A study of factors that contribute to the academic achievement of African American freshmen at Iowa State University

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A study of factors that contribute to the academic achievement of African American freshmen at
Iowa State University

by

Yasan Jones

A Thesis Submitted to the Graduate Faculty in Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

Department: Professional Studies in Education Major: Education (Higher Education)

Signatures have been redacted for privacy

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TABLE OF CONTENTS

CHAPTER I  INTRODUCTION.................................................................................. 1
CHAPTER II REVIEW OF LITERATURE.................................................................12
CHAPTER III METHODODOLOGY ......................................................................62
CHAPTER IV RESULTS .......................................................................................65
CHAPTER V DISCUSSION, SUMMARY, IMPLICATIONS, AND
RECOMMENDATIONS.........................................................................................73
REFERENCES......................................................................................................81
ACKNOWLEDGMENTS.........................................................................................91
APPENDIX A: HUMAN SUBJECTS REVIEW FORM............................................92
CHAPTER I
INTRODUCTION

With the ruling of the *Brown v. The Board of Education in Topeka* (1954), the Supreme Court outlawed segregation in the United States' public school systems. Shortly thereafter, the ruling in the *Lucy v. Adams* (1955) made it possible for many African Americans to enroll and graduate from predominantly white universities. Many institutions have stayed in compliance with laws set forth by the constitution eliminating barriers to admission and matriculation at white universities.

There are far too many minority students dropping out of college for one reason or the other. Because many predominantly white universities have a strong commitment to the recruitment of minority students, retention rates of minority students need examining. The declining rates of African American students in college have tripled since the sixties. With these alarming statistics, special needs must be met in order for the atmosphere to be conducive for African American students to be retained on the college campus. Many universities are passing in recruiting but failing in retaining minority students. The institution has more than just a commitment to recruit minority students; they must retain them. In order to do this, there must be programs set aside to meet the special conditions of minority students (Robinson, 1990).
African American students who matriculate at predominantly white universities have to make serious adjustments to the environment in which they live in order to be successful in college. They have to adjust to the classroom size and faculty. The stress level is higher for African American students because they have to prove to themselves and others that they can make it. They have to face racial tension and cope with it. In most cases, students do not adjust, therefore causing anxiety and frustration (Peterson & Rodriguez, 1979). Because there is a greater feeling of isolation by African American students, it creates stress and social problems. Minority students experience racism, prejudice, and discrimination on and off campus (Suen, 1983). This causes black students to withdraw from the educational process, drop out of college, or fail out (Galicki & McEwen, 1989).

There is a need for services that advise black students. These kind of services help the student to cope with academic deficiencies and their environment. These services offer students some parental guidance that is beneficial to them. African American students who do not have a support system are more likely to drop out their first year in college. Studies have shown that there has been a 25% rate of retention for students who use these programs (Burrell & Trobley, 1983). These programs she be the first initial contact that minority students have with the campus and the services they offer. (Haellenschwiller, 1971).
In order for these institutions to better provide equal educational opportunity and access, the question must be asked, how do black students differ from white students? This question has been examined through thorough investigations and the findings indicated that black students and white students have totally different needs. According to Wright (1987), these differences are based on diverse cultural, social and economic backgrounds. Studies have found that African American students come to college academically unprepared because of their enrollment at under equipped public schools (Astin & Cross, 1981). It was noted by Wright that African American students are far more financially disadvantaged and less involved in campus activities. These students are either unaffected or negatively affected by their college environment. Many African American students would be characterized into this group according to Wright (1987), but not all African American students are alike, and neither do they have similar experiences in college.

Carroll (1988) in an expost facto study wanted to investigate whether participation or non participation in college retention programs were important in the retention or attrition of disadvantaged African American students. The researcher examined how demographic characteristics of status and language correlates to the academic success and attrition rates of African American freshmen who participated in Summer Enrichment Program versus those who did not participate in a retention program. Other components consist of the relationship between academic success and
pre enrollment/individual characteristic such as high school grade point average, academic aptitude, and educational objectives. Programs that are designed to introduce to the student the college environment and academic pursuit such as Student Enrichment Program will be examined closely as it relates to the factors of academic success.

Need for the Study

Iowa State University in 1992 broke the record for recruiting minorities to its campus, but the number of minorities who remain on campus decrease every year. It's not enough to recruit minority students to a predominantly white campus, therefore there must be an evaluation of the student's progress and the services available to meet the needs of the students. In this study we will look at such determinants that will have a significant effect on the success of black freshmen at Iowa State University. Those factors are: high ACT scores, Summer Enrichment Program, students' stated major interest on the ACT or registrar's record. These factors will be compared to cumulative grade point average that of being a 2.00 on a 4.0 grade scale. Once this research has been collected and analyzed, the results will be used for better involvement of the institution and improve student support for continuous success of African American freshmen at Iowa State University. This research will be shared with Minority Student Affairs, Student Support Services and other similar programs
along with academic advisors, admission counselors and other researchers. This current research will give insight into the elements that contribute to the success of African Americans students and will allow the institution to meet their needs more effectively.

These results will be used to improve recruitment strategies along with Student Service Programs that are geared to disadvantage students. Academic advisors can use the results to better guide the students who currently exist in the system of higher education. Programs can be designed to meet their academic needs or other variables that are not currently being met by the university. These programs should have clear stated goals and objectives designed to assess and evaluate student progress and program success. The use of these results could be geared toward orientation programs that provides information about the academic, social, and cultural life of the university as well as with bridge programs that help disadvantaged students make a successful transition from high school to college life. Those bridge programs could use the results of this study to involve parents and students so that they are not only aware of what college requires academically, socially, and culturally, but also financial aid disbursement, support services that were created to ensure retention, graduation and career placement.
Purpose of the Study

The purpose of this study is to research the factors that possibly could be determinants of academic success for African American freshmen at Iowa State University. The second purpose of this study is to determine if there are significant differences in the academic achievement fictionalized as the cumulative academic grade point average (GPA) between groups of black freshmen. Groups are divided into four sections: a) enrollment in Summer Enrichment Program b) ACT composite score c) Summer Enrichment Program d) students' chosen major/division as the major/division relates to the student's stated interest on the ACT/SAT or registrar's office records. The questions considered in this study are as follows:

Research Questions

Question 1: Are there significant differences in the cumulative grade point average of black freshmen who made high ACT scores and those freshmen who did not make high scores?

Question 2: Are there significant differences in the cumulative grade point average of black freshmen who participate in Summer Enrichment Program versus those who do not participate?
Question 3: Are there significant differences in the cumulative grade point average of black freshmen who choose a course of study congruent with their stated interest based on a satisfactory cumulative grade point average of a 2.00 average?

**Statement of Hypotheses**

The factors presented in this study will be presented for statistical testing where academic achievement is functionalized and measured by t-testing. These hypothesis are written in null form.

**Hypothesis I:** It is hypothesized that there are no significant difference in the academic achievement (GPA) of black freshmen who have ACT scores of 20 or higher and the black freshmen who have ACT scores below 20 where academic achievement is functionalized and measured by the cumulative grade point average (GPA) upon the completion of the spring and fall semesters for the 1989-90 academic year.

**Hypothesis II:** It hypothesized there are no significant differences in the academic achievement (GPA) of black freshmen who participate in the Summer Enrichment Program and the academic achievement (GPA) of black freshmen who do not participate in this program, where academic achievement is functionalized and measured by
cumulative grade point average (GPA) upon completion of the spring and fall semester of 1989-90 academic year.

**Hypothesis III:** It is hypothesized that there are no significant differences in the academic achievement (GPA) of black freshmen who choose a field of study congruent with their stated interest on SAT/ACT and registrar's records and the black freshmen who do not choose a field of study congruent with their stated interest on the SAT/ACT and registrar's record where the freshmen's academic achievement are functionalized and measured by the freshmen's cumulative grade point average (GPA) upon completion of the spring and fall semester for the 1989-90 academic year.

**Definition of Terms**

Functional definitions are necessary for a clear understanding of the study.

**Academic Achievement:** The cumulative grade point average made during the 1989 fall semester and the 1990 spring semester based on a 4.0 system.

**ACT score:** The composite score on the American College Test, reported to Iowa State University for admission purposes.
SAT score: The composite scores on the Scholastic Aptitude Test reported to Iowa State University for admission purposes

Student Support Services: A federally funded program designed to assist first generation, economically disadvantage, and handicapped students to succeed in post-secondary education.

Summer Enrichment Program: An Iowa State supported program for students who have been admitted to Iowa State University. SEP provides minority students with an opportunity to further develop skills which will enhance their academic performance and personal growth. They receive academic and career counseling, as well as, workshops, lectures, and seminars on various subjects. Participants are required to take no less than two courses. This encourages faculty and staff interaction with participants and makes the program ongoing and committed to the goals and aims of the university. Participants take courses which include math, English, and psychology; such courses are based on demonstrated strengths and weaknesses and choice of major. Often, these courses are selected on an individual basis with prerequisites from the appropriate college. SEP offers social and cultural activities that participants can engage. Little or no cost is incurred by the participant in this program.

Strong-Campbell Interest Inventory: Congruency between the subject's freshmen's stated interest on the Strong-Campbell Interest
Inventory and the freshmen's chosen field of study, this is determined by guidelines recommended by Campbell and Hansen (1981) in the Manual for the SVIB-SCII. The manual provides a list of occupations designed for use with the six General Occupational Theme scales on the profile of the SVIB-SCII. Each Occupation has been assigned a code type indicating the theme or themes that most strongly characterize it.

**Assumptions**

It is assumed that all data needed for this study will be obtained from Student Support Services, Minority Student Affairs, and the office of the Registrar.

Gender is not significant in this study as it relates to the factors being studied.

**Limitations**

This study is limited only to African American college freshmen at Iowa State University. There were no comparisons made between African American students who enrolled in the fall of 1989 and spring 1990, and White Americans who enrolled in the fall of 1989 and spring 1990. Gender was not considered in this study.
This study is also limited to spring and fall semester of the 1989-90 freshmen year. The Summer Enrichment Program of summer 1989 was also considered for this study.
CHAPTER II
REVIEW OF LITERATURE

Introduction

The review of literature in this chapter will focus on the relevant issues that African American students face as barriers in higher education at predominantly white institutions. In order for African Americans to survive academically, socially and mentally at predominantly white institutions this research must be used to correct and modify existing services and programs to better serve African American students at Iowa State University. Because minority enrollment grew approximately from less than 400,000 students to more than 1.5 million students, colleges and universities can not allow segments of ethnic-minority populations to go underrepresented in higher education. This is especially when there is an all time high school enrollment and graduation rate of African American and Hispanic students. By the year 2000, black and minority students will compose 50% of the high school body. The question that never seems to be answered in totality is, do African American students and other ethnic minorities face obstacles when seeking a college degree. If the data used from the last ten years was the same, the answer would be "yes". Most of the data from the last ten years haven't changed drastically at all. There are certain issues that are still prevalent today. Those factors that prove to be obstacles are a lack of financial
support, poor math and writing skills, inadequate advising in high school about academic and career choices and unrealistic educational goals. Too often these obstacles are intensified in a couple of ways. When African American students come to college, they bring a host of problems along with their baggage. Some of those problems alone can be enough to limit a student's chance of survival at post-secondary institutions. Other problems that limit African American students' success is isolation, discrimination, lack of student peers, language constraints, and too few minority faculty or staff to serve as role models. Because of these constraints, many black students will not pursue a post-secondary degrees or be responsive to programs that are designed to encourage students from low socio-economic backgrounds to participate. Those same students who are not responsive to such programs and are victims of poverty, discrimination and single-parenting will become useless to society.

Lack of academic skills has perpetuated through post-secondary education and has become the greatest obstacle to access for minority students. It is evident that colleges and universities continue to ignore the problems and needs of minority students. Because institutions continue to let problematic situations occur, the institution shows incompetence and lack of concern for disadvantage students. As a result of educationally disadvantaged students and their prior unpreparedness from high schools, local, state and federal institutions must begin to evaluate their education process at each grade level of the students' academic pursuit. This review of literature will cover
pertinent factors and will focus on barriers that African American students experience at traditional white colleges and universities. This available literature will provide credence for the purpose of the study. The review of literature will also provide an overview of those problems which have adverse effects on African American students' success. In the review of literature, the three determinants will be closely reviewed. Those sections will be elaborately examined as it relates to African American student's academic success at Iowa State University, a midwestern university.

Overview of the Literature

There was a time in history when there was no question of who was going to college. It was determined that those from wealthy families would go to college, but in the case of poor families there was no choice. The Higher Education Act of 1965, along with its financial assistance, made it possible for many African Americans to go to college. There was a significant increase in black enrollment during the 1970's. This enactment brought about a change on the college campus. It started to represent a broader population of new students. Along with the enactment, the 1970 President's Task Force on Higher Education also made it possible for students of all races to pursue a college education.

With financial barriers lifted, there were other barriers that stood in the way of African American students' admission into college like: admission constraints, academic deficiencies, and motivational
deficiencies. Admission guidelines were based on scholastic ability and academic merit proposed by college administrators of the institutions. Stringent admission requirements have limited black students from admission through strict criteria of grades, test scores, and academic merit. These criterion were used to predict and select "the most likely to succeed" person for college. These criteria were supported by the bureaucracies and it was evident in their assertions (Cross, 1972).

The democratic ideal is one of equal opportunity; within that ideal it is both individually advantageous and socially desirable for each person to make the best possible use of his talents. But equal opportunity does not mean equal accomplishments or identical use. Some men have greater ability than others and can accomplish things which are beyond the powers of men of lesser endowment....The nation needs to make effective use of its intellectual resources. To do so means to use well its brightest people whether they come from farm or city, from the slum section or the country club area, regardless of color or religious or economic differences but not regard less of ability. (p.6)

According to this assumption, college was only purposeful for the select few, and only those few could benefit from what college offered. There has always been the question, can institutions be equal and excellent too? Some college administrators worry about what will happen to the worthiness of a degree when everyone has one? Conflict takes place when there is the question to serve those who
have been traditional students or to serve those whose needs are different in order to be successful students?

The nation's basic premise after the Great Depression was that everyone could not have access to a college education. It was assumed that one must compete for the privilege of attending college because in competition the strongest survive. If education is believed to be competitive, then it is easy to comprehend why institutions offer limited services to certain group of students. The general concern for non-traditional students was evident from old and current admission practices. Past missions of universities and colleges were to establish who should go to college and develop means for excluding unqualified people.

Today admission practices have made complete changes in their recruiting process. They are now paying close attention to the current demographics of society and their student body. Campuses across the U.S. are now beginning to reflect society. As campuses become diversified, how do institutions handle non traditional students' needs? When black students are represented on college campuses, institutions concentrate on mainstreaming new students into traditional education. Mainstreaming has been the solution for many institutions. Predominantly white institutions have found that this is not the answer. Offering remedial alternatives to remove barriers that are common among new students is not a solid long-term solution for survival at historically white universities and colleges. It has been the stance of many institutions to convert the new student into a
traditional student through which he/she can be served by a traditional education that is dysfunctional for first generation non-white students (Cross, 1972).

Past decades of teaching traditional students have legitimized the current educational practices of today. These practices have proven successfully for those traditional students but there are African Americans who are being mainstreamed into those institutions that have kept the same traditional practices for new students with different needs. With these traditional practices of higher education, the new students have suffered academically, socially and financially. These methods have been unsuccessful in the past as well as the present and if there are no drastic changes, it will continue to fail them in the future.

Cross (1972) stated that if colleges and universities don't change their direction in terms of improving their education process for new students, those institutions are headed towards continuous failure on the part of meeting African American students' needs. Traditional education is not the key to fixing non-traditional students. Perhaps it's not the non-traditional student who needs to adapt to a traditional education. The task of our educational system is to create a system to fit the cognitive learning styles of new students. Time will cause demographics to change along with traditional education. It is inevitably that colleges and universities' campuses will be composed of more than half of non-white students. Our educational system will
have to make modifications throughout its entity to ensure the viable success of non-white students.

Institutional commitment should be present on college campuses in the form of student services that make it possible for black students to survive and get a college degree. Current research is being conducted to find areas that institutions need to focus on to make college successful for non-traditional students. The research that has been conducted and its finding are being made applicable to help retain non-white students (Cross, 1972).

The answers for ensuring African American students' success should lie between the bridge of high school to college. Do the answers come along the lines of good academic preparation and academic promise? These determinants could be the best predictors of academic success and persistence. According to (CASE, 1990), African American males who enter ninth grade will not graduate from high school. The high school completion rate of African Americans is approximately 42% (CASE, 1990). If these conditions are to change, there must be a thorough investigation of those factors that cause academic success or failure. Statistically, African Americans drop out of school from the lower grade levels. Most of these dropouts are on a lower socioeconomic level than other groups. There are several cause and effect relationships that lead to high dropping out rates: It may be lack of effort, poor home background, poor elementary and secondary schooling; fear of failure; more interested in nonacademic matters such as a car, sports, job, etc.; the necessity of working at a job.
preclude time and energy for study; low intelligence. All of these determinants in some way contributes to academic failure (Cross, 1972).

One important factor that should be considered as a determinate is under equipped high schools. This is the most significant factor of success or failure. If our U.S. high schools are not well-equipped to prepare our students for post-secondary education, they will not survive. Secondary education has a commitment to non-traditional college bound student in the way of preparing them to be academically successful for college. High school is the bridge that connects students to post-secondary education, therefore high schools need to be closely examined for post-secondary preparation. Because all institutions require admission tests, such as SAT or ACT scores, high schools must be accountable for their preparation of non-white students for college.

Lower socioeconomic students are affected by admission practices that select applicants based on high school grade point average and the SAT or ACT scores. According to Tursheim and Crouse (1987), low-income applicants who would have been admitted on the basis of high school rank alone were rejected when high school rank and SAT were combined. That is why its important for colleges and universities to develop linkage programs with high schools to work with them in understanding the expectation and requirements for African American student's success in college. The measurement of ACT or SAT scores of black students have shown statistically that
white students perform better on standardized test than black students. This however ignores the fact that a large number of black students have achieved academic success.

Although barriers still exist, African American student are still being admitted to historically white institutions. Gaining entrance to these institutions is no longer a problem for black students, but other problems have risen as a result of increased enrollment of African American students. These problems are retention/attrition rates among black students attending colleges and universities. Studies have suggested that high attrition is a result of orientation and adjustment factors. These factors include such determinants as inadequate preparation, the quality of academic support systems for disadvantage students, insufficient finances, racism, discrimination, hostile environment, and others.

Many institutions have set aside special programs to improve retention rates of African American students, nonetheless the problems of attrition remains unsolved. These programs have offered supportive services in the way of tutoring, identification of high risk courses as well as high risk students (Blackwell, 1983). These programs are needed to equate African American students to their counterparts, but in no way do these services promise graduation or retention. It is their intent to raise the probability of graduation and retention rates of African American Students. These programs are often viewed as paternalistic and patronizing, but this is what is needed in order for black students to make it (Blackwell, 1983).
Studies have shown that these services do not predict black student graduation in proportion to white students (Olivia, Rodgriquez & Nickelson, 1984). Although intervening strategies have been employed, black students leave the institution prior to completing a course of study (McCauley, 1988).

A comparison of black and white student's reasons for going to college were listed by priority according to race. The underlying ambitions of African American students and white students to go to college are for goals of self improvement. Black students tend to choose the college path as a way of improving the quality of life for members of their own race, unlike white students. This concept allows for a different approach to evaluate college success for African American students (Panos, 1973).

It is evident that African American students are quite different than their counterparts in external and internal ways. Typically, black students come from urban cities where their parents have received less education and have less earning power than white families in similar conditions (Wright, 1987).

Because of the socioeconomic conditions of African Americans, black students have set goals that are equal or exceed those goals of their counterparts (Allen, 1986). Those set aspirations are often to high or seldom attained. Black students set lower education goals for themselves, especially black females. This may be because African Americans have cultural orientations, lifestyles, social behaviors, and beliefs that differ from their counterparts (Smith & Allen, 1984).
All students experience the need to adjust to college life, but black students face distinctive problems. They are confronted with the fact that they are black on a predominantly white college campus, therefore they experience exclusion from the university community. With such factors confronting them, they create their own social and cultural networks to become involved. Groups in the form of black student organization, fraternities, sororities provide social support.

What does it mean to be black on a white college campus? This question is important because the results will reflect the limitations and maltreatment of African American students on predominantly white campuses. The results will show that being a minority on a white campus causes complication of social and academic exclusions. Being black makes conditions conducive to insensitive advising and poor faculty relationships and strong feelings of alienation make the transition from high school into college difficult. Despite the barriers that African American students face, some make the transition and are academically successful at predominantly white institutions. Flemming (1984) comments that colleges and universities have provided African American students with the necessary equipment to become successful but that the role of their education does not rest with the institution alone. It's a constant commitment at every level.

The high school curriculum does not prepare black students for the reality of being a racial minority at a predominantly white university. Twenty percent of black students have attended high schools where the black enrollment was only 10%. More than half of
the black students who attended white institution come from black majority high schools. Upon matriculation into college, African Americans are bombard with unfamiliar environments where racism, discrimination, and prejudice exists. These unfamiliar environments cause difficult transitions and often have negative side-effects. Many black students who attend predominantly white colleges and universities claim that there are not enough black students on their campuses. The percentage of black students who believe that there are inadequate number of black students is about 79%. Students believe that the most serious barriers that limit African American students from admittance and admission into college are financial resources and inadequate high school preparation. According to some students' views, they are behind before they start. Some students comment, "black students here and at all colleges will be seriously affected by budget cuts that result in less financial aid, and admissions requirements that rely solely upon grade point average and scholastic aptitude test scores;" "No interviews or subjective criteria are examined in the undergraduate admission process;" "most black student don't have $200 for SAT prep course which would improve their chances of being admitted into a selective university". Black students cited three common difficulties they face at white universities: academic problems (21 percent), cultural adjustment problems (28 percent), and discrimination, isolation, and racism (18 percent).
If African American students on predominantly white campuses entered college with strong high school transcripts and both parents in the home, with these criteria, they student would be marked for success. These standards were used to predict success but, reports have shown that college grade point averages are well below their high school grade point averages. In a national study, six percent of black students reported that they had a college grade point average of less than a C (2.00), and 64 percent cited college grade point average above C+ (2.67). Only 4 percent reported having a college grade point average above B+. African American students in this study enrolled in college with high academic achievements. Of this study, 80 percent had grade point averages of above a B+ in high school. This study is unique in the way that the majority of the participants in this sample, sixty-five percent of the students grew up in two parent homes.

According to Norma Handy, the vice chancellor of development and university relations at the prestigious North Carolina A & T university, historical black colleges and university address the issues of the student's culture, academic background and economic situation. This is not commonly done at major universities. It is evident that HBCU's have higher success rates of African American graduating than predominantly white institutions. For example, in 1987, 182,020 (22 percent) African American students were enrolled in historical black colleges and of the 56,554 receiving bachelor degrees, 20,291 (39 percent) were from HBCU's (American Council on Education, 1989). Contrary to the low number (104), Jackson (1987) cites that HBCU's
account for the majority of African American students and graduates. Examining the statistics of HBCU's, can predominantly white institutions offer sufficient care to attract, retain and successfully graduate large numbers of African American students on their campuses? Studies have shown that historical black colleges and universities are at the peak of their financial resources. Thirty-seven percent of African American college students come from low-income homes where the families earn less than $18,581 as compared to 11 percent of white students (ACE, 1989). Low-income students depend on financial aid for their education, and HBCU's can not adequately meet all of those student's needs. This is mainly true because of the shrinking of federal state funding for U.S. education. Higher education can no longer focus on the intentions of predominantly white institutions. Since colleges and universities are actively recruiting African American students to their campuses, they must find ways of retaining them (Clark, B & Crawford, S., 1992).

Pre-enrollment Factors, Scholastic Aptitude Test/American College Test Scores and Academic Achievement

Studies have shown that despite low scores, many students have succeeded in college contrary to predictions. Even though the predictions were inaccurate, who are these students who do well in school, despite their low grades?

The Comparative Guidance and Placement Program (CGP) sampled 9,921 of its student who scored in the lowest on a criterion
test, 1308 or 13 percent made grades of B or better in high school. The same population of students were classified as minority students because their grades would have made them eligible for admission at many colleges and universities under stringent policies. An unknown number of students' test scores were low because of unusual circumstances.

To predict students' achievement based on a measurement, such as a test to obtain a grade, is limited. There has always been some interest by researchers of students who score well on test but perform inadequately in college (Cross, 1972).

More importantly, high school grades and admissions test scores are predictors of success or failure for African American freshmen students. College grade point average is directly linked to high school grade point average. It is assumed that students who do well academically in high school will do well in college but this is not taking in consideration the environment and the services needed to develop students academically. Educational preparation for post-secondary education in high school is considered college preparatory. These preparatory courses are designed to prepare students for college level work and for standardized test required for admittance into post-secondary institutions. The core requirements for admission to any post-secondary institution is as follows: four years of English, three years of math, and two years of science. These courses exist to prepare students for placement into the college level English and math courses. Despite students' preparation for college, placement scores
did not correlate with preparation made in high school. A thorough investigation revealed that students took the courses as listed on their transcripts. Students indicate that the degree of exposure to course content was less than that of entering college students (M. M. Stodt & W. M. Klepper, 1987).

According to a study, 123 standardize test scores were reported by African American students. Previous studies by Astin(1982) supported the findings of low scores of African American students. The study revealed that African Americans score lower than the national average on both the ACT and SAT. Of the 89 students who reported scores, 37 percent had scores that were equal or higher than the national average. Thirty-four participants reported SAT scores and less than 40 percent were equal to the national average or higher. A total of 65 percent reported standardized test scores below the national average, but 85 percent of the participants were in the upper 50 percent of their high school class. The findings of this study indicated that standardized test scores are not the best predictors of college success for African American students. The study did reveal that African American student with a high college grade point average had the highest standardized test scores.

This study was conducted at Umtali State University, (pseudo name). The focus of this study was to examine such variables (race, grades, enrollment status) as it relates to academic achievement of African American students at a prestigious midwestern state supported university. Other variables such as race and test scores will
be crossed examined. The data was grouped into three categories: dropout, graduates and presently enrolled students. In this six year study, each group of freshmen were analyzed. Those who graduated and dropped out from college were compared. The findings of this study may be used to generalize all predominantly white, large, midwestern, prestigious, state supported universities. Students who enrolled as freshmen in 1975 left school without their degrees (7,577) after six years (1975-1981). The remaining 36 percent of freshmen who entered school in 1975 successfully completed the curriculum (11,163). The rest of the remaining students 39 percent were currently enrolled (12,066) during the fall of 1981. The majority of students were white, while (5.7 percent) were black, (.4 percent) American Indian, (2.8 percent) Asian, and (1.2 percent) Hispanic. Comparing gender, males were slightly more numerous than females. The results of this study showed that students with better grades in high school, better grades in college, and better scholastic Aptitude Test scores were likely to complete the curriculum. The study also revealed that African American students who dropped out, those who graduated and those currently enrolled showed significant findings. African American student were uneven in terms of numbers of students who left college for other reasons than graduation. It was noted that African Americans were twice as likely to drop out of school for academic reasons than other racial groups. Other findings indicated that those who withdrew for academic and other reason, nonacademic dropout contained the better students. This has shown
that ethnic minorities (African American, Hispanics and Native Americans) are far more less likely than white and Asian students to complete the curriculum successfully (Nettles, Thoney, & Gosman, 1986). Astins'(1970) study revealed the degree of error associated with predicting college achievement from high school grades and test scores. The data was obtained from 36,581 students (19,524 men and 17,057 women) who matriculated at 180 different colleges and universities. It was evident from the study that student's college grades are closely related to their high school grades. For example, males who had A averages in high school had A averages during the first year of college, college grade point averages that were above the freshmen average obtained by males with high school average of a C. Similar results were also apparent among females. To examine this study closely, the relationship between high school and college grades will be observed as it relates to the student's chance of obtaining a particular grade point average. To measure academic achievement in this study, the college grade of B or better would represent a level of success. The results showed that 3/4 of the men who had A or A+ averages in high school obtained a B average as college freshman, however only 10 percent of the men had a C average in high school. Those men who had A+ averages were seven times likely than men with a C averages in high school to have a B average in college. Furthermore, men with A averages were more than twice as likely to obtain a B average in college as were men with a B average in high school.
The relationship between high school grades and college grades is far more consistent than scholastic aptitude tests. How well do scores on tests of academic talent predict the students' college grades? The same population of student were divided into eleven levels on the basis of their scores on test taken in high school. There is a relationship between how well students perform on a test of academic ability taken during high school and their grades as a college freshmen. Students that exhibited high academic talents were more than four times as likely to obtain a B average or better in college than students who exhibited low academic talent. Therefore, standardized test scores are less liable for predicting college grades than high school grades. This fact provided credence to the 74 percent of men and 84 percent of women who exhibited academic talent and obtained a B average. Students who were placed in the low academic talent category revealed similar results; furthermore, high school grades are better predictors of college grades than academic aptitude test scores. Of the students that were placed in the low academic arena (3,768), 16 percent obtained B averages or better in college. The close relationship between high school grades and college grades is reflected in the correlation coefficients. The correlation of freshmen grade point averages with aptitude test scores were .35 and .43 for men and women, as compared to the correlation of .50 and .51 between freshmen grade point average and high school grades. High school grades are obviously better predictors of freshmen grade point average. If a high school grade point average has a better reliability
than scholastic aptitude tests then what is the SAT's worth? Perhaps if high school grades and scholastic aptitude test were used in combination the reliability would be accurate enough to predict success and a college grade point average. To explore this possibility, in a study of 36,581 students categorized into 88 cells (8 grade levels by 11 test score levels), there is a significance in average. In each cell there is a computed average for a freshman along with scholastic aptitude test scores. The percentage of freshmen who obtain a B average is computed separately for students in each cell. According to the cells, when selecting any level of aptitude one finds that the percentage becomes consistently higher as one goes from the lower to the higher grade averages. When the scholastic aptitude test scores are held constant with high school grades and college freshmen grade point average, a stronger relationship still exists (Astin, 1970).

Low test scores and academic performance has been the most difficult hurdle for African American students to overcome. In admission practices today, college entrance is determined by test scores and grades and unfortunately this has kept many from getting a college education (Cross, 1971). Kendrick (1967-68) speculates that between 10 and 15 percent of African American high school seniors would score 400 or more on the verbal section of the Scholastic Aptitude Test and as few as 2 percent would score as high as 500. According to statistics, the mean score for 1968 candidates on the verbal section was 457. Knoell (1970) found that few blacks scored high on traditional tests. Perhaps if the question is answered, the
results can be used to solve how those African American students on a predominantly white campus survive. The solution can provide valuable information for colleges and universities to use in programming, and the like, to ensure African American success. Most colleges and universities tend to place black students into two groups 1) those students who are regularly admitted into college; usually they are the college-oriented urban and suburban high school students who came from middle-class or upper working class homes. These students usually have long range goals as compared to their white counter-parts. The second group of students most often are the special admits who tend to come from predominantly black urban high school. These students come from predominantly working class families with per capita incomes that are far below those of white families. Most of these students view college as a place of vocational preparation, which shows them near the bottom of the range of achievement. One study revealed the experiences of African American freshmen at the University of Michigan. To give some background on this study, students involved were specially admitted African American students at the University of Michigan. Each student was given a questionnaire prior to and toward their end of the first year of college. This questionnaire was used to make speculations about experiences of African American specially admitted students. Also, this study involved a program called the Opportunity Award Program. This program is responsible for admitting students into the program as well as the university. Most of
the students in this program are capable of academic promise, but they require special assistance and financial aid. Recommendations to get into the program are generally made by principal or guidance counselors of high schools. This group was not entirely inclusive of African American students, but this study happened to have a majority of black students in it. These students have low scholastic aptitude test scores and are at the bottom of their high school class. Many of the students of the sample ranked near the top of their high school class. These top students were rewarded by teachers who called them student leaders. Encouragement was self-motivated for black students than model white students whose encouragement came strictly from family members. These highly motivated students planned to study in the field of liberal arts and sciences, although their goals were compared to the personal goals of white students going into nursing or engineering. Those same students chose fields of nursing and education. In this manner, many colleges and universities recruit in a similar way.

According to some students who arrived at the university through the Opportunity Award Program, a number of black students experienced intense feelings of isolations and loneliness. A few of these students found themselves with white roommates whom they never had contact prior to college. Others had advantages because they either knew blacks at the university or had white high school classmates. A very few knew the campus before they arrived and were familiar with the services the university offered.
Of all the students who had the most difficult time, women found themselves encountering hostility and frustration. These encounters were evident in their actions of mistrust and wariness. These frustrations were later alleviated among some black women through joining one of the four black sororities on the campus. On the social side, black men had an easier time of adjusting to the social part of college life. On a much serious note, the specially admitted African American freshmen students had a problem with meeting the academic demands of the university. Most black students in this category had a self defeated notion of not doing well in their courses than other black students in different groups. As a result of preconceived notions, those specially admitted students' grades were lower than they expected. Many had to reduce their course loads after midterms due to poor test performance. These sample of students all found themselves in similar predicaments which subsequently lead to their insecurities of being inferior to whites. Along with poor grades came haunting experiences of being criticized for mistakes in speech and writing. Others stated that they were constantly wrong when answering professors' questions in class. They felt that some were trying to expose their ignorance. Others had positive experiences after the initial shock of their first semester.

In order for those students to meet their academic needs, many students had to study extremely hard and cut back on college activities. Those experiences caused blacks to become more academically involved and less socially inclined. Others felt that it
was a necessity to involve one's self heavily in the curriculum to successfully pass through college (Hedegard, 1969). Hedegard (1969) cites that African American students experience college in variety of ways. As reported in the previous study on freshmen experiences, African American students have encountered frustrating professors, isolation, and discrimination and classroom criticism. It would seem that in these conditions racism would be the prime motivation, but in other reports, white students from working class have experienced the same problems. These experiences come from several campus conditions experiences. They find that they are prejudged as inadequately insufficient to handle classes. According to those students, they felt like sounding boards for professor to unload their speculations of their unpreparedness, lack of writing skills, and communication skills. These experiences that students are accosted with are real. The projection of anger, hostility, and indifference are aimed at professors who are unfamiliar to African American students and their plights of higher education. In many cases, professors are insensitive to needs of black students. This kind of reaction is prevalent in the spoken words of professors whose preconceived notions have done more harm than good for other professors and, more importantly, the African American student population on their campuses. Black students who sense alienation from professors usually rely on each other for support. Even though some specially admitted students are dropped from the program, the majority of the participants successfully graduate from college in four or five years.
The succeeding group of students in the program have a higher percentage of finishing their degrees. Some programs indicated that once students have been doctrined into the demanding academic roles of the university as a college student, blacks attain an academic level that is the same or above those attained by white students. But in two studies, this was not the case. This study included the specially-admitted students who matriculated at the University of Michigan in the fall of 1966. The results indicated that the performance of black and white students were similar. The white students were expected to succeed above their black-counterparts academically. This level of equal attainment is classified by a rise in grade point average. This equal attainment is contributed to students moving into a field of study that is congruent to their interest than choosing non-congruent majors. According to the study, many African American chose non-congruent majors. Several of these students in this study did not attain that level of similarity. Some researchers from the Educational Testing Services found that the relationship between SAT scores and entrance to college and student GRE scores as seniors were different among college in slope and elevation of lines, but those slopes did not differentiate black from white colleges.

It is often hard to keep track of African American students when they drop out of college. Most universities have open door policies that allow students to return.

Past experiences have dictated the matriculation of minority students into post secondary education based on the performance on
college entrance tests. Educators have urged that college entrance should be based on college entrance examines for admission. Researchers have found that black students succeed at predominantly white institutions based on their motivational goals and not their pre collegiate preparation and examination scores. Researchers argued that entrance examinations should not be used to predict black college students' achievement. It was declared by Clark and Plotkins (1964) that other characteristics contribute to the academic success for African American students besides pre-enrollment factors. Biographical characteristics as well as extracurricular activities have been factors for predicting success for black students. Beasley and Sease (1974) have found similar results in earlier studies conducted by Anastasi and Aiken (1960). Other researchers, such as Sedlacek and Brooks and Gibbs and Pruitt suggested that other measures such as educational aspirations, motivation, pre-enrollment characteristics, and academic support be used as alternative measures to standardized tests, high school rank, and high school grade point average. Many researchers have overlooked the possibility of using alternative measures to standardize testing. Instead, researchers have looked toward validity as a measure of college success for African Americans. Thomas and Stanley (1969) cited that the results of correctional analyses revealed that aptitude tests are better indicators of college performance than high school grades. In a review of population validity, components consisted of college entrance examinations and different sample groups that are selected based on
certain sets of criterion. Breland (1978) discovered that when identical regression equations are based on black and white students, there is a tendency to over predict the college achievement of African American students. This study revealed that when the regression equation is applied to both black and white students, these predictors are adequate for both races. Black students at predominantly white institutions experience some conditions that cause them to project low performance levels that would not be predicted by regression equations utilized for traditional students. It is evident that this study clearly supports the noncognitive variables that contribute to the performance of black students. This study like all studies has limitations. It is very difficulty at times to locate intervening variables that contribute to a study; in this case, college grade point average in the freshman year or the cumulative grade point average is significant. It is important because those intervening factors play a serious role when academic performance is involved. Criteria such as courses, instructional grading, the institution, programs, and different academic standards should be required. This means that population validity is restricted because a certain range is not accounted for in the study due to admission criteria and high attrition, which results in attenuation of correlation coefficients. Another example of this is when a large number of students are admitted, either low academic skill and no or less attrition occurs. This causes the relationship between predictor variables and criterion variables to be stronger. Other problems occur when there is a longer time between two
measures that cause extraneous factors to confound validation. This is why most researchers use freshman grade point average because the time lapse between measurements is small. The last imperfection of this kind of study occurs when the criterion variable is conditioned to systematic bias. These conditions are difficult to identify although systematic bias is suspected when the rater is of a different gender or race than the samples being rated.

These imperfections are common in all correctional studies in the educational and social science fields, but nevertheless, this flaw does not interfere with the utilization of such analysis when understanding black college students' performance. In order for this study to be as accurate as possible, other variables were included to attain better results. In terms of the validity of this study, the time lapse has been shortened so that it could include student-in college experiences as well as faculty attitudes, behavior, and institutional factors that were considered void. As for the systematic bias that occurs during these studies, that has been controlled by including the extraneous variables in the regression equation. There are other factors that could not be controlled such as the restrictions of range due to limited admission and high dropout rates, and imperfections of criterion variables. Although the criterion variable of the college grade point average is the best possible way of measuring cognitive development and academic achievement in college, this reliability of grade point average is constant. Many earlier researchers focused on the intellectual qualities of the student instead of the non cognitive
variables that could be considered in the context of predicting African American college students' performance and academic achievement. These non-cognitive variables play an important role in predicting black student success in college. It is imperative that all avenues are broadened to include variables. How can non-cognitive variables be insignificant in the context of academic achievement for African American or any Americans for that matter? It is significant because it affects student's academic performance as well as their achievement. Environmental factors function as a pervasive effect on all students. Whether this affect is positive or negative, it will impose on their academic performance and achievement (Tinto; 1975 & Astin, 1975). The implication of this study is to reveal that there is more to retention than students' pre-collegiate biographical statistical analysis of scores to indicate overall college performance. According to Ramist and Arbiter (1984), unattainable access to educational opportunities for African Americans are limited and because of high school grades and standardized test scores may not predict academic success and retention as well as they do for traditional students. Duran (1986) cited that when high school grades, admission test scores, and the combination of both sets were non-indicators of academic achievement. Non-cognitive factors such as personal qualities, environment, and non-academic factors may be helpful in predicting success for black students. An extensive review conducted by Pantages and Creedon (1978) concurred that achievement based on scholastic aptitude tests are insufficient to predict college attrition and
non cognitive factors are important roles in achievement: There are no tools to measure these factors (Duran 1986; Pantage & Creedon, 1978; Stoecker et al., 1988; Tinto, 1982).

Other researchers have found specific nonacademic factors that contribute to black students' success in college. These factors were as follows: a) positive self-concept, b) realistic self-appraisal, c) ability to handle hostile situations such as racism and discrimination, d) long term goals that are preferred over short term goals, e) availability of a strong network of support systems, f) participation in extracurricular activities that promote leadership qualities, g) and interest in serving the community (Sedlacek & Brook, 1976).

Researchers have concluded that traditional predictors of academic achievement do not indicate or provide a clear picture for comprehending the performance rate and attrition rate for African Americans who attend predominantly white institutions (Nettle, Thoeny, & Gasman, 1986; Tracey & Sedlacek, 1987) Academic Achievement in college is a matter of intellectual ability, but other factors are involved in the process. A sense of belonging or membership within the college's academic and cultural environment is significant (Boyer, 1984). It is, of course, much easier for blacks students who attend predominantly black colleges to develop a sense of community as opposed to most blacks developing a sense of community at predominantly white colleges (Fleming, 1984). There is a need to understand why some black students who are not in academic trouble, leave predominantly white institutions (Allen, 1987;
Green, 1989; Loo & Rolison, 1986; Tinto, 1988). If researchers can understand the non cognitive factors and academic factors, institutions can better serve black students in a way that they can feel a part of the academic community.

The term "non cognitive" has been used to describe variables that are difficult to measure. These factors lie in the area of biographical data that is either environmental or socially influenced. These biographical characteristics are: the absence of interfering problems, community service volunteerism, leadership skills, and the ability to handle and deal with racism (Green, 1989). For example, In 1981, the Florida Board of Regents was convinced that too many entering freshmen were not prepared to successfully finish college; so they used the admissions standards as a leverage to help high school students to be successful in college. They saw too many students enrolled in post secondary remedial or developmental programs, but many did not last in college. The problem was that many of the students had not taken enough college predatory courses to have a strong foundation for a successful college career. The Florida Board of Regents recommended stronger requirements and perquisites, including math beyond algebra 1, other sciences with laboratory experiences, advanced English with technical writing and a foreign language requirement. The Board of Regents was approached by many oppositions. These barriers came from several universities in the nine-campus system and many public school leaders. They complained about requirements that could disrupt staffing in the
system. Subsequently, the program was successful and in 1983 the Florida legislature incorporated into law similar provisions for all in state universities. Though requirements were raised, in the 1987-88 academic year, of the 14,606 students enrolled as first generation students in the state university system of Florida, 528 students (3.6 percent) in reading, 359 (2.5 percent) in writing, and 789 (5.4 percent) in math fell below the scores needed to be placed in credited courses. According to the longitudinal study, there was an increase in traditional college-preparatory courses taken before and after the admission policy went into effect. This data showed that entering freshmen were better prepared to be successful in college. This program has raised students' expectation which has resulted in better grade point averages. Consequently, the Florida State University system has grown for both white and black students. This bridge program was the foundation for academic success at post secondary institutions. SAT and ACT scores changed dramatically through the study. McTarnaghanb (1990) declares that without the intervention of the Florida State University system, college bound students would not have prepared for college. These students were academically prepared for college and their preparation was evident upon their completion of the first year of college. High school grade point averages, numbers of college preparatory courses taken, scholastic aptitude test scores, and retention rose during the 1980's for both secondary students and post secondary students in Florida. These dramatic changes would not have occurred without a governing board
strengthening academic standards through admission procedures. The Florida State Board of Governors proved that blacks, as well as whites, needed to be in college-preparatory program to be successful in post secondary education. Florida's commitment showed that success on admissions test in math depended on having completed algebra. Because Florida intervened, the state reversed years of academic neglect with strong leadership at the governing board level. This kind of direct action had a monumental effect on African American and first generation college students. Black students in Florida State University system increased by 38 percent from 2,531 to 3,483. This study has shown that public schools and post secondary education can work together to encourage and support African American students to be successful in college (McTamaghan, 1990). Who would have ever predicted that by raising the admission and academic requirements, African American students' progress would lead to better academic access to academic performance and achievement by African American students. Because of these results, Florida State has yield African American students who have concentrated on skills needed for academic success.

Summer Orientation Programs and Academic Achievement

Most institutions have made strong efforts for African Americans to succeed at post secondary education by offering summer programs that assist in the retention and academic performance of
black students. These programs allow students from low disadvantaged backgrounds to earn credits during the summer and improve their chances of academic success. These programs recruit African Americans who are at the bottom of their graduating class and have low ACT and SAT scores. The purpose for these programs is to "orient" the student to his/her new surroundings. Adjusting the students to their surroundings makes it much easier for them to familiarize themselves the college life. These adjustments are made by becoming familiar with the college campus, faculty, administrators, and other students. This element of involvement makes it possible for new students to develop a feeling of belonging (Banning, 1984). When a student is oriented to his environment, he is better prepared to live at college as well as prepared to live after the college experience (Hawkins & John, 1929). Orientation programs serve more than one purpose for African Americans and others who are underrepresented at the post-secondary level. Orientation programs are responsible for familiarizing new students with their surroundings as it relates to adjusting and feeling of belonging. It informs the students about the institution and its commitments, missions, aims, goals and structure. It also provides them with out of class experiences like (clubs, sports and scholarly endeavors) of the university. Orientation also allows students to discover their capabilities and limitations. The most significant objective is to change study patterns so that each student will have a useful tool to help him or her overcome barriers associated with academic performance. Improving students' study habits and
time management skills are the greatest tools used to combat low academic performance. Orientation programs are significant tools used by institutions to improve their retention rates among ethnic minority population (Upcraft & Gardner, 1989). Statistics have shown that there is a need for orientation programs at colleges and universities. The high attrition rate of minorities have proven that there is a need for orientation programs to mainstream disadvantage students into a college environment. Orientation programs improve the retention and graduating rates of minorities (Upcraft & Gardner, 1989).

African American students withdraw from college for many reasons. These factors may include lack of financial support, under-preparedness, lack of academic counseling, intimidation of faculty, or lack of motivation. Students withdraw for two major reasons: either they are academically dismissed or they voluntarily withdraw from college. According to statistics, 10 percent to 15 percent of all students who drop out of college, leave because of academic reasons; others leave for different reasons (Tinto, 1987). Other reasons being that college may not have been what they expected or their major may not have been congruent to their interest. Environmental factors such as belonging and making friends play a significant role in the retention of nontraditional students. These experiences cause many students to drop out of college prior to the completion of a degree. These students who dropped out did not for nonacademic reasons (Dukes & Gaither, Winter 1984; Pantage & Creedon, 1978).
Bynum and Thompson (1983) cited that the longer students stay in school the better their chances are at persisting until graduation. It has been known that students attend college for a variety of reasons. Institutions need to conduct studies on why students enter college and if there are ways they can contribute to those goals. Therefore, the mission of the institution should be to improve retention program to prevent students from dropping out of college for nonacademic reasons (Ewell, 1984). Orientation programs are vital to the success of African American students in which their adjustment to college life becomes a critical factor for their academic survival or failure. These programs are used to orient students to college life and to help improve study skills. Institutions must realize that the freshman year is very important because the university has a strong impact on those students in molding their minds and personalities. Historical and present theories of college and universities have been to develop the student as a whole (Ewell, 1984). The implementation of orientation programs will satisfy the institution commitment for providing disadvantaged students a smooth transition from high school to college, and prepare them to be successful in an oriented environment.

A study was conducted at Iowa State University involving the six week Summer Enrichment Program (SEP). The SEP began June 12, 1987, and ended July 17, 1987. The second summer session began June 17, 1989, and ended August 4, 1989. The Summer Enrichment Program at Iowa State University is strictly for students who have
been admitted to Iowa State University. It provides students with the opportunity to further enhance their capabilities for personal and academic development. The participants receive academic and vocational counseling along with seminars, workshops, and lectures. To strengthen academic performance students are required to take a minimum of two classes. This allows for faculty and staff to interact with participants to get a sense of the student's perceptive as well as their perspective. Students are encouraged to take courses including math, English, and psychology. These courses are assigned according to their strengths and weaknesses as well as departmental requirements. This program was designed not only to develop the students academically and socially but also culturally. The program sponsors cultural activities in which each student can participate.

When students are admitted into (SEP), Minority Student Affairs sends them informational brochures. If students are interested in their program, they will submit a post paid application. This program is very economically sound because the only costs to the participants are transportation to and from the university, the telephone bill, the summer health fee, and money for their personal expenses. Therefore, the program is cost free to the students and this will eliminate the most frequent reason for underrepresented groups participating in orientation program. This limited study poses certain characteristic that other universities and colleges are unique to specifically regional and geographical locations. The limitation of the study involved ethnic minority students who participated in a
summer orientation program at Iowa State University, a midwestern, predominantly white, land-grant science and technology university during the summer of 1987 and the summer of 1989. Other notations of the study included the diminutive population being study (Sandford, 1990).

Bennett (1933) stated that focus students come to college to stimulate their intellectual curiosity along with expanding their outlook on life and people around them. If college has an impression on students' minds as well as their perceptions on what college can do for them as it relates to their well being, intellectual stimulation, and environment, then it is worth the experience. If the university has the ability to make such an impression on freshman students, then programs such as SEP are detrimental to the lives of students who come with expectations of an experience that can not be relived anywhere but on a college campus. These orientation program have an influence on students' perceptions of their studies and the infrastructure of the university (Committee on the Student in Higher Education, 1968).

Many studies have shown that students need orientation programs to prepare them for a way of life that they are not accustomed. Nontraditional students are coming to college with more than a high school diploma and a few college preparatory courses. These students come with problems that are not considered to be of any influence on them as they come to college and experience different conditions that effect their decisions on their education
(Bennett, 1941; Terman, 1933; Doerman, 1926). To African American students, college is a new word, therefore, changes must be made not only in a geographical way, but also in a prepared state of mind. Although the university can control what courses, activities, and sports it offers, it can not control the adjustment made by the student. If the university can offer a firm foundation that allow students to develop values and morals, then the university has done its job in providing an atmosphere that is conducive for a healthy start for freshmen students (Committee on the Student in Higher Education, 1968). It is imperative that orientation program provide freshmen students with the following: it will help student understand the major flaws and injustices of modem civilizations, program will identify problems that nontraditional students bring to college, and also ways of overcoming those barriers that keep African Americans from adjusting to college life. These programs should offer survival skill needed to make a successful adjustment and complete the first semester of their freshman year (Doermann, 1926; Terman, 1933). There has been several speculations of why orientations exist to make students comfortable with a life style that they chose to live regardless of their odds of succeeding. These programs are offered to familiarize freshmen with student services, programs, facilities and other institutional services that are there to reduce the effects of being away from home in a foreign environment, trying to adjust to campus life, academic challenges and isolation. These programs serve as a buffer to reduce the shock and trauma of it all. They also serve
as support networks for nontraditional students who experience first-hand the alienation, discrimination, and isolation of a college campus environment. The feeling of belonging is desired by all students on campus, but this situation does not occur unless there is a ground breaking experience that will allow for interaction along with participation in campus function and activities. This kind of program allows for such actions. Orientation should instruct first generation students on the "tricks of the trade" in terms of academic survival. Instruction should be composed of valuable tools that are used by successful students. Most nontraditional students are first generation college students whose parents did not experience college; therefore the presence of competing and incongruent values are not passed on to them. Students are left to lean on their own interpretation about college. Students need to know that for every hour they spend in class, three hours must be spent on the class for homework. Such advice would not be known to a first generation college student, if it was not for the efforts of orientation programs that gives helpful survival skills. Often when students are not oriented about the little things, they miss out (Billson & Terry, 1987). Other orientation programs have been developed to act as networks for first generation college students. These programs bring together faculty, staff, and successful students to improve the freshman experience. These programs involve more faculty members as mentors to a few freshmen students.
Because many students drop out of college for nonacademic reasons, mentoring programs, such as these, solve new students' social and personal needs as well as their academic needs. This network involves conducting telephone information sharing, speakouts, and leadership conferences. A closer relationship with the freshman student can break down many barriers that are due to misinformation. This relationship is important as it relates to the crucial time for new students (Pound & Lewis, 1984).

A study was done at the University of California, San Diego. In 1978, 30 first generation college students were examined as they participated in a summer bridge program. These students were from a low income backgrounds. The program was based on Tinto's (1975) research on dropouts and was designed to increase students' retention rates. This program provided 3 weeks of instruction in mathematics, reading, writing, and study skills. Students were assigned housing on campus and had a live in peer counselor. These counselors provide supervision and direction. The students took placement tests to better assess their academic ability in the given courses mentioned. Students were provided with work experience as well as a host of activities in which they could participate. At the end of the summer bridge program, the participants in the program had the highest retention rate of similar group characteristics. The goal of the summer bridge program was to address many issues that affect African American students and their decision to stay in college to build a strong network of peers and to make the environment a
familiar place for interactive learning and personal growth (Meyer, Carme: Drevlow, Susan, 21 Mar 82). Billson and Terry (1987) stated that orientation should start at the high school level and be a combined effort between admissions, financial aid office, college departments, and the orientation program. In this particular program, important facts need to be conveyed to college bound students. Students need to know how many hours must be spent studying, what kind of study techniques must be used, how grades are calculated, who are advisors, and what do they do and how to establish friendships so that they can adjust initially to college life so conditions will not be so hectic. Thomas and Andes (1987) recommended that orientation should continue through students' sophomore year of college so that students can develop a sense of affiliation with the university. All freshmen must take placement examination to determine their academic proficiency in English and math and if their scores are not satisfactory, they are to be placed into remedial courses before going on to credit earned courses in their area of deficiency. This course of action may extend the students' chance of succeeding in later course work.

To ensure that students do not forget English and math skills, testing should take place before the junior year so that students can retain these skills that they tested out of during their earlier years (Noel, 1985). Students who have academic deficiencies should consult with tutors who are successful students. These successful students should be able to conduct workshops, and seminars on study skills,
time management, test anxiety and test preparation. Saluri (1985) suggested that African American, international and other nontraditional students should have a place where people of the same race can identify their surroundings with (art, history and etc.) and also a time where people of different cultures can interact and learn together at an institution of higher education. This will hopefully cause society to be more understanding, peaceful and accepting to differences.

A nationwide study was conducted by Roueche (1984) to examine how U.S. colleges and universities operate programs that help meet the needs of under-prepared students. In this survey 1,452 institutions responded. The institutional make up of this sample consisted of public institutions and larger colleges who stated that they have dealt with under prepared students. There common antidote was to offer basic skills or remedial courses. Others offered orientation programs to provide a much easier transition from high school to college. Others used orientation as a retention strategy along with special services for nontraditional students.

A study was conducted to examine if orientation programs were better than the old form of a large group session before the beginning of classes in the fall. These two categories were measured in terms of grade point average and persistence toward a degree. The results indicated that the institution lost 5 percent of the summer session participants versus the 15 percent of the large group session that was held in September. There was a 73 percent retention rate of students
who attended the summer orientation and who persisted to the second year of college compared to 55 percent of the September large group session. In terms of grade point average, those who attended the summer session had a grade point average by .38, while those who attended the large group session in September had a grade point average by .06. According to these results, summer orientation has a positive impact on college grade point and retention.

Donnangelo and Santa Rita (1982) examined a ten-week orientation program at Bronx Community College (New York). The results have shown that students who participate in the program persist in college and have higher college grade point averages than those who did not participate or dropped out. Similar results at other institutions supported the same findings (Hall, 1981; Myers & Drulow, 1982; Suhr, 1980).

A study conducted by Synder (1987) at Iowa State University found that the persistent rate of students who participated in orientation was higher because they were better adjusted to the college environment than those who did not take part.

(College Majors) and Academics
The Relationship Between Chosen Field of Achievement Among Black Freshmen

There is a direct relationship between choice of study and the congruency of a student's interest and abilities. Lack of congruency
could create academic problems for freshmen. Barak (1981) found that vocational interests could predict the degree of an individual's appreciation and achievement in his/her particular career. Current research has indicated that students achieve academically when they chose majors or studies that are congruent with their vocational interests and their personal characteristics (Holland, 1973).

According to William and Leonard (1988), the relationship between vocation interests/choices and academic success of African American students provides credence for investigation of this particular factor. In a study by William and Leonard, a sample of 196 black students consisted of 115 black males and 91 females and twenty-five percent of the sample were freshmen. The study measured academic progress as successful completion of (grade of C or better) some required courses in the more technical fields, each academic year. The research conducted by William and Leonard (1988) was initiated by using the Vocational Preference Inventory (VPI) created by Holland (1978). The VPI has 160 occupational items clustered among 11 scales. Of the 11 scales, six related to vocation interests while the other 5 pertained to personal trait assessment. The reliability of the VPI range from 0.65 to 0.85 (Holland, 1973;1978).

William and Leonard (1988) discovered that students who achieved academic success had Enterprising, Investigative, and Artistic theme (EIA), but those who did not achieve had indications of vocational interest codes of Enterprising, Conventional, and Artistic
The Enterprising scale was statistically significant as an indicator of academic success. The instrument is effective in predicting with a high degree of correctness those students who have a chance of succeeding academically. Both authors summarized their finding in this area as follows:

With the exception of the Investigative code, their interest codes (EIA themes) did not match those of engineering and computer science majors. A large percentage of the group indicated that their selection of a major was self-initiated sometime during their junior year in high school. They may have little opportunity to engage in reality testing. Only a few of the fathers and none of the mothers had careers in either computer science or engineering.

It is also possible that some students were in inappropriate majors-- their interests were not congruent with their choices of major. Coming from a middle-class background of high motivation and achievement orientation, some may have been encouraged to consider these technical programs because of the opportunities for jobs, salaries, and status. This explanation seems to fit those students who were not achieving academic progress (GPA of 1.89 and interest codes of ECA). This was the only group that did not have the Investigative theme (preference for mathematical and scientific areas among its primary codes. Their Conventional orientation, with its emphasis on structure, order, and predictability, may not be functional in an environment that involves ideas and abstract thinking. (p. 74)
Braddock II (1981) stated that very little is know about how one chooses a career. Jencks and Others (1983) noted that choice of a college major is significant in determining status outcomes as the choice of college is selected or the level of educational fulfillment. Braddock II hypothesized that black students develop their career orientation from the process of role modeling and reference group cultural values and personality types. He summarized that it is less likely for black students to be in those occupations that are lucrative without advanced study. He describes that young black youths are influenced by the educational goals that they set. Higher education effects occupational differentiation among black students. African American college students tend to pursue careers that have high rates of satisfaction for both the individual student and black people collectively. Walsh and Barrow (1971) described from a study that tested the personality differences between students who make congruent or incongruent choices of major. The results were negative in this study. Another study (Walsh & Barrow, 1971) found that students who made a congruent choice study as measured by the Vocational Personality Inventory Code, reported minimal problems than students who made incongruent major choices. The results have clearly stated that congruency encourages or support personal stability. Holland (1973) noted three studies that were done using the inventory profiles; Walsh and Lewis (1972) while the others were by Morrow (1971) and Frantz and Walsh (1972). The most significant finding in Frantz and Walsh's study was that students were congruent,
consistent, more comfortable, and achieved more academically than students who did not possess those traits.

Walsh and Lewis (1972) examined the differences on personality variables among freshmen students who had congruent, incongruent, and undecided college major choices. The personality Inventory was measured by the Omnibus Personality Inventory while congruence, incongruent and indecisiveness college major choice group was measured by the Vocational Inventory. The analysis revealed some important factors that statistically proved the reliability of the (VPI). The results indicated that the males who were congruent to their subjects tended to have more stable college choices, better management of personal stability, and greater satisfaction than males who were undecided and incongruent to their major. Other studies such as this suggest that there is a relationship between congruency and achievement.

A longitude study was done on a group of engineering students. Castaneda and Winer (1985) wanted to examine the differences between successful and unsuccessful engineering students' personality traits, academic preparedness, and belief values. Castaneda and Winer (1985) used a variety of methods to study the differences between individuals who persisted in engineering studies and those who did not. They used other personality and interest inventories, achievement and motivation measures, and grade point averages. Castandea and Winer (1985) cited Southworth and Morningstar (1970) who distributed the Holland Vocational Preference Inventory
of 102 freshmen and 129 senior engineering students in order to examine the relationship between interest and persistence in choice of college major. Six years after the study, the freshmen were divided into three characteristic categories, persistent group (those who remained in engineering), non-persistent transferees (those who changed from engineering to other majors) non-persistent withdrawals (those who withdrew from engineering and the university). The analysis of the study showed significant differences among each of the groups. The authors found that students who persisted in engineering studies had similar interest patterns and profiles of senior engineers students. The VPI determined approximately half of those who transferred to other major and one-fourth of those who withdrew.

The traits of successful and unsuccessful students have been examined by various researchers, including Beck and Mousesian (1976), Elkin and Luetkemeyer (1974), Elton and Rose (1971,1967), Foster (1976), and Reid, Johnson, Entuisle, and Angers (1962). These researchers found differences between persisters and non-persisters. This shows that successful students are statistically different from unsuccessful students, when freshmen are involved. An interpretation of the study was done by Stahmann (1969). He concluded that whether self-expressed choices of major field of study at the time a student enters college as a freshman can determine the major at graduation. He examined interests and achievement measures, even though the focus of the study was on self-expression
of the major that maintained a correct prediction of 92.8. These analysis were statistical significant, because predictability is possible using these three determinant variables.
CHAPTER III

METHODOLOGY

Chapters I and II have presented the need for a study at Iowa State University which examines the differences in the academic achievement (GPA) of African American freshmen when they are grouped by a set of factors. This section contains descriptions of the subjects on whom data was collected, instruments and materials that was used in the study, methods of collecting data and research procedures or methodologies that was used in interpreting the data.

Subjects

This study consisted of 224 African American freshmen at Iowa State University, Ames, who was enrolled during the 1989 fall semester and completed the 1990 spring semester. Subjects were randomly picked from the Summer Enrichment program and the general population.

Materials

Before any information could be obtained, the Human Subjects Review Committee had to approve the study, and the information being requested to gather data by the student. The Human Subject Committee Form is located in the appendix.
The Office of the Registrar at Iowa State University was requested to furnish a list of ACT/SAT scores, along with the students' cumulative grade point average. The Office of Admissions was requested to furnish a list of students' chosen majors indicated on the ACT/SAT or registrar's records. The Office of Minority Student Affairs at Iowa State University was requested to furnish participants in the Summer Enrichment Program and their ACT/SAT scores and cumulative grade point averages.

Data Collection

A request to have access to the data on the selected freshmen was made to the Office of the Registrar. A similar request was made to the director of the Summer Enrichment Program. Each of these offices was asked to provide the student records for which the relevant data for this study will be collected.

Data Analysis

An Apple IIC was used to analyze the data. The Statview Software was used to perform the statistical procedures. Several different hypotheses was tested in this study. Three separate t-tests were performed to determine if differences in the group are significant. The first t-test was performed on the group of African American freshmen who make high ACT scores of 20 and above, and
those who do not make ACT scores of 20 and above where academic achievement is functionalized and measured by the cumulative grade point average upon the completion of the spring and fall semesters for 1989-90 academic year. The second t-test was performed on the group African American freshmen who participate in the Summer Enrichment Program, and those African American freshmen who do not participate where academic achievement is functionalized and measured by cumulative grade point average upon completion of the spring and fall semester of 1989-90 academic year. The third t-test was performed on the group of African American freshmen who choose a field of study congruent with their stated interest on SAT/ACT and registrar's records, and the African American freshmen who do not choose a field of study congruent with their stated interest on the SAT/ACT and registrar's records where academic achievement is functionalized and measured by cumulative grade point average upon completion of the spring and fall semester of 1989-90 academic year.
CHAPTER IV
RESULTS

The purpose of this study was to determine if there were significant differences in the academic achievement, as operationalized by the academic grade point average between groups of African American freshman at Iowa State University, Ames, Iowa. African American students were selected from the class of fall 89, Summer Enrichment Program participants and students' stated major on the ACT and other admissions records and student's composite ACT scores of 20 or lower. The cumulative grade point average was the dependent variable in this study.

Profile of the Total Study Sample

Iowa State University is located in Ames, Iowa, Thirty miles from the capital of Iowa, (Des Moines). The population of Ames is approximately 50,000. Of this population, approximately 26,000 are students.

Since 1959, Iowa State University has been known as Iowa State University of Science and Technology. Iowa State University is accredited by the North Central Association of Colleges and Secondary Schools and is a member of the Association of American Universities.

Courses are offered throughout the year, divided into two semesters of approximately sixteen weeks each and a summer session
of eight weeks. Iowa State University has approximately 2,000 members involved in teaching, research, and service. Conservatively, there are 26,000 students. Of this number, 1,100 are minority students. The majority of this 1,100, are African Americans. This number remains consistent for minority enrollment at Iowa State University. The majority of the African American population is nonresident. Most of the African American population is from St. Louis, Chicago, Minneapolis, Kansas City and Omaha (Jackson, G.A., 1984).

A total of 224 African American freshmen enrolled at Iowa State University were selected for this study. Black Freshmen came to Iowa State University through regular admissions or through the Summer Enrichment Program during the fall of 1989 semester.

Of the study, 57 subjects did not have complete data and therefore were adjusted with respect to the missing data. For the 221 sample of subjects, the mean grade point average (gpa) was 1.83 with a standard deviation of .826. The minimum gpa was 0.00 while the maximum was 3.63. The range between the highest and lowest grade point average was 3.63. The mode was 2.43.

Only 170 African Americans had their ACT scores on record. The remaining 57 subjects had SAT scores on record. Of the total number of subjects, 38 students had missing data from their records. For the 170 students whose ACT scores were available, the minimum score was 6 and the maximum number was 30 with a range of 24. The study revealed that 96 subjects had ACT scores less than 20,
while 73 subjects had act scores equal to or greater than 20. For those subjects who had taken the SAT, the minimum score for verbal was 200 and the maximum score was 600. On the math section of the SAT, the minimum score was 290 and the maximum score was 740.

The total sample consisted of 69 African American students who participated in the Summer Enrichment program. Out of the sample, 3 withdrew before the program ended, while data was missing for 2 participants.

Congruency between the students' choice of major was indicated on the ACT/SAT or admissions records. This sample consisted of 221 subjects that were selected. Out of this number, 100 subjects were found to have chosen academic majors congruent with their stated interest, while 121 did not chose academic majors congruent to a satisfactory cumulative grade point average of a 2.0. Of the subjects only 19 reported having undeclared majors, while 221 reported have a declared major.

Results on the Research Questions

Research Question 1: Do African American freshmen who make high ACT scores make higher grades? According to results, the group of African American freshmen students who had ACT scores equal to or greater than 20, had higher cumulative grade point averages than those African Americans who had ACT scores lower than 20. Table 1 represents the summary of the results.
Table 1
ACT scores and Academic Performance

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>x</th>
<th>S.D.</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT less than 20</td>
<td>87</td>
<td>1.632</td>
<td>.719</td>
<td>GPA</td>
</tr>
<tr>
<td>ACT 20 or above</td>
<td>70</td>
<td>2.187</td>
<td>.85</td>
<td>GPA</td>
</tr>
</tbody>
</table>

Research Question 2: Do African American freshmen who participate in the orientation program, Summer Enrichment Program, make higher academic achievement than those who do not participate in this program? Table 2 represents the summary of the results.

Table 2
Enrollment in Summer Enrichment Program and Academic Performance

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>x</th>
<th>S.D.</th>
<th>Dependent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen enrolled in SEP</td>
<td>69</td>
<td>1.869</td>
<td>.816</td>
<td>GPA</td>
</tr>
<tr>
<td>Freshmen not enrolled in SEP</td>
<td>151</td>
<td>1.808</td>
<td>.834</td>
<td>GPA</td>
</tr>
</tbody>
</table>
Research Question 3: Do African American freshmen chose a course of study that is congruent, indicated by satisfactory academic performance in the form of a cumulative grade point average, and make higher grades than those freshmen who chose a course of study that is incongruent based on a cumulative grade point average? Table 3 represents the summary of the results.

Table 3

<table>
<thead>
<tr>
<th>Congruence between major and academic achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
</tr>
<tr>
<td>--------------------</td>
</tr>
<tr>
<td>Congruent</td>
</tr>
<tr>
<td>Incongruent</td>
</tr>
</tbody>
</table>

Results on the Null Hypothesis

Hypothesis I: It is hypothesized that there are no significant differences in the academic achievement (GPA) of African American freshmen who have ACT scores of 20 or higher and the African American freshmen who have ACT scores below 20, where academic achievement is functional and measured by the cumulative grade point average (GPA) upon the completion of the spring and fall semester for 1989-90 academic year.
This hypothesis was measured by the T-test function. The unpaired \( t \) value was 4.431 with 155 degrees of freedom and a \( p \) value of .0001. With these results, the null hypothesis was rejected. The results indicate that there is a significant difference in the academic achievement of African American freshmen who have ACT scores above 20 and those who have ACT scores below 20, where academic achievement is functional and measured by the cumulative grade point average upon the completion of the spring and fall semester for 1989-90 academic year. These results are summarized in Table 4.

Table 4.
Summary of Results of the Research Questions

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>X</th>
<th>S.D.</th>
<th>T</th>
<th>D.F.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT&lt;20</td>
<td>96</td>
<td>1.63</td>
<td>.719</td>
<td>5.794</td>
<td>167</td>
<td>.0001</td>
</tr>
<tr>
<td>ACT&gt;20</td>
<td>73</td>
<td>2.187</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEP Group</td>
<td>73</td>
<td>1.869</td>
<td>.816</td>
<td>.503</td>
<td>69</td>
<td>.6153</td>
</tr>
<tr>
<td>Non SEP</td>
<td>151</td>
<td>1.808</td>
<td>.834</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congruence</td>
<td>100</td>
<td>2.561</td>
<td>.375</td>
<td>20.098</td>
<td>219</td>
<td>.0001</td>
</tr>
<tr>
<td>Incongruent</td>
<td>121</td>
<td>1.227</td>
<td>.569</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: These are the results of ACT scores and Academic Performance, Enrollment in Summer Enrichment Program and Academic
Hypothesis 2: It is hypothesized that there are no significant differences in the academic achievement of African American freshmen who participated in the Summer Enrichment Program and the academic achievement of freshmen who do not participate in the Summer Enrichment Program, where academic achievement is functional and measured by the freshmen's cumulative grade point average upon completion of the spring and fall of 1989-90 year.

This hypothesis was measured by the T-test function. The t value was .503 with 218 degrees of freedom and a p value of .6153. With these results, the null hypothesis was retained. The results indicated that there is no significant differences in the academic achievement of African American freshmen who participated in the Summer Enrichment Program and the academic achievement of black freshmen who do not participated in Summer Enrichment Program, where academic achievement is functional and measured by the freshmen's cumulative grade point average upon completion of the spring and fall semester 1989-90 academic year. These results are summarized in Table 4.

Hypothesis 3: There is no significant difference in the academic achievement of African American freshmen who chose a field of study congruent and the African American freshmen who do
not chose a field of study that is congruent, where the freshmen's academic achievement is functional and measured by their cumulative grade point average upon completion of the 1989-90 academic year.

This hypothesis was measured by the T-test function. The $t$ value was 20.098 with 219 degrees of freedom and a $p$ value .0001. With these results, the null hypothesis was rejected. These results indicated that there is a significant difference in the academic achievement of African American freshmen who chose a field of study congruent and the African American freshmen who do not chose a field of study that is congruent, where the freshmen's academic achievement is functional and measured by their cumulative grade point average upon completion of the 1989-90 academic year. These results are summarized in Table 4.
CHAPTER V

DISCUSSION, SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

Chapter I and II represented the need, purpose, and reason for this study which has examined and tested the academic achievement of African American freshmen when they are grouped by a set of variables. Chapter III presented the subjects on whom data were collected and measured, instruments and materials that were used in the study, and the methodology used in analyzing the data. Chapter IV presented the results of the hypothesis. This chapter will present the discussion, summary, and recommendations of the study.

Discussion will be in the order of the results of the hypotheses. Each hypothesis will be sub-sectioned for discussion, as it relates to the differences in the academic achievement between selected groups of African American freshmen at Iowa State University, Ames, Iowa to the following group of variables: participation or non participation in the Summer Enrichment Program; ACT composite scores; and the students' stated major as it relates to congruency or non congruency.

ACT Scores and Academic Achievement

According to the results, there seemed to be a significant difference in the academic achievement of African American
freshmen whose ACT scores were equal to or greater than 20. African American freshmen who scored 20 or greater on the ACT had a higher mean grade point average of (2.187) than those who had ACT scores that were less than 20 with a mean grade point of (1.632). These results provided credence to support the continuous use of ACT and maybe SAT scores to predict academic success by many colleges and universities. It was observed that the group of African American freshmen with ACT scores greater than 20 had higher gpa's, but were also smaller in numbers with only 73 freshmen in this group. The other group consisted of 96 freshmen who had lower ACT scores as well as low grade point averages. The methodology used to measure the ACT and academic achievement resulted in indicating a strong relationship between the two variables.

Summer Enrichment Program and Academic Achievement

African American freshmen who enrolled in the Summer Enrichment Program at Iowa State University did not make a significant difference from those who did not participate in the Summer Enrichment Program. The SEP participant had a slightly higher grade point average of (1.869) than those who did not participate in the Summer Enrichment Program (1.808). A total number of 69 students participated in the Summer Enrichment Program to 151 students who did not participate. It was concluded that because both groups had a mean grade point average that was
below the satisfactory mark of a C (2.00), several internal and external factors may have contributed to their low cumulative grade point average. According to their academic progress, both groups did not make sufficient adjustments from high school to college.

**Congruency of Chosen Field of Study and Academic Achievement**

In this study, 100 African Americans freshmen had a mean grade point average of (2.561). According to these results, this group choose majors that were congruent to their interest. The other group consisting of 121 students, had a mean grade point average of (1.227) which indicated that more than half of the sample chose majors that were not congruent to their interests or abilities. In this study there was a significant difference in the academic achievement of African American freshmen who chose majors that were congruent to their interests and abilities than those who chose majors that were not congruent to their abilities or interests. These results were supported from previous studies.

**Summary**

In this study, groups of African American freshmen were examined according to several variables: One group's participation or non participation in the orientation program, Summer Enrichment Program, did not have any significant difference in academic
achievement among the two groups. This did not support the literature that revealed significant results of orientation programs. African American freshmen who scored 20 and above on the ACT had a significant difference in academic achievement than African Americans who scored below 20 on the ACT. This substantiates why universities and colleges use the ACT to predict the academic potential of freshmen but particularly African American freshmen. Students who chose majors that were congruent to their interest make higher cumulative grade point averages than those who did not chose majors that were congruent to their interest and abilities.

Implications

The finds from this study implied that universities and colleges have an accurate measure for predicting successful African American freshmen based on a college cumulative grade point average. Though, ACT and SAT scores are good measures for the masses; other factors should be considered in determining who will be successful students. These standardized test scores are based on pre collegiate preparation which also involves the high school curriculum. Those high school curriculums that are under-prepared directly effect students as well as African American students who want to pursue a college education. In order for African American students to compete in college successfully, the curriculum must have an adequate college-bound
track that will effectively prepare students for standardized tests and college work.

Summer orientation programs have since been strategically developed to assist African American freshmen in being successful at predominantly white institutions. The review of literature reveals that orientation programs prepare black students to be academically inclined, but the results from this study indicated that there is no difference in students' academic achievement and participation in this orientation program. The purpose of this orientation program is to allow African American freshmen to adjust to college life before the initial start of the semester. This process allows the student to adapt and learn about his/her new environment and the challenges that lie ahead for that individual. Orientation programs only target areas that are pertinent to the academic survival of the student. The results of this study allows for speculation based on non cognitive factors that occur before or during this orientation program that was overlooked in determining their achievement: it is assumed that this orientation program is conducive to an easy adjustment period for the participants; there are no personal or family problems that are hindering the participant from being successful; and everyone has lived in a multicultural environment. If these concerns were eliminated, the review of literature would without a doubt be undisputed. Orientation programs work only if the programs focus on the whole student, the academic, social, personal and multifaceted self.
It stands to reason that most students chose majors that are congruent to their interest or abilities. The findings supported those conclusions. Career inventories are very helpful in determining those interest or abilities. Those findings also indicated that students who chose majors that are incongruent to their interest or abilities perform poorly and are dissatisfied with college. It is very important that each individual finds their interest or ability as it relates to their college major before they initially declare a major. This relates to all freshmen who enter college and declare a major. Vocational inventories can determine and predict the students' interests and abilities. It also implies which majors would be successful for that student. Implementing vocational inventories for freshmen would eliminate poor discretion in choosing college majors.

Recommendations

1. Directors and administrators should develop a counseling component to their orientation programs. This component should emphasize services that offer skills for academic survival. This component is the most significant factor missing from most orientation programs. This counseling component should offer study skills and time management skills. If these skills are taught before enrolling in classes, there be a significant difference in academic achievement by participants. The Summer Enrichment Program is important to African American freshmen who come to college for the first time to
adjust to college life, but academic skills need to be improved by African American students at Iowa State University.

2. The counseling component should also evaluate students' interests and abilities. Many students make poor decisions in choosing a congruent major. Often African American students chose majors that are incongruent to their academic background causing them to perform poorly in college. Career counseling is important to African American students when it comes to choosing a major. Each student needs to have a career evaluation as well as an academic evaluation. An evaluation of student's preparation in high school along with abilities and interests should be measured against chosen academic major. Vocational inventories should be implemented to in coming freshmen before they declare a major.

3. Standardized tests will always be used to serve as a measure for academic performance in college. The only way that African American students can perform on these test significantly, is to be on a college-bound track in high school. Black students must take classes that college courses have perquisites for from high school. If students are not on a college bound track and have ambitions of going to college, they are setting themselves up for failure. The ACT and SAT are measures for high school. Recommendations should be made to high schools whose curriculums are inadequate for good college preparation. Many students are in this category, receiving il
preparation from high school that results in poor performance on standardized test. It is not enough for African American students to prepare for these test, high schools must work closely with colleges and universities to develop articulation agreements for preparatory courses to make a smooth transition from high school to college.

4. There is substantial amount research on factors that contribute to African American students' success. Research is needed in the area of looking at factors on individual college campuses that contribute to African Americans and other minorities' success.
REFERENCES


McTarnaghan, R. E. (1990). The Effects of Assessment on Minority Participation and Achievement in Higher Education, New Directions for Institutional Research. no. 65


ACKNOWLEDGEMENTS

I would like to thank some people in my life who have contributed to my personal growth and completion of this thesis. I would like to start off by thanking God for giving me the strength and knowledge for completing this program. Special thanks goes out to my parents, who have supported me in all my endeavors. I would also like to thank the Lewis's for their love and support. To my support group, Patrick Lewis, Brian Hemphill, Velma Robinson and fraternity members, this one's for you guys. I would like to thank my committee members: Dr. George Jackson, Dr. Dan Robinson and Dr. Hayward Horton. They have given me invaluable support through their knowledge and expertise. Once again, I would like to thank my parents and I wish to dedicate this effort to them.
APPENDIX A.
HUMAN SUBJECT COMMITTEE FORM
Information for Review of Research Involving Human Subjects
Iowa State University
(Please type and use the attached instructions for completing this form)

1. Title of Project: The Study of Factors that Contribute to the Academic Success of African American Students at Iowa State University

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree to request renewal of approval for any project continuing more than one year.

   Yasan Jones
   Typed Name of Principal Investigator
   Date: 3-1-93
   Signature of Principal Investigator

   Professional Studies
   Department
   N243 Lagomarcino
   Campus Address
   4-4143
   Campus Telephone

3. Signatures of other investigators

   Date
   Relationship to Principal Investigator

4. Principal Investigator(s) (check all that apply)
   □ Faculty    □ Staff    □ Graduate Student    □ Undergraduate Student

5. Project (check all that apply)
   □ Research    □ Thesis or dissertation    □ Class project    □ Independent Study (490, 590, Honors project)

6. Number of subjects (complete all that apply)
   □ # Adults, non-students    □ # ISU student    □ # minors under 14    □ # minors 14 - 17
   □ other (explain)

7. Brief description of proposed research involving human subjects: (See instructions, Item 7. Use an additional page if needed.)
   The research will focus on African American student's success factors. These factors will be based on ACT/SAT scores, Summer Enrichment Program and congruency of student stated interest on the ACT examination as it relates to their choice of major.
   (Please do not send research, thesis, or dissertation proposals.)

8. Informed Consent:
   □ Signed informed consent will be obtained. (Attach a copy of your form.)
   □ Modified informed consent will be obtained. (See instructions, item 8.)
   □ Not applicable to this project.
Confidentiality of Data: Describe below the methods to be used to ensure the confidentiality of data obtained. (See instructions, item 9.)

Names of people in the study are irrelevant to this research. ACT score and summer enrichment participants and student's stated interests will be used to determine which success factors are closely related to African American students at Iowa State University. This study will in no way reveal any particular person's situation.

10. What risks or discomfort will be part of the study? Will subjects in the research be placed at risk or incur discomfort? Describe any risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. See instructions, item 10.) None.

11. CHECK ALL of the following that apply to your research:
   □ A. Medical clearance necessary before subjects can participate
   □ B. Samples (Blood, tissue, etc.) from subjects
   □ C. Administration of substances (foods, drugs, etc.) to subjects
   □ D. Physical exercise or conditioning for subjects
   □ E. Deception of subjects
   □ F. Subjects under 14 years of age and/or □ Subjects 14 - 17 years of age
   □ G. Subjects in institutions (nursing homes, prisons, etc.)
   □ H. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

Items A - D Describe the procedures and note the safety precautions being taken.

Item E Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.

Item F For subjects under the age of 14, indicate how informed consent from parents or legally authorized representatives as well as from subjects will be obtained.

Items G & H Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.
Checklist for Attachments and Time Schedule

The following are attached (please check):

12. □ Letter or written statement to subjects indicating clearly:
   a) purpose of the research
   b) the use of any identifier codes (names, #'s), how they will be used, and when they will be removed (see Item 17)
   c) an estimate of time needed for participation in the research and the place
   d) if applicable, location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, note when and how you will contact subjects later
   g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. □ Consent form (if applicable)

14. □ Letter of approval for research from cooperating organizations or institutions (if applicable)

15. □ Data-gathering instruments

16. Anticipated dates for contact with subjects:

   First Contact

   ____________________________
   Month / Day / Year

   Last Contact

   ____________________________
   Month / Day / Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

18. Signature of Departmental Executive Officer

   ____________________________
   Date

   Department or Administrative Unit

   ____________________________

19. Decision of the University Human Subjects Review Committee:

   □ Project Approved
   □ Project Not Approved
   □ No Action Required

   Patricia M. Keith
   Name of Committee Chairperson

   3-4-93
   Date

   Signature of Committee Chairperson