27</td>
<td>1.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCWRKHRS</td>
<td>Developmental</td>
<td>3.35</td>
<td>1.74</td>
<td>22.37</td>
<td>.000*</td>
<td>.170</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>4.73</td>
<td>1.32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCACTIV</td>
<td>Developmental</td>
<td>29.27</td>
<td>4.57</td>
<td>1.12</td>
<td>.292</td>
<td>.010</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>30.17</td>
<td>4.37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0018

Weekly hours on the community college campus (CCHRSCAM)

The weekly hours on community college campus variable included the choices of none, 1 to 3 hours, 4 to 6 hours, 7 to 9 hours, 10 to 12 hours, and more than 12 hours. Each choice was assigned a number from 1 representing none to 6 representing more than 12 hours.

According to the ANOVA, there was no significant difference (p=.725) in time spent on the community college campus per week between developmental and non-developmental students.

Weekly hours spent studying while attending the community college (CCHRSSTD)

The weekly hours spent studying while attending the community college variable asked community college transfer students to estimate the average time per week that they spent studying while enrolled at the community college. Choices included 1 to 5 hours, 6 to 10 hours, 11 to 15 hours, 16 to 20 hours, and more than 20 hours. For the purpose of data analysis, the researcher assigned a number to each choice with 1 representing 1 to 5 hours to
5 representing more than 20 hours. According to the ANOVA, there was no significant difference (p=.214) between community college transfer students that took developmental courses and community college transfer students that did not take developmental courses in relation to weekly hours spent studying while attending the community college.

Weekly hours working while attending community college (CCWRKHRS)

The weekly hours spent working while attending community college variable consisted of six choices including none (I didn’t have a job), 1 to 10 hours, 11-15 hours, 16-20 hours, 21-30 hours, and more than 30 hours. For the purposes of analysis, the researcher assigned a number from 1 representing none (I didn’t have a job) to 6 representing more than 30 hours. A Bonferroni adjustment of p<.0018 was established to strengthen the significance of the differences. According to the ANOVA, there was a significant difference (p=.000) between developmental and non-developmentl groups. Developmental students (M=3.35) reported that overall they worked between 11 to 15 hours per week or 16 to 20 hours per week while attending the community college. Non-developmental (M=4.73) students reported that overall they worked between 16 to 20 hours per week or 21 to 30 hours per week while attending the community college. Therefore, non-developmental students participating in this study worked more hours per week than did students taking developmental courses.

The eta square statistic demonstrated that approximately 17 percent of the variance between the weekly hours worked while attending community college could be attributed to whether students participated in developmental education or not while attending the community college and 83 percent of the variance could be attributed to other factors.
**Weekly hours in activities while attending the community college (CCACTIV)**

The weekly hours spent in activities while attending the community college variable consisted of 11 activities including socializing, talking with teachers, exercise, partying, volunteer work, student clubs, watching TV, housework/childcare, reading for pleasure, doing research, and commuting. Participants were given choices on a Likert type scale with 1 representing *none* to 8 representing *over 20 hours*. Each respondent’s choices were summed to create a single score for the weekly hours spent in activities while attending the community college. According to the ANOVA, there was no significant difference (p=.295) between developmental and non-developmental groups in the amount of time they spent per week in activities while enrolled at the community college.

Table 6.3 describes the experiences of community college transfer students with various aspects of the community college environment.

### Table 6.3. ANOVA by Group on the Responses to Experiences with Various Aspects of the Community College Environment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCACOUNS</td>
<td>Developmental</td>
<td>23.40</td>
<td>6.86</td>
<td>1.703</td>
<td>.195</td>
<td>.016</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>22.62</td>
<td>5.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSFER</td>
<td>Developmental</td>
<td>27.19</td>
<td>3.46</td>
<td>.405</td>
<td>.526</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>26.73</td>
<td>3.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCLEARN</td>
<td>Developmental</td>
<td>31.00</td>
<td>2.74</td>
<td>.893</td>
<td>.347</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>31.48</td>
<td>2.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCEXFAC</td>
<td>Developmental</td>
<td>30.35</td>
<td>3.12</td>
<td>19.35</td>
<td>.000*</td>
<td>.151</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>33.73</td>
<td>4.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCCLUBS</td>
<td>Developmental</td>
<td>18.83</td>
<td>5.44</td>
<td>8.65</td>
<td>.004</td>
<td>.074</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>15.08</td>
<td>7.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCWRITE</td>
<td>Developmental</td>
<td>29.25</td>
<td>3.64</td>
<td>.043</td>
<td>.836</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>29.38</td>
<td>3.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0018*
Experiences with academic counseling services at the community college (CCACOUNS)

The experiences with academic counseling services at the community college variable consisted of eight statements relating to consultation with academic counselors, helpfulness of the information received from academic counseling services, meetings with academic counselors on a regular basis, talking with advisors about educational plans, reading information about the university, making appointments with an academic counselor to discuss transfer, and identifying courses needed to meet transfer requirements to the university. Respondents were given choices in a Likert type scale, with 1 representing disagree strongly and 4 representing strongly agree. The responses to each question were summed to create a single score for each participant in relation to experiences with academic counseling services at the community college. According to ANOVA, there was no significant difference (p=.195) in the experiences with academic counseling services at the community college between the developmental and non-developmental groups.

Experiences related to the transfer process at the community college (TRANSFER)

The experiences related to the transfer process at the community college variable consisted of 11 statements related to the perceptions of the students’ experiences with the transfer process. The 11 statements included researching various aspects of the university environment, knowing what to expect in terms of academics at the university, visiting the university campus, sitting in on lecture classes at the university, speaking to academic counselors about the requirements at the university, feeling confident about the challenges at the university, feeling insecure about making new friends at the university, feeling overwhelmed about the size of the university, feeling comfortable about being in large lecture classes, visiting the admissions office of the university, and speaking to former
community college transfers about the adjustment process. Choices were presented on a Likert type scale, with 1 representing *disagree strongly* and 4 representing *strongly agree*. The responses were summed for each respondent to create a single score. According to the ANOVA, there was no significant difference (p=.526) in the perceptions about the transfer process between the developmental and non-developmental groups.

*Experiences with course learning at the community college (CCLEARN)*

The experiences with course learning at the community college variable consisted of nine statements relating to course learning that included taking detailed notes in class, participating in class discussions, seeing how different facts and ideas fit together, thinking about practical applications of the material, integrating ideas from various sources on a project, summarizing major points in reading and notes, explaining material to another student, making outlines from class notes and readings, and reading additional material on topics that were introduced in class. The respondents were given choices on a Likert type scale, with 1 representing *disagree strongly* to 4 representing *strongly agree*. The responses were summed to create a single score for each respondent. According to the ANOVA, there was no significant difference (p=.347) in the perceptions on experiences with course learning between the developmental and non-developmental groups.

*Experiences with Faculty at the community college (CCEXFAC)*

The experiences with faculty at the community college variable consisted of 12 statements related to students’ frequency of interaction with faculty members at the community college. The 12 statements included visiting faculty and seeking advice on assignments, feeling comfortable approaching faculty outside of class, talking with a faculty member, asking the instructor for information related to a course, visited informally with a faculty member,
making an appointment with a faculty member in his/her office, discussing ideas for a project with a faculty member, discussing career plans with a faculty member, asking an instructor for criticisms about coursework, having coffee or snacks with a faculty member, working with a faculty member on a research project, and discussing personal problems with a faculty member. The respondents were given choices on a Likert type scale, with 1 representing never and 4 representing very often. Responses were summed for each participant to create a single score relating to community college transfer students experiences with faculty at the community college.

A Bonferroni adjustment was established of p<.0018 to increase the strength of significant differences. According to ANOVA, there was a significant difference (p=.000) between the experiences of the developmental group and the experiences of the non-developmental group. For the purpose of this study, the researcher categorized scores of 12 to 24 as infrequent engagement with faculty at the community college and scores of 25 to 48 as frequent engagement with faculty members at the community college. The means indicate that non-developmental students (M=33.73) had slightly higher levels of frequent engagement with faculty members than developmental students (M=30.35), but that both engaged with faculty on a frequent basis.

The eta square statistic indicates that 15 percent of the variance between community college students’ frequency of engagement with faculty member at the community college is attributed to whether they participate in developmental courses or not at the community college. Eighty-five percent of the variance between groups on frequency of faculty engagement is attributable to other factors.
Experiences with clubs and organizations at the community college (CCCLUBS)

The experiences with clubs and organizations at the community college variable consisted of 10 statements that reflect the frequency of engagement in clubs and organizations by developmental and non-developmental students while attending the community college. The 10 statements consisted of holding an office in a club/organization or student government, reading student newspapers to find notices about campus events and student organizations, attending programs sponsored by student groups, reading or asking about a club or student organization, attending meetings of clubs or organizations, voting in student elections, discussing policies related to campus activities and student organizations, working in a student organization on a special project, discussing reasons for success or lack of for student events, and meeting with a faculty advisor or administrator to discuss activities or student organizations. The choices were presented in a Likert type scale, with 1 representing never to 4 representing very often. Respondents’ choices were summed to create a single score for each participant relating to their frequency of engagement with clubs and organizations at the community college. According to ANOVA, there was no significant difference (p=.004) in the frequency of engagement in clubs and organizations between the developmental and non-developmental groups.

Experiences in writing at the community college (CCWRITE)

The experience in writing at the community college variable consists of nine statements related to the frequency of engagement in writing exercises at the community college. The nine statements included using a dictionary or thesaurus to look up words, thinking about grammar and sentence structure in writing, writing a rough draft of a paper, spending at least five hours on a writing assignment, asking others to read something that the student had
written, referring to a book or manual about writing styles, revising a paper two or more times, asking an instructor for advice about a writing assignment, and making an appointment with an instructor to talk about a paper the faculty member had reviewed. Participants were given choices in a Likert type scale, with 1 representing never to 4 representing very often. The responses were summed for each respondent to create a single score. According to ANOVA, there was no significant difference (p=.836) between developmental and non-developmental students in relation to the frequency of engagement in writing experiences at the community college.

University Questions

The third analysis was conducted on questions related to the community college transfer students’ experiences and academic performance while attending the university. For the purposes of this study, variables for this section included current university g.p.a. (UNGPA), place of residence while attending the university (UNRESIDE), participation in a summer transfer orientation program (STO), expected graduation date from the university (UNGRDDT), description of the students’ major field of study at the university (UNFDSTUD), weekly hours spent working while attending the university (UNWRKHRS), reasons that students attended the university (UNREAS), reasons that influenced the students to attend the university (INFLUENC), experiences with faculty at the university (UNEXFAC), experiences with clubs and organizations at the university (UNCLUBS), experiences in learning at the university (UNLEARN), experiences with academic counseling services at the university (UNACOUNS), experiences with adjustment to the university (ADJUST), involvement in various activities at the university (INOLVE), participation in various activities at the university (UNACTIV), perceptions about the
university (PERCEPT), level of satisfaction with the university (SATISFAC), and chances that various things will happen to the students while attending the university (CHANCES). Chi-Square analysis was computed for nominal data and ANOVA was computed for ordinal data on variables for community college transfer students that took developmental courses at the community college and community college transfer students that did not take developmental courses at the community college prior to transfer. Tables 7.1 to 7.8 describe the differences in various aspects of the developmental and non-developmental community college transfer students' academic performance and experiences after their first year at the university.

Table 7.1. ANOVA by Group on the Responses to Experiences with University g.p.a. and Weekly Hours Spent Working.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNCGPA</td>
<td>Developmental</td>
<td>3.25</td>
<td>.533</td>
<td>.659</td>
<td>.419</td>
<td>.006</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>3.16</td>
<td>.448</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNWRKHRS</td>
<td>Developmental</td>
<td>3.81</td>
<td>1.77</td>
<td>1.22</td>
<td>.273</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>3.41</td>
<td>1.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

University g.p.a. (UNGPA)

The community college transfer students that took developmental courses and community college transfer students that did not take developmental self reported their current g.p.a.'s at the end of their first year at the university. According to the ANOVA, there was no significant difference (p=.419) in university g.p.a. between the two groups.

Weekly hours spent working while attending the university (UNWRKHIRS)

Participants were asked to report the average number of hours per week that they work at a job for pay while attending the university. Choices consisted of none (I don’t have a job), 1
to 10 hours, 11 to 15 hours, 16 to 20 hours, 21 to 30 hours, and more than 30 hours. For the purpose of this study, the researcher assigned numbers to each choice from one to six.

According to the ANOVA, there was no significant difference (p=.273) between the average number of hours per week that developmental transfer and non-developmental transfer students worked while attending the university.

Table 7.2. Chi-Square Analysis by Group on the Responses to Place of Residence at the University and Expected Graduation Date for the Two Groups.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place of Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence Hall</td>
<td>22.9% (11)</td>
<td>25.8% (16)</td>
</tr>
<tr>
<td>Fraternity/Sorority House</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Private Apartment on Campus</td>
<td>27.1% (13)</td>
<td>6.5% (4)</td>
</tr>
<tr>
<td>House off Campus</td>
<td>50% (24)</td>
<td>58.1% (36)</td>
</tr>
<tr>
<td>With my Parents</td>
<td>0%</td>
<td>9.7% (6)</td>
</tr>
<tr>
<td><strong>Expected Graduation Date</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring 2003</td>
<td>12.5% (6)</td>
<td>9.5% (6)</td>
</tr>
<tr>
<td>Summer 2003</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Fall 2003</td>
<td>6.3% (3)</td>
<td>27% (17)</td>
</tr>
<tr>
<td>Spring 2004</td>
<td>45.8% (22)</td>
<td>41.3% (26)</td>
</tr>
<tr>
<td>After Spring 2004</td>
<td>35.4% (17)</td>
<td>22.2% (14)</td>
</tr>
</tbody>
</table>

p-value=.006
Chi-Square=12.511
Cramer’s V=.337

p-value=.036
Chi-Square=8.553
Cramer’s V=.278

Place of residence at the university (UNRESIDE)

The place of residency at the university variable asked students to report whether they lived in a residence hall, fraternity or sorority house, private apartment within walking distance of campus, house or apartment away from campus, or with parents or family. For
the purposes of this study, the researcher assigned numbers from one through five to each of the choices. According to the Chi-Square analysis, there was no significant difference (p=.006) in the place of residency at the university between developmental transfer students and non-developmental transfer students.

*Expected graduation date from the university (UNGRADDT)*

The expected graduation date from the university variable provided respondents with choices of *Spring 2003, Summer 2003, Fall 2003, Spring 2004, or after Spring 2004* as their expected graduation dates. For the purpose of this study, the researcher assigned numbers from one through five to the choices. According to the Chi-Square analysis, there was no significant difference (p=.036) between developmental transfer students and non-developmental transfer students in relation to their expected graduation dates from the university.

Table 7.3 demonstrates the differences between community college transfer students that took developmental courses at the community college and community college transfer students that did not take developmental courses at the community college in students’ university major field of study, reasons for attending the university, and reasons that influenced their decision to attend the university.
Table 7.3. Chi-Square Analysis by Group on the Responses to Students’ University Field of Study and Reasons for Attending the University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>University Field of Study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>6.3% (3)</td>
<td>1.6% (1)</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>8.3% (4)</td>
<td>3.2% (2)</td>
</tr>
<tr>
<td>Computer Science</td>
<td>4.2% (2)</td>
<td>4.8% (3)</td>
</tr>
<tr>
<td>Engineering</td>
<td>2.1% (1)</td>
<td>7.9% (5)</td>
</tr>
<tr>
<td>Humanities</td>
<td>14.5% (7)</td>
<td>9.5% (6)</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>4.2% (2)</td>
<td>3.2% (2)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>27.1% (13)</td>
<td>36.5% (23)</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>2.1% (1)</td>
<td>0%</td>
</tr>
<tr>
<td>Area Studies</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Interdepartmental Majors</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>31.3% (15)</td>
<td>33.3% (21)</td>
</tr>
</tbody>
</table>

p-value=.484  
Chi-Square=7.498  
Cramer’s V=.260

<table>
<thead>
<tr>
<th>Reasons for Attending Univ.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain Bachelor’s Degree</td>
<td>56.3% (27)</td>
<td>66.1% (41)</td>
</tr>
<tr>
<td>Gain job skills</td>
<td>10.4% (5)</td>
<td>11.3% (7)</td>
</tr>
<tr>
<td>Pursue graduate school</td>
<td>14.6% (7)</td>
<td>11.3% (7)</td>
</tr>
<tr>
<td>Satisfy personal interest</td>
<td>18.8% (9)</td>
<td>11.3% (7)</td>
</tr>
</tbody>
</table>

p-value=.634  
Chi-Square=1.712  
Cramer’s V=.125

Description of the students’ major field of study at the university (UNFDSTUD)

The description of the students’ major field of study at the university provided participants with choices of Arts, Biological Sciences, Computer Science, Engineering, Humanities, Physical Sciences, Social Sciences, Foreign Language, Area Studies, Interdepartmental majors, and Other. For the purpose of this study, the researcher assigned numbers from one
to 11 for the choices. According to the Chi-Square analysis, there was no significant difference (p=.484) between developmental transfer students and non-developmental transfer students in relation to their major fields of study.

Reason that the students attended their university (UNREAS)

The reason that the students attended their university variable consisted of four choices: to obtain a bachelor’s degree, to gain skills necessary to enter a new job or occupation, to pursue graduate or professional school, and to satisfy personal interest (cultural, social).

For the purpose of this study, the researcher assigned numbers from one through four for each choice. According to the Chi-Square analysis, there was no significant difference (p=.634) between developmental transfer students and non-developmental transfer students in relation to their reasons that they attended their university.

Table 7.4. ANOVA by Group on the Responses to Students’ Reasons that Influenced them to Attend the University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFLUENCE</td>
<td>D</td>
<td>25.83</td>
<td>4.24</td>
<td>.807</td>
<td>.371</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>ND</td>
<td>25.06</td>
<td>4.64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: D=Developmental, ND=Non-Developmental

Reasons that influenced students’ decisions to attend their university (INFLUENC)

The reasons that influenced students’ decisions to attend their university included 14 statements associated with influence. The 14 reasons included a teacher advised me, the university has a very good academic reputation, the university has a very good social reputation, financial assistance, low tuition, an academic counselor advised me, location, a friend’s suggestion, university recruitment, graduate admission to top graduate/professional schools, graduates get good jobs, ranking in national magazines, parent recommendation, sibling attendance at the university. A Likert type scale presented choices of 1 representing
not important to 4 representing very important. For the purpose of comparison, the researcher summed each respondent’s choices on the 14 statements creating a single score for each student. According to the ANOVA, there was no significant difference (p=.371) between the average scores of developmental students and non-developmental students in reasons that influenced their decision to attend the university.

Table 7.5 and 7.6 demonstrates the differences between community college transfer students that took developmental courses at the community college and community college transfer students that did not take developmental courses at the community college in relation to participation in a summer transfer orientation program, involvement in various activities at the university, participation in various activities at the university, and chances that various things will happen to the students while attending the university.

Table 7.5. Chi-Square Analysis by Group on Responses to Participation in a Summer Transfer Orientation Program at the University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Transfer Orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>70.8% (34)</td>
<td>54% (34)</td>
</tr>
<tr>
<td>No</td>
<td>29.2% (14)</td>
<td>46% (29)</td>
</tr>
</tbody>
</table>

p-value=.071
Chi-Square=3.265
Cramer’s V=.172

Participation in a summer transfer orientation program (STO)

The participation in a summer transfer orientation program asked participants if they participated in a summer transfer orientation program after they completed an associate’s degree at the community college. Respondents were asked to select yes or no. For the purpose of this study, the researcher assigned numbers 1 and 2 to the choices. According to the Chi-Square analysis, there was no significant difference (p=.071) between developmental
transfer students and non-developmental transfer students’ participation in a summer transfer
orientation program.

Table 7.6. ANOVA by Group on the Involvement in Activities, Participation in Activities,
and Chances Things Would Happen While Attending the University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>INVOLVE</td>
<td>Developmental</td>
<td>16.69</td>
<td>2.75</td>
<td>1.305</td>
<td>.256</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>17.52</td>
<td>4.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNACTIV</td>
<td>Developmental</td>
<td>33.68</td>
<td>4.25</td>
<td>42.97</td>
<td>.000*</td>
<td>.285</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>39.95</td>
<td>5.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHANCES</td>
<td>Developmental</td>
<td>28.32</td>
<td>4.97</td>
<td>7.77</td>
<td>.006</td>
<td>.067</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>30.63</td>
<td>3.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.0018

*Involvement in various activities at the university (INVOLVE)*

The involvement in various activities at the university variable consisted of 12 statements
including: attending academic workshops, using student psychological services, using
placement and career planning services, using tutorial services, purchasing lecture notes to
use as additional study guides, using writing program services, visiting a museum on campus,
attending an event sponsored by a student cultural organization, attending an athletic event,
participating in intramural sports, participating in recreational classes, and participating in a
paid or non-paid internship. Respondents were given choices on a Likert type scale, with 1
representing *never* to 4 representing *very often*. For the purpose of this study, the
respondents’ choices were summed for the 12 statements to create a single score for each
student in relation to the frequency that they were involved in various activities at the
university. According to the ANOVA, there was no significant difference (p=.256) in the
level of involvement for community college transfer students that took developmental
courses at the community college and community college transfer students that did not take developmental courses at the university.

*Participation in various activities at the university (UNACTIV)*

The participation in various activities at the university variable consisted of 12 statements including: socializing with friends, studying, talking with teachers outside of class, exercise or sports, partying, volunteer work or community service, student clubs or organizations, watching TV, housework/childcare, reading for pleasure, doing independent research, and commuting. Respondents were given choices on a Likert type scale with 1 representing *none* to 8 representing *over 20 hours*. Students were asked to estimate the time during the last year that they spent participating in the activities. For the purpose of this study, the choices of the respondents were summed to create a single score for each participant.

A Bonferroni adjustment was established of p<.0018 to increase the strength of the significant differences. According to the ANOVA, there was a significant difference (p=.000) between developmental transfer students and non-developmental transfer students. The means indicated that developmental transfer students (M=33.68) participated less during the past year in activities than non-developmental transfer students (M=39.95).

The eta square statistic demonstrated that 29 percent of the variance in levels of participation in various activities at the university can be attributed to whether community college transfer students took developmental courses at the community college or not. Therefore, 71 percent of the variance can be attributed to other factors.
Chances that various things will happen to students while attending the university

(CHANCES)

The chances that various things will happen to students while attending the university consisted of 13 things that could happen to students including; failing one or more classes, graduating with honors, being elected to student office, making at least a “B” average, being satisfied with the university, participating in community service/volunteer work, participating in student protests, pursuing graduate/professional school, participating in an ethnic student organization, attending a racial/cultural workshop, and needing more than two years to complete their degree requirements. The respondents were asked given choices on a Likert type scale with 1 representing no chance and 4 representing very good chance. For the purpose of comparison, the choices were summed to create a single score for each student in relation to chances that various things will happen to them while attending the university.

According to the ANOVA, there was no significant difference (p=.006) between developmental transfer students and non-developmental transfer students’ chances that various things will happen to them while attending the university.

Table 7.7 reports differences between community college developmental transfer students and community college non-developmental transfer students in experiences with faculty at the university, experiences with clubs and organizations at the university, experiences in learning at the university, and experiences with academic counseling services at the university.
Table 7.7. ANOVA by Group on the Responses to Experiences with Faculty, Experiences with Clubs and Organizations, Experiences with Learning, and Experiences with Academic Counseling Services at the University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNEXFAC</td>
<td>Developmental</td>
<td>27.02</td>
<td>6.04</td>
<td>.789</td>
<td>.376</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>27.97</td>
<td>5.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNCLUBS</td>
<td>Developmental</td>
<td>15.27</td>
<td>7.46</td>
<td>.304</td>
<td>.583</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>16.01</td>
<td>6.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNACOUNS</td>
<td>Developmental</td>
<td>6.92</td>
<td>1.25</td>
<td>8.803</td>
<td>.005</td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>6.06</td>
<td>1.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLEARN</td>
<td>Developmental</td>
<td>30.25</td>
<td>4.00</td>
<td>4.405</td>
<td>.038</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>31.51</td>
<td>2.26</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Experiences with faculty at the university (UNEXFAC)

The experiences with faculty at the university variable consisted of 12 statements that represented the level of engagement with faculty at the university. The 12 statements included visiting with faculty and seeking advice on a class project, feeling comfortable approaching faculty outside of class, talking with a faculty member, asking an instructor for information related to a course, visiting informally with a faculty member in his/her office, discussing ideas for a class project with a faculty member, asking an instructor for criticism about an assignment, having snacks with a faculty member, working with a faculty member on a research project, and discussing personal problems with a faculty member. Students were given choices on a Likert type scale, with 1 representing never to 4 representing very often. For the purpose of this study, the choices of the respondents were summed to create a single score for each student. According to the ANOVA, there was no significant difference (p=.376) in the level of engagement with faculty members at the university between the developmental transfer students and non-developmental transfer students.
Experiences with clubs and organizations while attending the university (UNCLUBS)

The experiences with clubs and organizations while attending the university variable consisted of 10 statements related to the level of engagement of the participants in clubs and organizations at the university. The 10 statements included holding an office in a club/organization or student government, reading student newspapers to find notices about campus events and student organizations, attending programs sponsored by student groups, reading or asking about a club or student organization, attending meetings of clubs or organizations, voting in student elections, discussing policies related to campus activities and student organizations, working in a student organization on a special project, discussing reasons for success or lack of for student events, and meeting with a faculty advisor or administrator to discuss activities or student organizations. The participants were given choices on a Likert type scale, with 1 representing never to 4 representing very often to determine their level of engagement in clubs and organizations at the university. For the purpose of this study, the scores on each statement were summed to create a single score for each student. According to the ANOVA, there was no significant difference (p=.583) between developmental transfer students and non-developmental transfer students in engagement in clubs and organizations at the university.

Experiences with academic counseling services at the university (UNACOUNS)

The experiences with academic counseling services variable at the university consisted of three statements relating to students’ engagement with academic counseling services at the university. The statements included meeting with academic counselors on a regular basis, talking with a counselor from students’ major on courses, and using services offered by culturally-based retention programs. Participants were given choices on a Likert type scale.
with 1 representing *never* to 4 representing *very often*. For the purpose of this study, the choices were summed to create a single score for each student. According to the ANOVA, there was no significant difference (p=.005) between developmental transfer students and non-developmental transfer students in engagement with academic counseling services at the university.

**Experiences in learning at the university (UNLEARN)**

The experiences in learning at the university variable consists of nine statements including: taking detailed notes in class, participating in class discussions, seeing how different facts and ideas fit together, thinking about practical applications of the material, integrating ideas from various sources on a project, summarizing major points in reading and notes, explaining material to another student, making outlines from class notes and readings, and reading additional material on topics that were introduced in class. Participants were given choices on a Likert type scale, with 1 representing *never* to 4 representing *very often*. For the purpose of this study, the choices of the respondents were summed to create a single score for each student. According to the ANOVA, there was no significant difference (p=.038) in engagement with the learning environment at the university between developmental transfer students and non-developmental transfer students.

Table 7.8 reports the differences between developmental community college transfer students and non-developmental community college transfer students in relation to their experiences with adjustment to the university.
Table 7.8. ANOVA by Developmental and Non-developmental Groups in Experiences with Adjustment to the University.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADJUST</td>
<td>D</td>
<td>28.54</td>
<td>5.21</td>
<td>.093</td>
<td>.761</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>ND</td>
<td>28.81</td>
<td>4.05</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: D=Developmental, ND=Non-Developmental

Experiences with adjustment to the university (ADJUST)

The experiences with adjustment to the university variable consisted of 14 statements related to adjustment to the university environment. The statements included; adjusting to academic standards, adjusting to the social environment, feeling overwhelmed by the size of the student body, feeling alienated at the university, being involved with social activities at the university, meeting as many people and making as many friends as students would like at the university, being intimidated by the large classes, having difficulty in finding my way around, having an increased stress level since beginning at the university, experiencing a dip in grades, making friends easily, feeling most comfortable with other transfer students, feeling more comfortable making friends with transfer students, and feeling a sense of competition between students that was not at the community college. Respondents were given choices on a Likert type scale with 1 representing disagree strongly, 2 representing disagree somewhat, 3 representing agree somewhat, and 4 representing agree strongly.

According to the ANOVA, there was no significant difference (p=.761) between the two groups in their experiences with adjustment to the university.

Table 7.9 reports the differences in general perceptions about the university and overall satisfaction with the university of community college transfer students that took developmental courses at the community college as compared to community college transfer students that did not take developmental courses at the community college.
Table 7.9. ANOVA Analysis by Group on the Responses to General Perceptions and Overall Satisfaction.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F-Value</th>
<th>p-value</th>
<th>eta square</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCEPT</td>
<td>Developmental</td>
<td>41.08</td>
<td>5.09</td>
<td>.793</td>
<td>.375</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>41.95</td>
<td>5.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SATISFAC</td>
<td>Developmental</td>
<td>54.40</td>
<td>7.45</td>
<td>3.42</td>
<td>.067</td>
<td>.030</td>
</tr>
<tr>
<td></td>
<td>Non-Developmental</td>
<td>56.75</td>
<td>5.94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Perceptions about the university (PERCEPT)*

The perceptions about the university variable consisted of 18 statements relating to the general perceptions about the university of the participants. The 18 statements included information on approachability of university faculty, accessibility of faculty, level of interest in students as compared to faculty research, level of assistance from the teacher assistant versus faculty, underestimation of academic abilities by other students as the result of being a community college transfer, stigma concerning community college transfers, university students interest in getting a good grade rather than learning the material, competitiveness among students, fitting into the university, interest of faculty in the academic development of undergraduates, being treated like a number instead of a person, responsiveness of student services, initiative of the students, interest in courses, intellectual stimulation at the university, recommending the university to other transfers, and selecting this university again if starting over. The participants were given choices based on a Likert type scale, with 1 representing *disagree strongly* and 4 representing *agree strongly*. For the purposes of this study, the choices of the respondents were summed to create a single score for each student in relation to the perceptions about the university. According to the ANOVA, there was no
significant difference (p=.375) between developmental transfer students’ perceptions and non-developmental transfer students’ perceptions about the university.

**Level of satisfaction about the university (SATISFAC)**

The level of satisfaction about the university variable consisted of 19 statements relating to the overall satisfaction of community college transfer students with their universities. The 19 statements included; sense of belonging, decision to transfer, overall quality of instruction, sense of community on campus, academic advising, career counseling and advising, student housing, courses in your major field, financial aid services, amount of contact with faculty, opportunities for community service, job placement services, campus health services, class size, interaction with other students, ethnic diversity of the faculty, leadership opportunities, recreational facilities, and overall college experience. Participants were given choices on a Likert type scale with 1 representing *dissatisfied* and 4 representing *very satisfied*. For the purposes of this study, the choices of the participants were summed to create a single score for each student related to overall satisfaction of the university.

According to the ANOVA, there was no significant difference (p=.067) between developmental transfer students and non-developmental transfer students on their overall satisfaction with the university.

**Summary**

This study focused on the overarching question: “Does participation in developmental programs in community college level the differences between developmental and non-developmental transfer students?”

The data were analyzed and results of the analysis on demographics, community college questions, and university questions were presented. Significant differences between
the two groups were discussed to assist in the understanding of developmental community college transfer students and non-developmental community college transfer students.

The first analysis compared the two groups on demographics and reported that developmental community college transfer students transferred earlier in their academic careers than did non-developmental community college transfer students. It was also noted that non-developmental transfer students reported higher grades in high school than developmental transfer students. The community college transfer students included in this study were also similar to other community college transfer students in relation to age and ethnic origin. Finally, developmental community college transfer students rated themselves lower on academic ability and social skills than did the non-developmental community college transfer students.

The second analysis was presented on community college questions. The analysis represented that developmental transfer students worked fewer hours per week while attending the community college than did the non-developmental transfer students. It was also noted that developmental transfer students were more engaged with faculty at the community college than non-developmental transfer students. Developmental students and non-developmental students were not significantly different in their responses to the 10 other variables included in this section.

The third section analyzed responses on university questions. There was a significant difference in the participation in activities between the two groups at the university. Non-developmental transfer students participated more frequently than developmental transfer students. There was no significant difference in university experiences and performance
between the two groups in the 17 other variables included in this study. Both groups reported that they were very satisfied with their university experiences overall.

The differences between the two groups in the analysis of data provide information for community college and university educators to assess their practices with community college transfer students. This study also created questions for consideration in future studies. The researcher will report conclusions and recommendations based on the findings in Chapter Five of this study.
CHAPTER FIVE:
CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Introduction

This study was conducted on the college transfer graduates from nine rural community colleges in North Carolina. The nine community colleges selected for the study were Caldwell Community College & Technical Institute, Asheville-Buncombe Technical Community College, Western Piedmont Community College, Catawba Valley Community College, Surry Community College, Stanly Community College, Mitchell Community College, Mayland Community College, and Haywood Community College. These colleges were chosen based on their common geographical area and their mandatory placement policies and procedures to create a similar participant pool.

The purpose of this study was to identify differences between community college transfer students that participated in developmental education programs at the community college and community college transfer students that did not participate in developmental education programs at the community college using the North Carolina-Transfer Student Questionnaire (NC-TSQ) instrument. This instrument gathers information on transfer students’ experiences, academic performance, and perceptions related to their community college and university experiences. This chapter was divided into five sections in order to increase the readers’ understanding of the conclusions. The sections include: (a) an overview of the study, research questions and hypotheses, and findings; (b) key findings and conclusions; (c) recommendations for future research; and (d) implications for practice.
Overview of the Study, Research Question, and Hypothesis

This study explored the differences between community college transfer students that participated in developmental education programs at the community college and community college transfer students that did not participate in developmental education at the community college. The participants were accessed after they had completed their first year in the university environment. Of the 715 community college graduates from the nine rural community colleges in North Carolina, 235 (33 percent) were currently enrolled in one of the 16 public universities in North Carolina. In the summer of 2003, the NC-TSQ was mailed to the students. Forty-seven percent (N=111) of the community college transfer students returned the completed instruments. Forty-three percent (n=48) of the respondents had taken developmental courses at the community college prior to transfer and 57 percent (n=63) of the respondents had not taken developmental courses at the community college prior to transfer. The NC-TSQ was used to evaluate the academic performance and experiences of the two groups included in the study. Forty variables were evaluated using the NC-TSQ.

This project used a comparative research methodology to determine differences between the two groups, one with a particular characteristic and one without the characteristic (Gall, Borg, & Gall, 1996). The components of the study consisted of four different parts of description and analysis. The first analysis was based on the demographics of all community college transfer students from the nine community colleges. The researcher accessed student identification within the population of community college transfer students based on developmental and non-developmental enrollment through the use of inform statements. The differences in academic performance and experiences based on community college g.p.a., university g.p.a, and other demographic variables were compared to examine differences
before and after the transfer process. These data were then compared for the developmental and non-developmental groups. The second analysis was computed on questions related to the groups’ community college performance and experiences. The final component consisted of an analysis of the responses on university questions of developmental transfer students and non-developmental transfer students.

**The Research Question**

The overarching question was: “Does participation in developmental programs in community college level the differences between developmental and non-developmental transfer students?”

Frequencies of responses to each of the items included within demographic variables were reported to create a profile for developmental community college transfer students and non-developmental community college transfer students.

The following null hypotheses for each of the two research questions were tested. Failure to reject the null hypotheses was based on the variances at the p<.0042 for Chi-Square analyses and p<.0018 for ANOVA analyses using Bonferroni adjustments to create functional levels of significance.

**Research Question One**

Are there differences in community college performance and experiences variables between developmental transfer students and non-developmental transfer students?

The differences between the independent variables, developmental community college transfer students and non-developmental community college transfer students, and the 12 dependent variables on community college academic performance and experiences were measured by Chi-Square for nominal data and ANOVA for ordinal data.
H_{1a-1l} There is no significant difference between developmental and non-developmental community college transfer students in relation to the 12 variables on community college academic performance and experiences.

The null hypotheses, H_{1a-1l}, were not rejected for 10 of the 12 community college variables. The null hypotheses related to weekly hours spent working while attending community college (CCWRKHRS) and experiences with faculty at the community college (CCEXFAC) were rejected.

Research Question Two. Are there differences in university performance and experiences variables between developmental transfer students and non-developmental transfer students?

The difference between the independent variables, developmental community college transfer students and non-developmental community college transfer students, on the 18 dependent variables on university academic performance and experiences was measured by Chi-Square analyses for nominal data and ANOVA analyses for ordinal data.

H_{2a-2r} There is no significant difference between developmental and non-developmental community college transfer students in relation to the 18 variables on university academic performance and experiences.

The null hypotheses, H_{2a-2r}, were not rejected for 17 of the 18 university variables. The null hypothesis related to participation in activities at the university (UNACTIV) was rejected.

Tables 9.1 and 9.2, report the results of the tests on the null hypotheses for community college and university variables.
Table 8.1. Tests on the Null Hypotheses for Community College Variables.

<table>
<thead>
<tr>
<th>Null Hypotheses</th>
<th>Dependent Variables</th>
<th>Test Results</th>
<th>Statistical Test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H_{1a}</td>
<td>CCHRSCAM</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.725</td>
</tr>
<tr>
<td>H_{1b}</td>
<td>CCHRSSSTD</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.214</td>
</tr>
<tr>
<td>H_{1c}</td>
<td>CCWRKhrs</td>
<td>Rejected</td>
<td>ANOVA</td>
<td>.000*</td>
</tr>
<tr>
<td>H_{1d}</td>
<td>CCGPA</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.003</td>
</tr>
<tr>
<td>H_{1e}</td>
<td>CCACTIV</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.292</td>
</tr>
<tr>
<td>H_{1f}</td>
<td>CCCOURSE</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.005</td>
</tr>
<tr>
<td>H_{1g}</td>
<td>CCACOUNS</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.195</td>
</tr>
<tr>
<td>H_{1h}</td>
<td>TRANSFER</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.526</td>
</tr>
<tr>
<td>H_{1i}</td>
<td>CCLEARN</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.347</td>
</tr>
<tr>
<td>H_{1j}</td>
<td>CEEXFAC</td>
<td>Rejected</td>
<td>ANOVA</td>
<td>.000*</td>
</tr>
<tr>
<td>H_{1k}</td>
<td>CCCLUBS</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.004</td>
</tr>
<tr>
<td>H_{1l}</td>
<td>CCWRITE</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.836</td>
</tr>
</tbody>
</table>

*p<.0018.

Note: Variable symbols are defined in Table 3.

Table 8.2. Tests on the Null Hypotheses for University Variables.

<table>
<thead>
<tr>
<th>Null Hypotheses</th>
<th>Dependent Variables</th>
<th>Test Results</th>
<th>Statistical Test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H_{2a}</td>
<td>UNWRKhrs</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.273</td>
</tr>
<tr>
<td>H_{2b}</td>
<td>UNRESIDE</td>
<td>Not rejected</td>
<td>Chi-Square</td>
<td>.395</td>
</tr>
<tr>
<td>H_{2c}</td>
<td>UNGRADDT</td>
<td>Not rejected</td>
<td>Chi-Square</td>
<td>.271</td>
</tr>
<tr>
<td>H_{2d}</td>
<td>UNFDSTUD</td>
<td>Not rejected</td>
<td>Chi-Square</td>
<td>.391</td>
</tr>
<tr>
<td>H_{2e}</td>
<td>UNREAS</td>
<td>Not rejected</td>
<td>Chi-Square</td>
<td>.201</td>
</tr>
<tr>
<td>H_{2f}</td>
<td>UNGPA</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.419</td>
</tr>
<tr>
<td>H_{2g}</td>
<td>INFLUENCE</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.371</td>
</tr>
<tr>
<td>H_{2h}</td>
<td>STO</td>
<td>Not rejected</td>
<td>Chi-Square</td>
<td>.072</td>
</tr>
<tr>
<td>H_{2i}</td>
<td>UNEXFAC</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.376</td>
</tr>
<tr>
<td>H_{2j}</td>
<td>UNCLUBS</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.583</td>
</tr>
<tr>
<td>H_{2k}</td>
<td>UNLEARN</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.038</td>
</tr>
<tr>
<td>H_{2l}</td>
<td>INVOLVE</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.256</td>
</tr>
<tr>
<td>H_{2m}</td>
<td>UNACOUNS</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.005</td>
</tr>
<tr>
<td>H_{2n}</td>
<td>PERCEPT</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.375</td>
</tr>
<tr>
<td>H_{2o}</td>
<td>SATISFAC</td>
<td>Not rejected</td>
<td>ANOVA</td>
<td>.067</td>
</tr>
<tr>
<td>H_{2p}</td>
<td>UNACTIV</td>
<td>Rejected</td>
<td>ANOVA</td>
<td>.000*</td>
</tr>
<tr>
<td>H_{2q}</td>
<td>CHANCES</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.006</td>
</tr>
<tr>
<td>H_{2r}</td>
<td>ADJUST</td>
<td>Not Rejected</td>
<td>ANOVA</td>
<td>.761</td>
</tr>
</tbody>
</table>

*p<.0018

Note: Variable symbols are defined in Table 4.
Key Findings and Conclusions

This study investigated the differences between developmental community college transfer students and non-developmental transfer students based on their demographic profiles, academic performance, and experiences at the community college and university. The major results of the statistical analysis on 10 demographic variables, 12 community college variables, and 18 university variables, would tend to support previous researchers that concluded that there is no overall significant difference in the academic performance and experiences of developmental community college transfer students and non-developmental transfer students.

However, significant findings were discovered that should add to the current body of research on developmental education. The discussion of the findings will be presented in three sections: (a) demographic profiles, (b) community college academic performance and experiences, and (c) university academic performance and experiences.

Demographic profiles

Based on the responses of the students, developmental community college transfer students are similar in profile to non-developmental community college transfer students. Table 9 provides a summary of the findings on demographic variables included in this study. However, variations are evident in the year that students transferred to the university (TRANSYR), students’ high school average grade (HSAVGGRD), and the students’ self ratings on academic abilities and social skills (SELF). These variations may have relationships to the students’ participation in developmental programs at the community college.
Table 9. Summary of the Demographic Profiles of Developmental and Non-developmental Community College Transfer Students.

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Developmental</th>
<th>Non-Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSYR</td>
<td>Majority in Fall 2001</td>
<td>Majority in Spring 2002</td>
</tr>
<tr>
<td>HSAVGGRD</td>
<td>Majority “B+”</td>
<td>Majority “A+” to “A-“</td>
</tr>
<tr>
<td>AGE</td>
<td>Majority 21 yrs. to 24 yrs.</td>
<td>Majority 21 yrs. to 24 yrs.</td>
</tr>
<tr>
<td>GENDER</td>
<td>Majority female</td>
<td>Majority female</td>
</tr>
<tr>
<td>RACE</td>
<td>Majority white</td>
<td>Majority white</td>
</tr>
<tr>
<td>MOMED</td>
<td>Approximately 50% had experienced higher education.</td>
<td>Approximately 50% had experienced higher education.</td>
</tr>
<tr>
<td>POPED</td>
<td>Majority had experienced higher education.</td>
<td>Majority had experienced higher education.</td>
</tr>
<tr>
<td>HIDEGREE</td>
<td>Majority planned to complete at least a bachelor’s or master’s degree.</td>
<td>Majority planned to complete at least a bachelor’s or master’s degree.</td>
</tr>
<tr>
<td>PARINC</td>
<td>Majority of parents’ household incomes were over $40,000/yr.</td>
<td>Majority of parents’ household incomes were over $40,000/yr.</td>
</tr>
</tbody>
</table>

Demographic profiles compared responses on demographic variables related to the participants’ backgrounds and academic performance at the community college and university. Students were categorized into two groups; developmental transfer students and non-developmental transfer students. Ten variables were identified that related to demographic factors of the community college transfer students. The demographic variables consisted of the year students transferred to the university, students’ high school average grade, current age, gender, race, highest level of education attained by the mothers, highest
level of education attained by the fathers, highest academic degree students plan to complete, parents’ household income, and a self-rating of students’ traits.

A sizeable majority, 81.25 percent, of the developmental community college transfer students transferred during the fall of 2001, compared to 36.06 percent of the non-developmental community college transfer students. Based on the additional number of courses required for completion of an associate’s degree through the developmental education track, it is assumed by the researcher that developmental community college students usually take longer to complete degree requirements at the community college than do non-developmental transfer students. Therefore, based on the findings in this study, one may conclude that developmental community college transfer students are more prepared for transfer and need to expedite the transfer process in order to complete baccalaureate degree requirements within a reasonable amount of time.

The majority (55.31) of the developmental community college transfer students reported that their average grade in high school was a “B+”. Comparatively, 66.67 percent of non-developmental community college transfers reported that their high school average grades were between “A+” and “A-“. Based on informal studies conducted by the researcher, the difference in high school performance may contribute to placement into developmental education courses at the community college, even though high school performance is not used in the placement process at community colleges.

The average current age of developmental community college transfer students and non-developmental community college transfer students was similar to the average age of other community college students in North Carolina. The majority (58.6 percent) of the respondents in this study were female. The percentage is similar to community college
students in North Carolina. In relation to race, approximately 80 percent were white, seven percent were African-American, and all other ethnic groups consisted of less than three percent of the total respondents. This represents a population quite similar to the North Carolina profile of community college students.

According to the literature, parents’ education level is a significant factor in predicting the academic success of their children. Approximately 49 percent of the developmental respondents’ mothers had experienced some degree of higher education. Similarly, approximately 52 percent of the non-developmental respondents had experienced some degree of higher education. With regards to level of education attained by the community college transfer students’ fathers, the data indicate that approximately 69 percent of the developmental groups’ fathers had experienced some degree of higher education. Similarly, approximately 73 percent of the non-developmental groups’ fathers had experienced some degree of higher education. The level of participation in higher education of the parents may affect the performance and experiences in higher education of their sons and daughters.

The plans of the community college transfer students were similar in relation to developmental and non-developmental groups. Approximately 90 percent of the students in each group indicated plans to complete at least a bachelor’s or master’s degree. Approximately 10 percent of the students in each group indicated plans to complete a doctorate or professional degree as their highest goal in higher education.

The NC-TSQ asked students to report their estimated parents’ total household income. Approximately 34 percent of the developmental students’ parents had an annual household income of less than $40,000 as compared to 16 percent of the non-developmental students’ parents. Proportionately, approximately 66 percent of the developmental students’ parents
had an annual household income of $40,000 or more as compared to 84 percent of the non-developmental students.

The majority of the students in the developmental (approximately 71 percent) and non-developmental (95 percent) scored in the high self rating range on the 13 attributes and perceptions. Proportionately, approximately 29 percent of the developmental respondents rated themselves low to average on the 13 attributes and perceptions and only approximately five percent of the non-developmental respondents rated themselves low to average on the 13 attributes and perceptions. The differences in percentages indicated that community college transfer students that took developmental courses at the community college had lower self ratings than community college transfer students that did not take developmental courses.

Community College Academic Performance and Experiences

The second section consisted of variables related to the community college academic performance and experiences for the transfer students. Twelve variables were identified for comparison between the two groups of participants relating to the community college experience. The 12 variables included: weekly hours on the community college campus, weekly hours spent studying at the community college, weekly hours spent working while attending community college, community college g.p.a., weekly hours in activities at the community college, perceptions of coursework at the community college, experiences with academic counseling services at the community college, experiences related to the transfer process at the community college, experiences with course learning at the community college, experiences with faculty at the community college, experiences with clubs and organizations at the community college, and experiences in writing at the community college.

Based on the findings in this study, there were no significant differences in developmental
community college transfer students and non-developmental community college transfer students overall. However, there was more significant variance in the community college academic performance and experiences variables than in the university academic performance and experiences variables. Table 11 reports the differences between developmental respondents and non-developmental respondents in relation to their community college academic performances and experience.

Table 10. Summary of the Comparison of Differences on the Community College Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Developmental</th>
<th>Non-Developmental</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCGPA</td>
<td>mean g.p.a 3.29</td>
<td>mean g.p.a. 3.56</td>
<td>.003</td>
</tr>
<tr>
<td>CCEXFAC</td>
<td>Less engaged with faculty.</td>
<td>More engaged with faculty.</td>
<td>.000*</td>
</tr>
<tr>
<td>CCCLUBS</td>
<td>Average participation with clubs.</td>
<td>Average participation with clubs.</td>
<td>.004</td>
</tr>
<tr>
<td>CCCOURSE</td>
<td>Average engagement in coursework.</td>
<td>Average engagement in coursework.</td>
<td>.005</td>
</tr>
<tr>
<td>CCWRKHS</td>
<td>Worked less per week.</td>
<td>Worked more per week.</td>
<td>.000*</td>
</tr>
<tr>
<td>CCHRSCAM</td>
<td>On campus 3 to 6 hours/week.</td>
<td>On campus 3 to 6 hours/week.</td>
<td>.725</td>
</tr>
<tr>
<td>CCHRSSTD</td>
<td>Studied 1 to 10 hours/week.</td>
<td>Studied 1 to 10 hours/week.</td>
<td>.214</td>
</tr>
<tr>
<td>CCACTIV</td>
<td>Min. engagement in activities.</td>
<td>Min. engagement in activities.</td>
<td>.292</td>
</tr>
<tr>
<td>CCACOUNS</td>
<td>Slightly engaged.</td>
<td>Slightly engaged.</td>
<td>.195</td>
</tr>
<tr>
<td>TRANSFER</td>
<td>Positive perceptions of transfer</td>
<td>Positive perceptions of transfer</td>
<td>.526</td>
</tr>
<tr>
<td>CCLEARN</td>
<td>Positive perceptions of course learning.</td>
<td>Positive perceptions of course learning.</td>
<td>.347</td>
</tr>
<tr>
<td>CCWRITE</td>
<td>Frequently engaged in writing.</td>
<td>Frequently engaged in writing.</td>
<td>.836</td>
</tr>
</tbody>
</table>

*p<.0018

The comparisons presented in Table 10, depict a somewhat homogenous group of students that make up the community college transfer students from the nine rural community colleges in relation to their community college academic performance and experiences. This can be used as justification for studying community college transfer students as a single population instead of doing intra-group comparisons.

However, according to the ANOVA tests, there was a significant difference between developmental community college transfer students and non-developmental community
college transfer students in relation to weekly hours spent working in a job for pay while attending the community college (CCWRKHRS). This difference could be attributed to the heavier course loads that developmental community college transfer students may enroll in, if they intend to complete transfer requirements in a reasonable time.

There was no significant difference in the community college g.p.a.’s (CCGPA) between the developmental community college transfer students and non-developmental community college transfer students. However, developmental education students are frequently classified as “academically under-prepared” upon entrance into the higher education environment. Therefore, slightly lower g.p.a.’s may result from their refreshment and adjustment process to college level coursework.

Another important significant difference was observed in the level of engagement with faculty (CCEXFAC) between the developmental and non-developmental groups. Developmental community college transfer students were less engaged with faculty than non-developmental community college transfer students. Experiences with faculty are an important aspect of the educational experience and differences between the two groups may be related to the prior academic experiences of the students. It may also be an indicator of why developmental students may be “behind” in academic preparation when they enter the community college.

These differences represent the responses on a survey instrument by 111 community college transfer students in North Carolina. The analysis of an intra-group comparison of these students based on their participation in developmental education programs at the community college, resulted in the identification of significant differences on two of the 12 variables included on the NC-TSQ. Therefore, the researcher concluded that overall,
community college transfer students were more homogenous than different within their own research group in relation to their performance and experiences at the community college.

*University Academic Performance and Experiences*

The third section consisted of variables related to the university academic performance and experiences of the community college transfer students. Eighteen variables from the NC-TSQ were selected for the university question analysis. The 18 variables included:

- weekly hours working while attending the university,
- place of residence at the university,
- expected graduation date from the university,
- description of the students’ major field of study,
- reasons they attended the university,
- university g.p.a.,
- reasons that influenced students to attend the university,
- experiences with faculty at the university,
- experiences with clubs and organizations at the university,
- experiences in learning at the university,
- involvement in various activities at the university,
- experiences with academic counseling services at the university,
- perceptions about the university,
- level of satisfaction about the university,
- participation in various activities at the university,
- chances that various things would happen to the students while attending the university,
- adjustment to the university environment.

Based on the findings in this study, there were no significant differences in developmental community college transfer students and non-developmental community college transfer students overall in relation to their university academic performance and experiences. However, there was less significant variance in the university academic performance and experiences variables than in the community college academic performance and experiences variables. Table 11 reports the differences between developmental respondents and non-developmental respondents in relation to their university academic performances and experience.
Table 11. Summary of the Comparison of Differences on the University Variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Developmental</th>
<th>Non-Developmental</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNLEARN</td>
<td>Engaged.</td>
<td>Engaged.</td>
<td>.038</td>
</tr>
<tr>
<td>UNACOUNS</td>
<td>Engaged.</td>
<td>Engaged.</td>
<td>.005</td>
</tr>
<tr>
<td>UNACTIV</td>
<td>Less engaged.</td>
<td>More engaged.</td>
<td>.000*</td>
</tr>
<tr>
<td>CHANCES</td>
<td>Inconclusive analysis</td>
<td>Inconclusive analysis</td>
<td>.006</td>
</tr>
<tr>
<td>UNWRKHRS</td>
<td>Worked 11 to 20 hours/wk.</td>
<td>Worked 11 to 20 hours/wk.</td>
<td>.273</td>
</tr>
<tr>
<td>UNRESIDE</td>
<td>Lived in an apartment within walking distance or a house off campus.</td>
<td>Lived in an apartment within walking distance or a house off campus.</td>
<td>.395</td>
</tr>
<tr>
<td>UNGRADDT</td>
<td>Expect to graduate between Fall 2003 and Spring 2004.</td>
<td>Expect to graduate between Fall 2003 and Spring 2004.</td>
<td>.271</td>
</tr>
<tr>
<td>UNFDSTUD</td>
<td>Enrolled in Physical Sciences and Social Sciences.</td>
<td>Enrolled in Physical Sciences and Social Sciences.</td>
<td>.391</td>
</tr>
<tr>
<td>UNREAS</td>
<td>Attended to attain a bachelor’s degree or gain skills for a new career.</td>
<td>Attended to attain a bachelor’s degree or gain skills for a new career.</td>
<td>.201</td>
</tr>
<tr>
<td>INFLUENCE</td>
<td>Inconclusive analysis.</td>
<td>Inconclusive analysis.</td>
<td>.371</td>
</tr>
<tr>
<td>STO</td>
<td>Similar in participation in summer transfer orientation program.</td>
<td>Similar in participation in summer transfer orientation program.</td>
<td>.072</td>
</tr>
<tr>
<td>UNEXFAC</td>
<td>Frequently involved with faculty.</td>
<td>Frequently involved with faculty.</td>
<td>.376</td>
</tr>
<tr>
<td>INVOLVE</td>
<td>Frequently involved in activities.</td>
<td>Frequently involved in activities</td>
<td>.256</td>
</tr>
<tr>
<td>SATISFAC</td>
<td>Very satisfied with the university.</td>
<td>Very satisfied with the university.</td>
<td>.067</td>
</tr>
<tr>
<td>PERCEPT</td>
<td>Similar perceptions. mean 3.25</td>
<td>Similar perceptions. mean 3.16</td>
<td>.375</td>
</tr>
<tr>
<td>UNGPA</td>
<td>Similar participation in clubs.</td>
<td>Similar participation in clubs.</td>
<td>.419</td>
</tr>
<tr>
<td>UNCLUBS</td>
<td>Similar experiences with adjustment.</td>
<td>Similar experiences with adjustment.</td>
<td>.583</td>
</tr>
<tr>
<td>ADJUST</td>
<td>Similar experiences with adjustment.</td>
<td>Similar experiences with adjustment.</td>
<td>.761</td>
</tr>
</tbody>
</table>

*p<.0018

The comparisons presented in Table 11, demonstrate a homogenous group of community college transfer students in relation to their university academic performance and experiences. This also supports the justification for researchers to study community college transfer students as a single group after they have transferred to the university. However,
there was a significant difference between developmental community college transfer students and non-developmental community college transfer students on one of the 18 variables associated with university academic performance and experiences. The groups were significantly different in their responses to the variable relating to participation in activities at the university (UNACTIV).

On the UNACTIV variable, developmental community transfer students were not engaged in various activities at the university as much as non-developmental community college transfer students.

The analysis of an intra-group comparison of these students based on their participation in developmental education programs at the community college, resulted in the identification of a significant difference on one of the 18 variables related to university academic performance and experiences included on the NC-TSQ. Therefore, the researcher concluded that overall, community college transfer students were more homogenous than different within their own research group in relation to their performance and experiences at the university.

Summary of the Findings

The findings of this study provide important comparisons on the responses between developmental community college transfer students and non-developmental community college transfer students in their profiles, community college related questions, and university related questions. The findings also support previous studies that used community college transfer students as a homogenous group. However, researchers now have another tool to build future studies on the success of community college transfer students and the impact of developmental education.
The results of this study do not conclude that developmental education “levels” the academic performance and experiences for community college transfer students that participated in these programs at the community college. However, it does provide support to certain aspects of that concept and contributes to the research on evaluating differences within a specific student population: community college transfers.

The findings of this study can be generalized to community college transfer students from rural community colleges in North Carolina. Further generalizations would be ill advised based on the variance in developmental education programs across the United States. It is also difficult to generalize the findings of this study to all community colleges in North Carolina due to the differences in organizational philosophy on developmental education throughout the system.

Recommendations for Future Research

1. Further research is recommended to determine the level of impact that developmental education has on transfer students that participated in these programs at the community college in relation to other factors that impact student success.

2. Now that the NC-TSQ has been adapted from Laanan’s UCLA-TSQ and used in North Carolina, further research should be conducted on all community college transfer students in North Carolina to determine if the findings of this study are applicable to other transfer students in the state.

3. More intensive analyses on the NC-TSQ are recommended to determine if specific factors are of more importance in relation to students’ academic performance and experiences at the community college and university.
4. Qualitative studies should be conducted on the academic performance and experiences of community college transfer students that took developmental courses at the community college and community college transfer students that did not take developmental courses at the community college to evaluate factors that impact student success.

5. Additional research on various classifications of student groups from the community college should be conducted to examine differences of the groups’ academic performance and experiences after graduation.

6. Comparisons of similar variables from the community college responses and university responses should be researched further to examine changes that may be evident over time.

**Implications for Practice**

Developmental education is one of many interventions used by community college practitioners to level the higher education playing field for students that choose to attend these institutions. With the open door admissions policies of community colleges in the United States, we must continue to explore methods of providing sound educational experiences for every student, regardless of academic ability.

Based on the results of this study, it is evident that engagement in various aspects of the higher education experience varies between different groups of students. Both community college and university professionals should focus on the characteristics of different student groups that access their institutions and provide appropriate services based on the practices developed from sound research. Community colleges and universities should also communicate more effectively about community college transfer students in order to enhance
the level of intervention that is provided to students with specific needs. Boylan (1999) wrote, “…just because students may enter a university under-prepared does not mean that they cannot be successful there given appropriate interventions…” (p. 3). This concept also applies to community colleges and community college transfer students.

Based on this study, it was determined that developmental community college transfer students lag behind non-developmental community college transfer students in relation to their levels of engagement in university campus activities and self confidence. These two variables are important for university practitioners in developing strategies to engage developmental transfer students more effectively into the campus environment and encouraging academic success based on expectations. Understanding the dimensions and impact of engagement on all levels should be a primary concern for all professionals in higher education.

Roueche and Roueche (1999) suggested in their studies that although major expenditures continue to be dedicated to developmental education, researchers have failed to provide convincing evidence of the overall value of these programs. Additional studies may provide data that can result in changes and modifications of current educational plans and policies to better prepare the students in higher education to reach their desired outcomes.

**Summary**

The purpose of this study was to identify differences between community college transfer students that participated in developmental education programs at the community college and community college transfer students that did not participate in developmental education programs at the community college using the North Carolina-Transfer Student Questionnaire
(NC-TSQ) instrument. This chapter provided key findings, conclusions, recommendations for future research and implications for practice.

This information was presented in a manner intended to spark the interest for future researchers to investigate the dimensions of academic performance and experiences of different groups within the community college transfer population. We must continue to explore the characteristics and needs of our students as we attempt to provide educational opportunities that will enrich the lives of those that walk through the doors of higher education. Our future lies within the level of value placed on higher education throughout the nation. Therefore, we must continue to pursue new strategies to enhance the quality of the product that we provide to our students—Education.
References


http://www.ncccs.cc.nc.us/statistical_Reports/1table3_9900.pdf


APPENDIX A

North Carolina – Transfer Student Questionnaire
Dear Student:

The purpose of this inquiry is to learn about various aspects of community college transfer students’ experiences. Questions about your previous experiences at the community college and your current or recent involvement at the university are presented. This information obtained from you and from other students should provide new insight to administrators, faculty members, and student affairs professionals who provide the resources and shape programs to be of benefit to transfer students. Your willingness to participate is important and very much appreciated. Please be advised that your responses will remain CONFIDENTIAL.

When you have completed the questionnaire, please fold it and insert it in the Business Reply Mail envelope provided. Please return the questionnaire by 7. Your answers to these questions are important to us. Thank you very much.

### Year you transferred to the university
- Fall 2001
- Spring 2002

### What was your average grade in high school? (Mark ONE)
- A or A+
- B-
- A-
- C+
- B+
- C
- B-
- D

### Age _____ years

### Gender
- Male
- Female

### What is your racial or ethnic identification?
- African-American/Black
- Mexican/Mexican-American/Chicano
- Other Spanish-American/Latino (e.g., Cuban, Puerto Rican, Central American, South American)
- American Indian/Alaska Native
- Filipino/Filipino-American
- Vietnamese/Vietnamese-American
- Chinese/Chinese-American
- East Indian/Pakistani
- Japanese/Japanese-American
- Korean/Korean-American
- Pacific Islander
- White/Caucasian
- Other

### During the time at the university, about how many hours a week do (did) you usually spend working on a job for pay?
- none, I don’t have a job
- 1 – 10 hours
- 11 – 15 hours
- 16 – 20 hours
- 21 – 30 hours
- more than 30 hours

### Place of Residence (during academic year)
- residence hall or other university housing
- fraternity or sorority house
- private apartment or room within walking distance of the university
- house, apartment, etc. away from the campus
- with my parents or relatives

### What is the highest level of education completed by your parents? (Mark ONE in each column)

<table>
<thead>
<tr>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school or less</td>
<td>Elementary school or less</td>
</tr>
<tr>
<td>Some high school</td>
<td>Some high school</td>
</tr>
<tr>
<td>High school graduate</td>
<td>High school graduate</td>
</tr>
<tr>
<td>Some college</td>
<td>Some college</td>
</tr>
<tr>
<td>Associate’s degree from two-year</td>
<td>Associate’s degree from two-year</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Some graduate school</td>
<td>Some graduate school</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>Graduate degree</td>
</tr>
</tbody>
</table>

Adapted with permission from Dr. Frankie Santos Laanan, *Transfer Student Questionnaire*, 1998: UCLA.
During the last year at the community college, how much time did you spend during a typical week doing the following activities? Please indicate your response by putting the number (1 - 8) that best represents the time.

1 = None 5 = 6-10 hours
2 = Less than 1 hr. 6 = 11-15 hours
3 = 1-2 hours 7 = 16-20 hours
4 = 3-5 hours 8 = Over 20 hours

1. Socializing with friends
2. Talking with teachers outside of class
3. Exercise or sports
4. Party
5. Volunteer work (or community service)
6. Student clubs/groups
7. Watching TV
8. Housework/childcare
9. Reading for pleasure
10. Doing independent research
11. Commuting

What was your final community college GPA?

___. ____ (0.00)

The following questions address various aspects of your former community college experience. Please indicate your response by filling in ONE of the spaces to the left of each item.

1 = Disagree strongly 3 = Agree somewhat
2 = Disagree somewhat 4 = Strongly agree

General Courses

1. The courses developed my critical and analytical thinking.
2. The courses demanded intensive writing assignments and projects.
3. The courses provided an opportunity to work closely with faculty.
4. Overall, the courses were intellectually challenging.
5. The courses prepared me for the academic standards at the university.
6. The courses prepared me for my major at the university.
7. The course requirements were demanding.
8. The courses required extensive reading and writing.
9. Sought academic tutoring for classes.
10. Frequently studied in a group setting with other students.

Academic Counseling Services

1. Consulted with academic counselors regarding transfer.
2. Information received from academic counselor(s) was helpful in the transfer process.
3. Information helped me take the right courses to complete the transfer articulation agreement.
4. Met with academic counselors on a regular basis.
5. Talked with a counselor/advisor about courses to take, requirements, education plans.
6. Read information about a 4-year college or university that I was interested in attending.
7. Made an appointment with a counselor or an advisor to discuss my plans for transferring to a 4-year college or university.
8. Identified courses needed to meet the general education/major requirement of a 4-year college or university I was interested in attending.

This section pertains to your perceptions about the "transfer process" while you were at the community college.

Transfer Process

1. I researched various aspects of the 4-year to get a better understanding of the environment and academic experience.
2. I knew what to expect at the 4-year university in terms of academics.
3. I visited the 4-year campus to learn where offices and departments were located.
4. I sat in on lecture classes in my major.
5. I spoke to academic counselors at the 4-year about transferring and major requirements.
6. I felt confident about the new challenges at the 4-year university.
7. I felt insecure about making new friends at the 4-year university.
8. I felt overwhelmed about being at a large university with thousands of students.
9. I felt comfortable about being in large lecture classes.
10. I visited the admissions office at the 4-year.
11. I spoke to former community college transfers to gain an insight about their adjustment experiences.
Course Learning
- Took detailed notes in class.
- Participated in class discussions.
- Tried to see how different facts and ideas fit together.
- Thought about practical applications of the material.
- Worked on a paper or project where I had to integrate ideas from various sources.
- Summarized major points and information in my readings or notes.
- Tried to explain the material to another student or friend.
- Made outlines from class notes or readings.
- Did additional readings on topics that were introduced and discussed in class.

In your experience at the community college about how often did you do each of the following? Indicate your response by filling in ONE of the spaces to the left of each statement.

1 = Never
2 = Occasionally
3 = Often
4 = Very Often

Experience with Faculty
- Visited faculty and sought their advice on class project such as writing assignments and research papers.
- Felt comfortable approaching faculty outside class.
- Talked with a faculty member.
- Asked my instructor for information related to a course I was taking (grades, make-up work, assignments, etc.)
- Visited informally and briefly with an instructor after class.
- Made an appointment to meet with a faculty member in his/her office.
- Discussed ideas for a term paper or other class project with a faculty member.
- Discussed my career plans and ambitions with a faculty member.
- Asked my instructor for comments and criticisms about my work.
- Had coffee, cokes, or snacks with a faculty member.
- Worked with a faculty member on a research project.
- Discussed personal problems or concerns with a faculty member.

Clubs and Organizations
- Held an office in a club, organization, or student government.
- Looked in the student newspaper for notices about campus events and student organizations.
- Attended a program or event put on by a student group.
- Read or asked about a club, organization, or student government activity.
- Attended a meeting of a club, organization, or student government group.
- Voted in a student election.
- Discussed policies and issues related to campus activities and student government.
- Worked in some student organization or special project (publications, student government, social event, etc.)
- Discussed reasons for the success or lack of success of student club meetings, activities, or events.
- Met with a faculty advisor or administrator to discuss the activities of a student organization.

Experience in Writing
- Used a dictionary or thesaurus to look up the proper meaning of words.
- Consciously and systematically thought about grammar, sentence structure, paragraphs, word choice, and sequence of ideas or points as I was writing.
- Wrote a rough draft of a paper or essay and then revised it myself before handing it in.
- Spent at least five hours or more writing a paper (not counting time spent in reading or at the library).
- Asked other people to read something I wrote to see if it was clear to them.
- Referred to a book or manual about style of writing, grammar, etc.
- Revised a paper or composition two or more times before I was satisfied with it.
- Asked an instructor for advice and help to improve my writing.
- Made an appointment to talk with an instructor who had criticized a paper I had written.
The purpose of this section is to obtain information about your current (or past) experience at the university.

Which of the following comes closest to describing your major field of study?

☐ Arts (art, music, theater, etc.)
☐ Biological Sciences (biology, biochemistry, botany, zoology, etc.)
☐ Computer Science
☐ Engineering
☐ Humanities (literature, history, philosophy, etc.)
☐ Physical Sciences (physics, chemistry, mathematics, astronomy, earth science, etc.)
☐ Social Sciences (economics, political science, psychology, sociology, etc.)
☐ Foreign Language (French, Spanish, etc.)
☐ Area Studies (Latin American Studies, Asian Studies, African Studies, Chicano Studies, etc.)
☐ Interdepartmental majors (women's studies, etc.)
☐ Other: ____________________________________________

What is the most important reason for attending THIS UNIVERSITY? (Mark ONLY ONE answer)

☐ To obtain a bachelor's degree
☐ To gain skills necessary to enter a new job or occupation
☐ To pursue graduate or professional school
☐ To satisfy a personal interest (cultural, social)

What is your current cumulative university GPA? ___:___ (0.00)

DIRECTIONS: Below are some reasons that might have influenced your decision to attend the university. How important was each reason in your decision to come here? (Mark ONE answer for each possible reason.)

1 = Not Important
2 = Somewhat Important
3 = Important
4 = Very Important

☐ ☐ ☐ ☐ My teacher advised me.
☐ ☐ ☐ ☐ This university has a very good academic reputation.
☐ ☐ ☐ ☐ This university has a very good reputation for its social activities.
☐ ☐ ☐ ☐ I was offered financial assistance.
☐ ☐ ☐ ☐ This university has low tuition.
☐ ☐ ☐ ☐ Academic counselor(s) at 2-year advised me.
☐ ☐ ☐ ☐ I wanted to live near home.
☐ ☐ ☐ ☐ A friend suggested attending.
☐ ☐ ☐ ☐ A university representative recruited me.
☐ ☐ ☐ ☐ This university's graduates gain admission to top graduate/professional schools.
☐ ☐ ☐ ☐ This university's graduates get good jobs.
☐ ☐ ☐ ☐ Ranking in national magazines.
☐ ☐ ☐ ☐ Parents recommended that I attend this university.
☐ ☐ ☐ ☐ My brother(s)/sister(s) attended this university.

Did you attend a university Summer Transfer Orientation?
☐ Yes
☐ No

In your experience at the university, about how often did you do each of the following? Indicate your response by filling in ONE of the spaces to the left of each statement.

1 = Never
2 = Occasionally
3 = Often
4 = Very Often

Experience with Faculty
☐ ☐ ☐ ☐ Visited faculty and sought their advice on class project such as writing assignments and research papers.
☐ ☐ ☐ ☐ Felt comfortable approaching faculty outside class.
☐ ☐ ☐ ☐ Talked with a faculty member.
☐ ☐ ☐ ☐ Asked my instructor for information related to a course I was taking (grades, make-up work, assignments, etc.)
☐ ☐ ☐ ☐ Visited informally and briefly with an instructor after class.
☐ ☐ ☐ ☐ Made an appointment to meet with a faculty member in his/her office.
☐ ☐ ☐ ☐ Discussed ideas for a term paper or other class project with a faculty member.
☐ ☐ ☐ ☐ Discussed my career plans and ambitions with a faculty member.
☐ ☐ ☐ ☐ Asked my instructor for comments and criticisms about my work.
☐ ☐ ☐ ☐ Had coffee, cokes, or snacks with a faculty member.
☐ ☐ ☐ ☐ Worked with a faculty member on a research project.
☐ ☐ ☐ ☐ Discussed personal problems or concerns with a faculty member.

Clubs and Organizations
☐ ☐ ☐ ☐ Held an office in a club, organization, or student government.
☐ ☐ ☐ ☐ Looked in the student newspaper for notices about campus events and student organizations.
☐ ☐ ☐ ☐ Attended a program or event put on by a student group.
☐ ☐ ☐ ☐ Read or asked about a club, organization, or student government activity.
☐ ☐ ☐ ☐ Attended a meeting of a club, organization, or student government group.
☐ ☐ ☐ ☐ Voted in a student election.
☐ ☐ ☐ ☐ Discussed policies and issues related to campus activities and student government.
☐ ☐ ☐ ☐ Worked in some student organization or special project (publications, student government, social event, etc.)
☐ ☐ ☐ ☐ Discussed reasons for the success or lack of success of student club meetings, activities, or events.
☐ ☐ ☐ ☐ Met with a faculty advisor or administrator to discuss the activities of a student organization.
DIRECTIONS: In your experience at the university, about how often did you do each of the following? Indicate your response by filling in ONE of the spaces to the left of each statement.
1 = Never
2 = Occasionally
3 = Often
4 = Very Often

Course Learning
☐ I ☐ II ☐ III ☐ Took detailed notes in class.
☐ I ☐ II ☐ III ☐ Participated in class discussions.
☐ I ☐ II ☐ III ☐ Tried to see how different facts and ideas fit together.
☐ I ☐ II ☐ III ☐ Thought about practical applications of the material.
☐ I ☐ II ☐ III ☐ Worked on a paper or project where I had to integrate ideas from various sources.
☐ I ☐ II ☐ III ☐ Summarized major points and information in my readings or notes.
☐ I ☐ II ☐ III ☐ Tried to explain the material to another student or friend.
☐ I ☐ II ☐ III ☐ Made outlines from class notes or readings.
☐ I ☐ II ☐ III ☐ Did additional readings on topics that were introduced and discussed in class.

Involvement Activities
☐ I ☐ II ☐ III ☐ Attended Academic Workshops.
☐ I ☐ II ☐ III ☐ Utilized Student Psychological Services.
☐ I ☐ II ☐ III ☐ Utilized services offered by Placement and Career Planning.
☐ I ☐ II ☐ III ☐ Utilized tutorial services.
☐ I ☐ II ☐ III ☐ Purchased lecture notes to use as additional study guides for class.
☐ I ☐ II ☐ III ☐ Utilized services offered by Writing Programs.
☐ I ☐ II ☐ III ☐ Visited a museum on campus.
☐ I ☐ II ☐ III ☐ Attended an event sponsored by a student cultural organization.
☐ I ☐ II ☐ III ☐ Attended an athletic event.
☐ I ☐ II ☐ III ☐ Participated in intramural sports.
☐ I ☐ II ☐ III ☐ Participated in recreation classes.
☐ I ☐ II ☐ III ☐ Participated in a paid/non-paid internship.

Academic Counseling Services
☐ I ☐ II ☐ III ☐ I meet with academic counselors on a regular basis.
☐ I ☐ II ☐ III ☐ Talked with a counselor from my major department re: courses and major.
☐ I ☐ II ☐ III ☐ Utilized services offered by culturally-based retention programs.

DIRECTIONS: The following are statements about your general perceptions, adjustment process, and opinions about your overall satisfaction at the university. (Mark ONE for each item).
1 = Disagree Strongly
2 = Disagree Somewhat
3 = Agree Somewhat
4 = Agree Strongly

General Perceptions of the University
☐ I ☐ II ☐ III ☐ Faculty are difficult to approach.
☐ I ☐ II ☐ III ☐ Faculty tend to be inaccessible to students.
☐ I ☐ II ☐ III ☐ Faculty tend to be more interested in their research than spending time with undergraduates.
☐ I ☐ II ☐ III ☐ I mostly go to the Teaching Assistant for help in a class versus faculty.
☐ I ☐ II ☐ III ☐ Because I was a "community college transfer," most students tend to underestimate my abilities.
☐ I ☐ II ☐ III ☐ Because I was a "community college transfer," most faculty tend to underestimate my abilities.
☐ I ☐ II ☐ III ☐ There is a stigma at the university among students for having started at a community college.
☐ I ☐ II ☐ III ☐ Generally, students are more concerned about "getting the grade" instead of learning the material.
☐ I ☐ II ☐ III ☐ There is a competitive nature among students at the university.
☐ I ☐ II ☐ III ☐ Many students feel like they do not "fit in" on this campus.
☐ I ☐ II ☐ III ☐ Professors are strongly interested in the academic development of undergraduates.
☐ I ☐ II ☐ III ☐ Most students are treated like "numbers in a book."
☐ I ☐ II ☐ III ☐ Student services are responsive to student needs.
☐ I ☐ II ☐ III ☐ If students expect to benefit from what the university has to offer, they have to take the initiative.
☐ I ☐ II ☐ III ☐ I feel the courses I have taken have been interesting and worthwhile.
☐ I ☐ II ☐ III ☐ The university is an intellectually stimulating and often exciting place to be.
☐ I ☐ II ☐ III ☐ I would recommend to other transfer students to come to this university.
☐ I ☐ II ☐ III ☐ If I could start over again, I would go to the same university I am now attending.
1 = Disagree Strongly
2 = Disagree Somewhat
3 = Agree Somewhat
4 = Agree Strongly

Adjustment Process
- Adjusting to the academic standards or expectations has been difficult.
- Adjusting to the social environment at the university has been difficult.
- I often feel (felt) overwhelmed by the size of the student body.
- Upon transferring I felt alienated at the university.
- I am (was) very involved with social activities at the university.
- I am meeting (I've met) as many people and making as many friends as I would like at the university.
- The large classes intimidate me.
- It is difficult to find my way around campus.
- My level of stress increased when I started the university.
- I experienced a dip in grades (GPA) during the first and second semester.
- It is (was) easy to make friends at the university.
- I feel (felt) most comfortable spending time with friends that I made at the two-year I attended.
- I feel (felt) more comfortable making friends with transfer students than non-transfer students.
- There is a sense of competition between/among students at that is not found in community colleges.

Please rate your satisfaction on each of the aspects of campus life listed below.

1 = DisSatisfied
2 = Neutral
3 = Satisfied
4 = Very Satisfied

College Satisfaction
- Sense of belonging at the university.
- Overall quality of instruction.
- Sense of community on campus.
- Academic advising.
- Career counseling and advising.
- Student housing.
- Courses in your major field.
- Financial aid services.
- Amount of contact with faculty.
- Opportunities for community service.
- Job placement/ment services for students.
- Campus health services.
- Class size.
- Interaction with other students.
- Ethnic/racial diversity of the faculty.
- Leadership opportunities.
- Recreational facilities.
- Overall college experience.

DIRECTIONS: Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark ONE for each item.)

1 = Lowest 10%
2 = Below Average
3 = Average
4 = Above Average
5 = Highest 10%

- Academic ability
- Artistic ability
- Competitiveness
- Cooperative
- Creativity
- Drive to achieve
- Leadership ability
- Mathematical ability
- Public speaking ability
- Self-Confidence (intellectual)
- Self-Confidence (social)
- Understanding of others
- Writing ability

During the last year at the university, how much time did you spend during a typical week doing the following activities: Please indicate your response by putting the number (1-6) that best represents the time.

1 = None
2 = Less than 1 hr.
3 = 1-2 hrs.
4 = 3-5 hrs.
5 = 6-10 hrs.
6 = Over 20 hrs.

Please fill in corresponding number:
- Socializing with friends
- Studying/homework
- Talking with teachers outside of class
- Exercise or sports
- Partying
- Volunteer work (or community service)
- Student clubs/groups
- Watching TV
- Housework/childdcare
- Reading for pleasure
- Doing independent research
- Commuting

What is your best guess as to the chances that you will: (Mark ONE for each item).

1 = No Chance
2 = Very Little Chance
3 = Some Chance
4 = Very Good Chance

- Fail one or more classes.
- Graduate with honors.
- Be elected to student office.
- Work full-time while attending college.
- Make at least a "B" average.
- Be satisfied with your college.
- Participate in student protests or demonstrations.
- Pursue graduate/professional school.
- Participate in an ethnic/racial student organization.
- Need extra time to complete your degree requirements (more than 2 years).
Dear [Name],

I am surveying community college transfer students for the purpose of examining your experiences and performance at your community college and your experiences and performance at the university that you have attended for the past year. Approximately 200 transfer students from the North Carolina Community College System have been chosen to participate in this important study. The information that you provide through the completion of this survey will only be reported in group formats; guaranteeing that you will not be identified by your responses. The main purpose of this survey will be to examine how well the University of North Carolina system and the North Carolina Community College System are meeting the needs of transfer students.

I know that your time is valuable, but I hope that you will take about fifteen minutes to answer the questions on this survey. This is your opportunity to help us anticipate the needs of future transfer students in North Carolina.

Your participation in this study is completely voluntary and your willingness to participate will have no affect on your status as a student in the University of North Carolina system. Your responses will remain confidential.

Your completion of this survey grants permission to the researcher to use your answers in the research report in a manner which does not identify respondents individually. If you would like more information about this research project, please feel free to contact me at 828-726-2722 or via email at ghinshaw@cccti.edu Thank you in advance for your time and for supporting the efforts of this study to improve the quality for transfer students at community colleges and universities in North Carolina.

Sincerely,

Garrett D. Hinshaw
Dean of Students, CCC&TI