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**An evaluation of The Freshman Seminar at Appalachian State
University**

Spann, Nancy Gray, Ed.D.

The University of North Carolina at Greensboro, 1991

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AN EVALUATION OF THE FRESHMAN SEMINAR
AT APPALACHIAN STATE UNIVERSITY

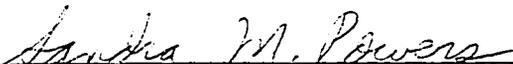
by

Nancy Gray Spann

A Dissertation Submitted to
the Faculty of the Graduate School at
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of the Requirements for the Degree
Doctor of Education

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Approved by


Dissertation Advisor

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

Dissertation Advisor Jandra M. Powers

Committee Members Pl. Tullh.
David H. Gully
Marilyn Gray-Deane

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Institutions of higher education are placing an increasing emphasis on student retention programs for administrative, economic, and humanistic reasons. Decline in college enrollments is a major concern of these institutions. In attempting to explain attrition, Vincent Tinto (1975, 1987) developed a theory of student departure which stated that leaving college can be viewed as a process of interactions between the individual student and the academic and social environment of the college and that, other things being equal, the greater the extent of academic and social integration of the student into the college community, the more likely the student is to persist to graduation.

This study was undertaken to investigate the effectiveness of The Freshman Seminar at Appalachian State University for improving both retention and grade point average, as well as for increasing students' academic and social (institutional) integration. Full-time freshmen who enrolled at Appalachian in the fall of 1989 completed two surveys: one before they enrolled in the University and one at the end of their freshman year. The first survey measured their expectations of integration and the second survey measured their actual integrative experiences. A

sample of 1,038 students was the population of interest. These students were divided into a treatment group (students who enrolled in The Freshman Seminar) and two comparison groups (students who did not enroll in the Seminar and students who wanted to enroll in the Seminar but could not because of lack of space). Statistical analyses were conducted to determine if The Freshman Seminar made a significant difference in students' retention to the sophomore year, their cumulative grade point average, and their integration into the college community.

Results of the analyses indicated that The Freshman Seminar had no statistically significant effects on retention, grade point average, or institutional integration using the measurements and analyses of this study. However, a statistically significant difference was found in both integration ($p = .01$) and in grade point average ($p = .05$) between returning and non-returning students.

Appalachian has an 86.3% freshman-to-sophomore retention rate for the 1989 entering freshmen. Within the confines of this study, however, it was impossible to specify what the contributions of The Freshman Seminar were to this retention rate.

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CHAPTER 1
INTRODUCTION

Institutions of higher education are placing an increasing emphasis on student retention programs as a result of concerns related to declining enrollments and students leaving school without completing a degree. Tinto (1987) stated that "more students leave their college or university prior to degree completion than stay" (p. 2). According to Tinto, the consequences of student departure from higher education are significant for both the individuals who leave and for their institutions. For individuals, a college degree often assures certain monetary, occupational, and societal rewards. Although those who attend and fail to obtain a degree may benefit by personal growth and by discovering occupations compatible with their interests and abilities, it is commonly accepted that a college degree provides an important certificate for occupational entry and societal status (Tinto, 1987). For the institution, the early exodus of students may result in a loss of institutional self-esteem and reputation, resulting in a questioning on the part of the faculty and administrators regarding the effectiveness of their educational programs and/or, more likely, on the quality of students being admitted to the institution (Tinto, 1987).

Similar viewpoints were held by other researchers. Like Tinto, Gekoski and Schwartz (1961) believed that student withdrawals have a significant impact on the student, the institution, and the nation. The problems for the student include frustrated ambitions and blighted hopes; for the institution, useful resources have been lost; and for the nation, human resources have been wasted. Peng and Feters (1977) also addressed the impact that substantial withdrawals have on both students and institutions. They stated that the expenditure of resources on non-completing students is substantial and that the frustrations and negative effects on the self-images of non-retained students require interventions.

Cope and Hannah (1975) stated that leaving college involves a significant cost to the students in lost earning potential as well as psychological losses in disappointment to themselves, family, and friends. According to these researchers, the institution loses too when a student decides to withdraw. The institution has spent substantial sums of money and energy on recruiting students and has invested time and energy in teaching, counseling, record keeping, advising, housing, and other efforts to ensure student growth and development. Further, according to these authors, graduates become credits (alumni and representatives) to the institution in their communities.

There are several reasons for the decline in college enrollments. First, the number of college-age individuals is decreasing; the Carnegie Council (1980) projected a reduction of 23% in traditionally-aged college students from 1980 to the late 1990s. Second, the economic climate of inflation and unemployment combined with rising costs of education presents a bleak picture for families that want to send their children to college (Wharton, 1983). Third, many young people perceive few rewards from obtaining a college degree in relation to economic stability and look more seriously at vocational alternatives (Rusk, Leslie, & Brinkman, 1982). Finally, college enrollments are affected by geographic shifts. The population is shifting to the West and Southwest, favoring the states and institutions in these regions and hurting the states in the eastern portion of the country (Carnegie Council, 1980).

The decline in college enrollments has been substantiated in a recent study of 1980 high school graduates which reported that fewer than 29% of the 1980 high school graduates enrolled as full-time students in four-year colleges in the fall of 1980 and that almost one-third had not had any postsecondary education by 1986 (DeLoughry, 1989). Even though some of the decline in traditionally-aged student enrollments has been offset by an increase in the number of adult learners who are enrolling, this increase has not been sufficient to counter

the decrease in the size of the recent high school graduating classes. Tinto (1987) stated, "In 1984 total enrollment in higher education shrank from a 1981 high of 12.37 million students to 12.2 million. It is predicted to further decline to an estimated low of 10.5 million in 1995 before increasing again in the latter part of that decade" (p. 2).

In response to the dwindling pool of high school graduates, institutions have developed recruiting and marketing campaigns to attract the college-going population. The recruiting and marketing plans have been successful but as more institutions employ these strategies, they no longer produce the gains in enrollment or offer assurance that these techniques will provide the numbers of students the institutions need for survival (Tinto, 1987).

Enrollments are not only affected by the decreasing number of students who enter college, but also by the increasing number of students who enter college but do not stay to complete a degree. DeLoughry (1989) found in his study of 1980 high school graduates that only 52.8% of the students who did enroll in four year colleges had obtained a bachelor's degree six years later. Tinto (1987) asserted that because recruiting strategies have not yielded the numbers necessary for survival, many institutions have addressed their enrollment problems by establishing

programs that focus on the retention of students already enrolled in the institution.

Lenning, Sauer, & Beal (1980) discussed the positive results accruing from greater attention to retaining students. They stated that institutions will need to attract 20 percent fewer new enrollees if the currently enrolled students persist to degree completion. Other benefits of planned retention activities, according to these authors, are an increase in student morale, more positive interaction among students, faculty, and the institution, and more supportive alumni.

Therefore, since marketing and recruiting strategies now have limited value for institutions in solving their enrollment problems, these institutions must design and establish programs for students already enrolled at the institution. Such programs should be designed to help students make the transition from high school to college and give them a sense of "belonging" that will promote both their personal growth and development and their desire to stay in school and to graduate.

Theoretical Base

Clearly, in order to develop successful retention programs, institutions must not only be aware of specific activities and factors influencing students to remain in

their institution, but they must also know why students leave college and what factors in the institution cause them to be dissatisfied. Tinto (1975, 1987, 1988) developed a theory of student departure that speaks to this issue. He emphasized that leaving college can be viewed as a process of interactions between the individual student and the academic and social environment of the college "during which a person's experiences in those systems (as measured by his normative and structural integration) continually modify his goal and institutional commitment in ways which lead to persistence and/or to varying forms of dropout" (p. 94). Tinto (1975) further stated that a student's persistence in a particular college is directly related to the degree to which the student is successfully integrated into the academic and social environment of that college.

Tinto's (1975, 1987, 1988) theory had its origins in the fields of anthropology and sociology. Specifically, he used the works of Van Gennep (1960), a Dutch anthropologist, and Durkheim (1951), a prominent sociologist, to develop a theoretical model of factors influencing students to leave higher educational institutions.

Van Gennep (1960) was concerned with "life crises" that persons and groups face during the course of their lives. He saw life as a series of stages leading persons from

birth to death and from membership in one group to membership in another group. He paid particular attention to the rituals and ceremonies (rites of passage) that helped individuals and groups through life crises. Van Gennep focused on the movement of individuals from participation in one group (e.g. hometown and family) to participation in another group (e.g. the college community), especially as it occurs from youth to adult status in our society. Van Gennep believed that changes between groups were marked by three distinct phases or stages, each having certain ceremonies and rituals. He referred to these as rites of passage and identified them as separation, transition, and incorporation. Each stage moves the individual from youthful participation in a group to full participation as an adult in society and provides for the orderly transmission of beliefs and norms in the society to the next generation. In this way, the stability of society over time is assured and at the same time the younger generation is helped to assume responsibilities from the older generation (Tinto, 1987).

According to Tinto's (1975, 1987, 1988) descriptions of these stages, separation is characterized by a significant decrease in interactions with members of the group from which one has come and by the use of ceremonies whose purpose is to mark as outmoded the views and norms which describe the group. Transition is that phase in which

the person begins to interact in new ways with members of the new group and is assured of separation through such mechanisms as isolation, training, and sometimes ordeals. Eventually the individual learns the knowledge and skills required for membership in the new group. During the stage of incorporation, the individual assumes new patterns of interaction with members of the new group and becomes a competent member of that group. Full membership is marked by special ceremonies that certify the rewards and responsibilities of the new group. The individual then interacts with the old group but now as a member of the new group (Tinto, 1987).

Tinto (1987) applied these concepts to an educational setting. He compared the assimilation of students in the college environment to the assimilation of individuals into any new community and posited that students move through the same stages of passage (separation, transition, and incorporation) as they attempt to negotiate the college environment. According to Tinto (1975, 1987), college students move from their home community (families and local high schools) to the new community of the college and must separate themselves from these former associations in order to make the transition and eventual incorporation into the educational community. Having moved away from the comfortable and familiar patterns of these associations, the student is faced with the problem of finding and

adopting new patterns appropriate to the college environment. In doing so, the individual is very likely to encounter problems of adjustment whose resolution may mean the difference between continued enrollment or early departure. In most situations, new students are left to make the separation and transition into college life on their own. During the period of transition, new students have not learned the norms and patterns of appropriate behavior that will enable them to become integrated into the new college environment. Because they have not established the bonds necessary for community membership, they are neither bound strongly to the past nor firmly tied to the future. Formal and informal daily personal contacts with other members of the college community assist in incorporating the student into the new community. However, not all individuals are either able or willing to become incorporated into college life; for many, departure from the institution is the solution to being unable to establish competent intellectual and social membership in the college community (Tinto, 1987).

Tinto (1987) also stated that one should not assume that the three stages of separation, transition, and incorporation are always distinct and clearly sequenced. Some students may not experience separation, transition, and incorporation in the same sequence, at the same time, or for the same period of time. Others are hardly aware of

the changing processes. Each stage may occur only partially, may be repeated, or may overlap with another stage.

Van Gennep did not describe the process of incorporating individuals into the life of the community. For an explanation of how one becomes incorporated into a community, Tinto (1987) turned to the work of Durkheim (1951).

Tinto (1975, 1987, 1988) referred to Durkheim's (1951) notion of egotistical suicide as that most closely related to student departure from education. Egotistical suicide is a form of suicide that occurs when individuals are unable to become integrated into the community and to establish membership in it, thus becoming so estranged from the community that they take their own lives. Durkheim described two forms of integration: social and intellectual. Social integration results from personal affiliations and from the daily interactions among the different members of society. Intellectual integration results from sharing values which are held in common by other members of the society. Insufficient integration and the absence of membership in the community occur when one member of society holds values which are different from the other members of society (intellectual isolation) and/or when there is insufficient personal contact between an individual and other persons in society (social isolation).

As Tinto (1975, 1987) used Durkheim's theory, the responsibility for the absence of social and intellectual integration rests both with the individual and with society. Durkheim argued that understanding egotistical suicide requires an understanding of the conditions in society which provide the context for individual integration. This understanding requires a knowledge of the structures of society and the mechanisms which enable one to establish membership in the society. An essential element of social existence is integration into society; malintegration would lead persons to take their own lives. Societies that have high rates of suicide tend to be societies where social and intellectual isolation and deviancy are high. If society were restructured and there were more effective means of integrating individuals into its social and intellectual communities, rates of suicide would be reduced and society would be more stabilized (Tinto, 1987).

Tinto (1987) wrote that understanding student departure required an "understanding [of] the structural conditions of institutions and [of] an educational parallel to egotistical suicide" (p. 104). By this, Tinto means individuals become "dead," or lifeless, in an environment that does not promote integration or community. Student retention depends, according to this theory, on the social and intellectual character of an institution and on the

mechanisms which assist individuals to become integrated into the college community. As is the case with societies, institutions which have low rates of student departure are those which are able to more fully integrate their students into their social and intellectual life (Tinto, 1987).

Tinto (1987) stated that:

by extension, it also follows from this analogy that one approach to the question of institutional policy on retention is that which looks toward a restructuring and/or modification of the social and intellectual conditions of the institution and the creation of alternative mechanisms for the integration of individuals into its ongoing social and intellectual life. (p. 104)

According to Tinto (1987, 1988), both Van Gennep and Durkheim were concerned with membership in communities of some permanence. The communities of the college are, by comparison, less extensive and weaker than those found in the broader society and student memberships are less permanent than those that might occur in human communities generally. Student memberships in colleges are temporary, by definition. Tinto stated that the two settings are similar in that personal integration and human interaction are central to the structure of both community life in the broader context and institutional life in the narrower context. Successful retention programs are like healthy communities in their commitment to the welfare of all their members (Tinto, 1987).

Tinto's model of student departure

Tinto's (1975, 1987, 1988) model of student departure views the process of persistence as comprising several stages in the passage of students from past associations with families and high schools to participation in the new social and intellectual communities of the college. Continued persistence necessitates that students make an effective transition to college and become integrated into the ongoing social and intellectual life of the college. Tinto (1975, 1987, 1988) also stated that when students withdraw from college, it is as much a reflection of the character of the academic and social communities of the college as it is of the character of the students themselves. According to Tinto (1975, 1987), what happens to the students after they enroll matters more than the intentions and commitments students bring with them. Decisions to stay or leave are largely based on the daily interactions students have with other members of the college community and students' perceptions of those interactions.

Tinto's (1975, 1987) theoretical model addressed the longitudinal process of student's withdrawing voluntarily (as opposed to being forced to leave because of a low grade point average). It sought to explain how the interactions between the student and the institution may lead individuals of different characteristics to withdraw from

the institution before completing a degree. Figure 1 depicts Tinto's (1987) model of institutional departure. Students enter institutions with a range of differing backgrounds (socioeconomic levels, size of hometown communities, etc.), a variety of personal attributes (sex, age, ethnicity, etc.), varying skills and abilities, and different educational achievements and experiences. Each of these background characteristics influences the formulation of intentions and commitments to completing a degree and to completing the degree at the college of entry. Pre-entry attributes and goals and commitments, then, describe the social and intellectual resources and orientations which individual students bring with them to college (Tinto, 1987).

The model continues by illustrating that the subsequent institutional experiences students have as they interact with other members of the community are directly related to their decisions to remain or to leave the college. These experiences include the full range of activities which occur in the formal and informal domains of both the social and the academic sectors of the institution. Academic experiences include informal interactions among the students and faculty members both inside and outside the classroom and the quality of students' academic performances. Social experiences consist of students' relationships with peers and participation in

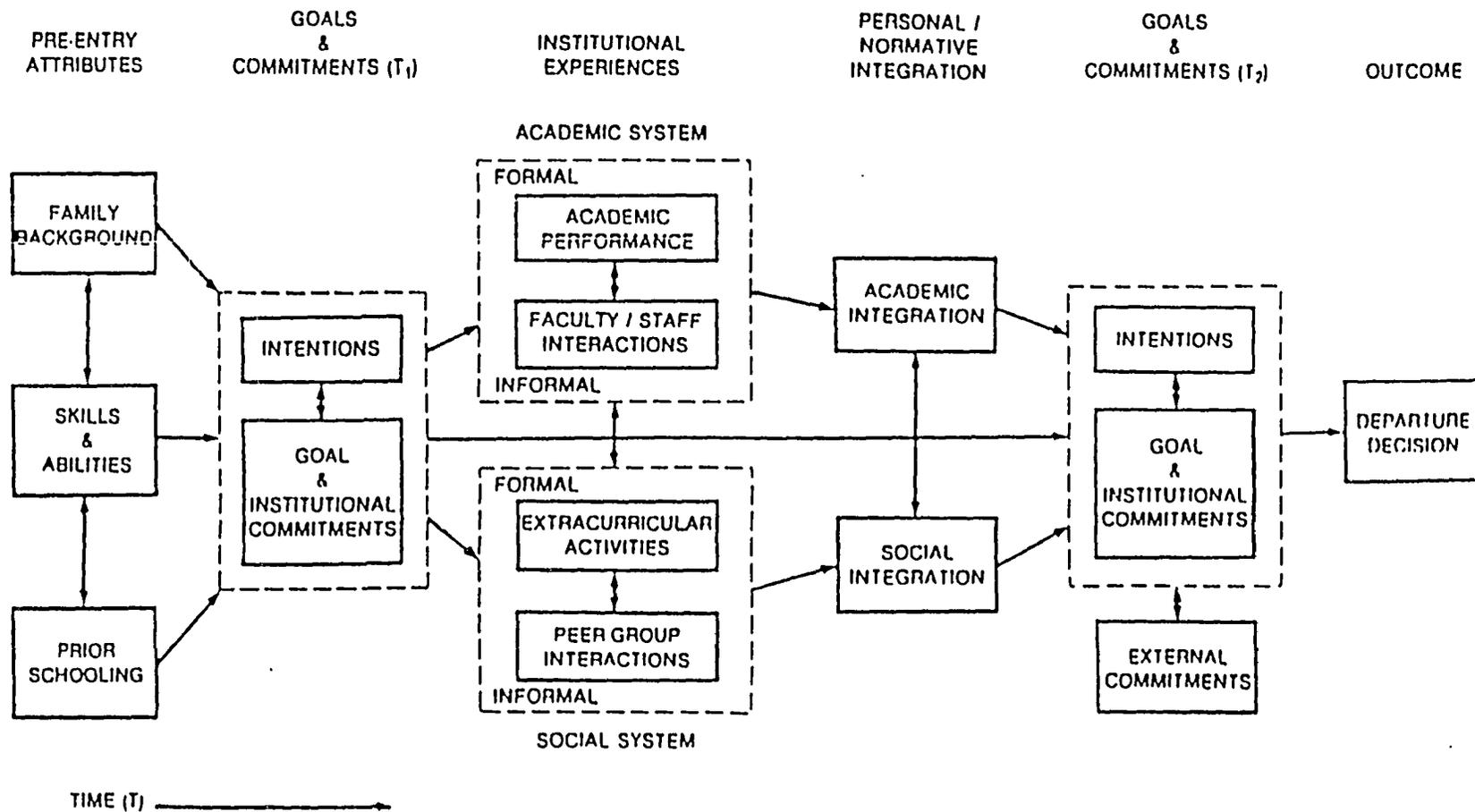


Fig. 1 A model of institutional departure

Tinto, V. (1987). Leaving college: Rethinking the causes and cures of student attrition. Chicago: University of Chicago Press.

extracurricular activities. The academic and social systems of the institution are mutually interdependent as events in one area impact upon events in the other. Successful involvement in these systems leads students to become integrated into the institution which, in turn, influences them to remain at the institution and to complete a degree. Unsuccessful integration leads to a decision to withdraw from the institution (Tinto, 1987).

According to Tinto (1987), persistence does not depend solely on full integration into both the academic and social environments of the institution, nor does failure to be integrated in either system necessarily lead to a withdrawal decision. The model posits that some degree of integration must exist as a condition of continued persistence and that the absence of some form of integration establishes the conditions for departure decisions.

In summary, integrative experiences heighten the likelihood of persistence, while their absence increases the likelihood of withdrawal by establishing conditions which tend to isolate the student from the daily life of the institution. The absence of integrative factors results in reduced goals and weakened commitments (Tinto, 1987).

Finally, according to Tinto (1987), effective retention programs are characterized by (a) a sense of obligation on

the part of the institution to ensure that all students have sufficient opportunities and resources to complete their courses of study and (b) a social obligation to be concerned about the welfare of the whole student. He claimed that

the ability of institutions to retain students lies less in the formal programs they devise than in the underlying orientation toward students which directs their activities. Communities, educational and otherwise, which care for and reach out to their members and which are committed to their welfare, are also those which keep and nourish their members. (pp. 181-182)

Statement of the Problem

The retention of students is a major problem for higher education. Institutions are turning their attention to methods of improving the educational environment in order to influence students to remain in school. Beal and Noel (1980) reported that:

research on student retention indicates that many variables affect whether the student decides to stay or leave, variables that are linked to the circumstances of a particular institution and its student body. Recent material on retention suggests that institutions should 1) organize for the improvement of retention and 2) devise specific intervention strategies. (p. 5)

Although many schools have attempted to focus on the problem, there is, nevertheless, sparse information on the effectiveness of specific intervention strategies. One specific retention strategy being established by many higher education institutions is the orientation seminar.

This is an extended orientation course that is offered to freshmen during their first semester in an effort to integrate them into the institution, to ease their transition from high school to college, and to enable them to form a network of peers in the college community. Such a course is not a recent phenomenon. Fitts and Swift (1928) described the first recorded course for credit which was offered at Reed College in 1911-1912. Most of the literature regarding such a course has, however, been largely descriptive or has focused primarily on the improvement of grade point average and retention only. In recent years there has been a resurgence of interest in the course and many colleges and universities have instituted such a course as an intervention strategy for improving student retention. Fidler (1989) reviewed the literature on the freshman seminar and found a dearth of published articles. Studies which are theory-based and which measure additional variables are needed in order to determine the effectiveness of the course. Such studies should provide data with which institutions can implement the course in order both to improve retention and to enhance the growth and development of their students.

Purpose of the Study

The purpose of this study was to investigate the effectiveness of The Freshman Seminar at Appalachian State University for improving both retention and grade point

average as well as increasing institutional integration. The study assessed whether there were gains in students' achievement and retention as well as their academic and social integration into the college community as a result of participating in The Freshman Seminar. The goal of this course at most institutions is to provide experiences that are meaningful and that address the factors that lead to student retention and satisfaction, namely positive institution-student interaction which successfully integrates students into the social and intellectual life of the college community.

Research Questions

Five questions were investigated to address the study's purpose:

1. Does institutional integration predict retention?
2. Do students who participate in The Freshman Seminar exhibit more institutional integration, thereby enhancing chances of retention?
3. Are there background characteristics (e.g. sex, age, ethnicity, socioeconomic status, academic aptitude) that are associated with retention?
4. Is there a relationship between students' evaluations of The Freshman Seminar and retention?
5. Do students in The Freshman Seminar have higher rates of achievement than students in the comparison groups?

Research Hypotheses

1. There is a statistically significant difference in institutional integration scores, after adjusting for expected integration, between returning and non-returning students.

2a. There is a statistically significant difference in institutional integration scores, after adjusting for expected institutional integration, among three groups: students who completed The Freshman Seminar, those who chose not to enroll, and those who wanted to enroll but could not do so.

2b. Classification by research group is independent of retention status.

3a. There is a statistically significant relationship among precollege characteristics (e.g. age, gender, ethnicity, socioeconomic status, academic aptitude, and participation in high school activities) and retention.

3b. There is a statistically significant relationship among research groups and background characteristics (the independent variables) and retention (the dependent variable).

4. There is a statistically significant difference in student evaluations of The Freshman Seminar between returning and non-returning students.

5a. There are statistically significant differences in the rates of achievement between the treatment and the

comparison groups, after adjusting for SAT scores and high school grade point average.

5b. The treatment group will have higher rates of retention than the comparison groups, after adjusting for college achievement.

Definitions

Attrition: leaving an institution of higher education.

Dropout: one who leaves the institution and does not return for additional study at any time, or during the time of the study (at a particular time a study is conducted, students may be classified as dropouts, while at a later date they may be considered "stopouts" if they resume studies at the institution) (Lenning, Beal, & Sauer 1980).

Institutional Departure: departure of persons from the individual institution of higher education (Tinto, 1987).

Institutional Integration: a longitudinal process of interactions between students and the college community through which students make a smooth transition to college and become assimilated into the on-going social and intellectual life of the college. Experiences which are positive and integrative reinforce persistence (Tinto, 1987).

Institutional Transfer: migration of persons to other institutions of higher education (Tinto, 1987).

Persister: one who continues enrollment at the same institution without interruption for the period being

investigated. Persisters are said to achieve on-time graduation (Lenning, Beal & Sauer, 1980).

Retention: staying or continuing in an institution of higher education.

Stopout: one who leaves the institution for a period of time but returns to the same institution for additional study. Graduation is usually assumed to be the goal of the stopout, but it will occur sometime rather than on time. Such students achieve late graduation (Lenning, Beal, & Sauer, 1980).

Transfer students: from the standpoint of the institution the student transfers from, the student is usually considered a dropout; from the perspective of the institution the student transfers to and graduates from, the student is a persister; from the perspective of the researcher who focuses on the transfer student irrespective of the institution, the student is a persister if there is no interruption of full-time or part-time studies; if there is an interruption, the student is considered a stopout (Tinto, 1987).

System Departure: departure from the wider system of higher education (Tinto, 1987).

Significance of the Study

The retention of students to graduation is a problem in higher education. Beal & Noel (1980) reported that "the average of graduation rates for five years after entrance

to baccalaureate institutions varied from 53 percent at four-year public institutions to 63 percent at four-year private secular institutions" (p. 7). Tinto (1987) stated that "the total rate of four-year institutional completion of entering cohorts can be expected to be approximately 44 percent" (p. 15). He further stated that generally in four-year institutions, the

rate of four-year degree completion can be estimated to be roughly 61 percent of the entering cohort (system completion). Conversely, 39 percent of all entrants can be expected to depart the system without ever completing their four-year degree programs. Some 13 percent of those, or about 5 percent of the original entrants, will obtain degrees in the two year college sector. (p. 17)

Students who enter college and do not continue to graduation when that was their original goal incur both economic and personal costs. Economic costs result from the loss of revenue to the institution and to the student who has no degree or credentials to show for his participation in higher education. Personal costs result from the loss of self-esteem and a potential unwillingness to seek additional education or to participate in lifelong learning, resulting in a less informed electorate and more impaired workforce. Further costs are in loss of time, preparation, and commitment on the part of both the student and the institution.

To address the problem of students' continuation in college, institutions are increasingly turning to specific intervention strategies to increase student persistence out of a belief that the institution bears some responsibility for student dissatisfaction and departure from higher education.

Freshman seminars are designed to integrate students into the social and academic environments of the institution and to help them make a long-term commitment to continue in school and to complete a degree. The Freshman Seminar at Appalachian State University has similar goals and objectives. The study is relevant to the dilemma of retention in higher education. Its results may have specific relevance for aiding decisions regarding the orientation course at Appalachian State University.

Since the seminar at Appalachian uses a variety of instructors who might potentially influence the outcome, student course evaluations and their relation to retention are also of interest.

CHAPTER 2

REVIEW OF THE LITERATURE

Only studies that applied to four-year residential institutions were reviewed since that is the context for the current study. This chapter is divided into four parts. The first section consists of a selected review of the general retention literature including historical and current perspectives and the relationship of student background characteristics (gender, age, ethnicity, socioeconomic status, and academic aptitude) to retention. This section includes literature published only within the last thirty years. Although some material is clearly dated, these studies are frequently cited and, thus, are used in this review. The second section contains a review of selected literature on the relationship of achievement to retention. The third section reviews selected literature on institutional integration and retention. Finally, the fourth section describes research studies that have been conducted on Freshman Seminar courses at various institutions.

General Retention Literature

Historical Perspective on Retention Research

According to Beal and Noel (1980), the focus of the last 50 years of research in student retention has been on

why students leave college, describing personal, social and environmental forces. In the 1960s and 1970s educational researchers studied why some students dropped out of colleges, why some did not, and why some never entered at all (Astin, 1975; Cope & Hannah, 1975; Foster, Astin, & Sherer, 1973; Pantages & Creedon, 1978). Later, the focus shifted to how students can be encouraged to stay in college. Beal and Noel (1980) stated:

too much research has been done on the effects of family size, social status, high school grade point average, intelligence, sibling order, sex, size of high school, religion, and similar "fixed" variables rather than on variables that colleges can do something about: orientation programs, counseling, financial aid, adequate information, and so on...[we] suggest a broad range of actions that cut across many college activities and that could, with retention as the focal point, have a broad impact on institutional quality.
(p. v)

Before World War II, research studies on retention were primarily descriptive. These studies determined that commuters, students with lower aptitudes, and students from small towns tended not to complete college. After World War II, prediction studies were emphasized in retention research; given certain aptitudes, commuting to college, and hometown size, what was the likelihood of completion? The fit between the student and the institution was the emphasis in the late 1950's, and in the 1960's the focus was on types of students who dropped out and on their experiences in college (Beal & Noel, 1980).

During the 1970s, according to Beal & Noel (1980), institutions began to consider what they could do to improve retention. Before that time, the assumption had been that the problems of student attrition rested with students' backgrounds, skills, aptitudes, attitudes, motivations, and interests. More recently the retention literature has reported on how institutions can encourage students to remain in school by focusing on the quality of faculty-student interaction, the types of degree programs available, the adequacy of student residences, the mix of financial aid, and so on. The improvement of the quality of students' experiences has become a primary emphasis of higher education in order to encourage quality students to remain in school (Beal & Noel, 1980). Woodward (1982) described the more recent shift as a concern with the fit between the student and the institution. Earlier, he stated, the concept of fit was defined as selecting students whose scores on standardized tests matched the needs or had the appropriate entry characteristics desired by the institution. During the last decade or so fit has come to mean student integration and success at the institution.

Current Perspectives on Retention Research

Although there has been a plethora of retention studies in the last 30 years, differences in definitions of terms and methodologies have caused problems in generating

consistent results. The testing and development of strategies to lower the attrition rate yielded answers that were less than adequate because the studies were fragmented, single-solution, single-institution studies that lacked adequate evaluation analysis and replicability (Christoffel, 1986). The majority of the research on retention/attrition, until recently, has lacked guidance from a theoretical base, consistent definitions of independent variables, and clear operational definitions of persistence/withdrawal behavior (Faughn, 1982; Pascarella, 1985). Moore and Carpenter (1985) reported that data from retention studies tend to confuse rather than clarify, are more descriptive than experimental, and are more speculative than theoretical. Beal and Noel (1980) also stated that very few solutions have been identified to the complex problems of retention and attrition in spite of hundreds of publications through many years of research.

Ramist (1981) succinctly described the problems associated with research on retention/attrition:

(a) Some studies consider transfers as dropouts and others do not. "Transfers are dropouts from the college of initial entry, not from higher education" (p. 1); (b) Different dropout studies have different timing when defining dropouts or graduates. "Because a substantial proportion of students graduate in the fifth year after entry into a four year college, a dropout rate calculated in terms of

graduates after five years would be substantially lower than one calculated in terms of graduates after four years. Indeed, the dropout rate calculated in terms of graduates after ten years is even lower. To be sure of the permanency of a dropout -- that there is not a later reentry into higher education -- each person would have to be tracked for the rest of his or her life" (p. 2); (c) Student samples vary from institution to institution. Including students who originally entered two-year colleges has a confounding effect because they have a low rate of four-year degree completion. "Therefore, different samples of students from different colleges will yield different results" (p. 2); (d) There may be real changes over time; "dropout rates and reasons for dropping out may differ from one period of time to another" (p. 2).

Cope (1969) indicated that the literature agrees in general on three major points: (a) On the average, the national rate of attrition over four years has remained relatively constant. In spite of problems regarding reliability and interpretation of gross national figures, most authorities agree that 40 percent of the entering students never achieve a bachelor's degree and 20 percent do not graduate on schedule (at end of four years); (b) The greatest proportion of attrition occurs during the freshman year of college; (c) The attrition rate is generally higher at state supported institutions than at private institutions.

In spite of these problems in the research, studies have yielded some general conclusions regarding overall graduation and dropout rates as well as conclusions which indicate that improved retention is possible and that action programs can be established to respond to circumstances on particular college campuses (Beal & Noel, 1980). For example, out of retention research has come information concerning characteristics of students and institutions and the interactions between them that seem to relate positively to retention. Student characteristics that relate positively to retention include: high school grade point average and rank, academic aptitude, first semester college grades, academic rating of high school, level of college degree aspirations, commitment to the college, peer group influence, satisfaction, and scholarships and grants. On the other hand, negative student characteristics are poor study habits, transfer plans, student loans, concern about finances, and part- and full-time employment (Beal & Noel, 1980).

Additional conclusions about the college environment can be drawn from research on retention. Positive characteristics of colleges that relate to student retention included high status or image, private schools, religious affiliation, on-campus housing, counseling, academic advising, orientation programs, learning/academic support services, special student services for retention,

defined mission and role of the college, student involvement in extracurricular activities, close friends, student-faculty relationships, special academic programs, participation and involvement in departments, and tutoring (Beal & Noel, 1980). Beal and Noel (1980) described the importance of the interaction between the students and the institution as a crucial component of retention research. They emphasized that the student develops a sense of belonging as a result of the many interactions between the student and the institution. This feeling of belonging, or lack of it, may determine whether the student decides to stay or leave the college or university.

Although particular definitional and methodological problems abound in research on retention/attrition, much useful information can be gained from these studies. One must be cautious, however, in generalizing the results to the wider population and institutional types. Further, wide dissemination of the results of the studies does not mean that a great deal is known about why some students remain in school and some students withdraw. Indeed, there is much that is not known and factors which influence retention are not readily identified.

Retention to Graduation. Research focusing on graduation rates has reported slight increases during the last fifty years. Summerskill (1962) reviewed 35 different studies of student attrition conducted between

1913 and 1962. He concluded that the attrition rate had not changed substantially between 1920 and 1962 since the median loss of students during those years was approximately 50 percent and the median percent graduated in four years was approximately 37%. This graduation rate was corroborated by a similar study (Iffert, 1958) of 13,000 students from the 1950 entering class in 147 institutions that found a 39.5% graduation rate. Ramist (1981) reported overall graduation rates from any college (original college of entry or a different college) based on a representative sample of four-year institutions to be 45-60% four years after entry, an additional 10-15% five years after entry, and an additional 10-15% six or more years after entry with a total graduation rate of 65-90%.

Iffert (1958), Panos and Astin (1968) and Astin (1975) reported total graduation rates that ranged from 60% to 65%; Iffert (1958) stated that only 40% of these graduate from institutions of first entry. Likewise, Hackman and Dysinger (1970) found that about 40% of entering students graduate within a normal four year term and an additional 20% complete their studies at a later date, a total of 60%.

Hodgkinson (1985) confirmed the low graduation rates by stating that out of 100 students admitted to a four-year baccalaureate program, less than 50 (about 46) would graduate on time from the institution they entered. If the time is extended to seven years, about 70 of the original 100 would have graduated from some institution.

The most recent research regarding graduation rates was reported by the National Center for the Advancement of Educational Practices (1989). This report noted that graduation rates for public, selective institutions are approximately 63% and for moderately selective institutions, approximately 51%.

In their review of the retention literature, Cope and Hannah (1975) and Ramist (1981) concluded that the withdrawal rate is high and has been throughout 50 years of attrition research; between 40-50% of the entering students earn a degree in four years, 20-30% graduate later, and the remaining 30-40% never earn degrees.

Tinto (1987), using data from the National Longitudinal Study of the Class of 1972, reported that the total rate of four-year degree completion was roughly 61% of the entering cohort with 39 percent of all entrants expected to withdraw without ever completing a bachelor's degree (about 5% of the original entrants will obtain degrees from two-year colleges).

Thus, studies of graduation rates from 1962 to 1989 have shown that graduation rates have increased from a low of 37% between 1913 and 1962 (Summerskill, 1962) to a high of 63% in moderately selective institutions (National Center for the Advancement of Educational Practices, 1989). However, it is difficult to state unequivocally that there is a national graduation rate. The rates are

dependent on a number of factors such as type of institution and student background characteristics. These factors must be accounted for in discussing graduation rates on a national level. Additionally, within the last fifty years, institutions have become more sensitive to the needs of the students, have instituted innovative curricular changes and requirements, and have focused on student growth and development through a variety of student services. Further, the composition of the student population has changed in a variety of ways: ethnicity, age, gender, and socioeconomic levels. Therefore, the combination of changes in the institutions and in the composition of the student population has produced factors that have affected the graduation rates from higher educational institutions.

Retention after the first year. The first year of college has been cited by researchers as the most critical dropout period. Cope and Hannah (1975) studied the cumulative attrition rate of incoming freshman classes at 28 public institutions. According to these researchers, nearly 10% of the incoming freshmen were no longer enrolled by the beginning of the second semester. Beal and Noel (1980) and Hodgkinson (1985) stated that attrition statistics have continually shown that the greatest attrition occurs between the freshman and sophomore years. Noel et al. (1985) analyzed data provided to the American

College Testing Program by all U. S. colleges and universities using ACT scores and reported that the dropout rate across all types of institutions from the freshman to the sophomore year was approximately 32% and that open-door institutions had an average attrition rate of 41%. Iffert (1958) found 27% withdrew from school within the first year and that once students reach the junior year, their chances of obtaining a degree were approximately 69%. Hackman and Dysinger (1970) noted that about half of those who withdraw do so by the end of their first year and Szutz & Pounds (1988) corroborated this finding. Brasher, Jones, and Blom (1980) reported that 30% of beginning classes do not return for the following year and that 50% remain after two years. Bynum and Thompson (1983) conducted a multi-institutional study and found dropout rates were heaviest at the end of the freshman year at all of the colleges they studied and concluded that the longer students remain in school, the better their chances of persisting to graduation. In their comprehensive study of the nation's colleges and universities, Beal and Noel (1980) reported that retention rates for all types of institutions showed only two-thirds of entering freshmen return as sophomores.

In general the literature agrees that the greatest proportion of attrition occurs during the freshman year of college (Cope, 1968). The rates of attrition from the

freshman to the sophomore year range from a low of 10% (Cope & Hannah, 1975) to a high of 66% (Beal & Noel, 1980). While there is a wide range among the studies cited, it seems reasonable to conclude that students' experiences in the freshman year are critical to their decisions to remain in college or to withdraw and seek other educational or vocational avenues. For some students, the freshman year is their initial entry into the wider world beyond home and family and the positive and/or negative effects of that world have a dramatic influence on their withdrawal decisions. The present study will attempt to show that the greater the students' positive experiences (as measured by an institutional integration scale) in the University community, the greater their chances of returning for their second year.

The Relationship of Student Background

Characteristics to Retention

While studies have not suggested specific solutions to the problem of retention and attrition, some research has identified basic variables that appear to be related to attrition and retention. The research, however, is mixed. Some researchers have reported that students' background or precollege characteristics have no direct effect on retention/attrition decisions but that the influence of these characteristics is mediated by the nature of the

students' collegiate experiences (Bean, 1980; Eddins, 1982; Feters, 1977; Kohen, Nestel, & Karmas, 1978; Pascarella & Chapman, 1983; Pascarella & Terenzini, 1980, 1983; Terenzini, Pascarella, Theophilides, & Lorang, 1983). Other researchers (Stage, 1987, 1989; Tinto, 1975, 1987) contended that background effects do influence persistence directly. Finally, Munro (1981) reported that the effects of background characteristics on persistence in higher education are mainly indirectly transmitted through intervening variables.

Gender

According to most studies, gender was not a significant factor in retention/attrition decisions (Aitken, 1982; Astin, 1972; Cope, 1971; Feters, 1977; Iffert, 1959; Lenning, Beal, & Sauer, 1980; Panos & Astin, 1968; Panteges & Creedon, 1978; Peng & Feters, 1978; Spady, 1970; Summerskill, 1962); however, some studies have shown one or the other gender to be more dropout-prone (Astin, 1964, 1975; Demos, 1968; Nelson, 1966; Newton & Gaither, 1980; Odutola, 1983; Panos & Astin, 1968; Tinto, 1975, 1987) and still other researchers found that the gender ratio tended to adjust over time with whichever gender was predominant in the student body experiencing disproportionately higher dropout rates (Brasher, Jones, & Blom, 1980; Bynum & Thompson, 1983).

Panteges and Creedon's (1978) review of the literature concluded that scholastic, environmental, institutional, and longitudinal factors are influential when considering the relationship of gender to retention, but overall there was strong evidence to state that gender was not a significant variable in determining persistence. For individual colleges, however, gender could be a significant factor in retention/attrition decisions (Panteges & Creedon, 1978).

Brigman and Stager (1980) found that males were overrepresented among stopouts and females were overrepresented among dropouts but that when other variables such as socioeconomic status and motivation were controlled, gender was not a major factor. Likewise, Lenning (1982) reported that gender differences could be accounted for primarily by differences in motivation, socioeconomic status, and marital status.

Cope and Hannah (1975) stated that variables related to withdrawal for women may be gender-related; men and women dropped out, stopped out, and continued in approximately equal proportions but for different reasons. Men withdrew because of matters related to competence, adequacy, and identity searching; women withdrew more often because of intellectual-aesthetic and social dimensions, including dating and marriage. Women tended to withdraw when the male-female ratio was large and for nonacademic reasons

while men cited academic reasons for withdrawing (Lenning, 1982). Lenning, Beal, and Sauer (1980) stated that the greater attrition rate for females reported in early studies was related to the marital status and age of the individual.

Ramist (1981) identified at least five factors that explain the conflicting results on the relationship of gender and retention:

- 1) Men are more likely to stop out during their undergraduate years, but are more likely to return and eventually graduate....studies [conducted] during the freshman year are more likely to show that males have higher dropout rates and long-term follow-up studies are more likely to show that females have higher dropout rates....
- 2) Women in four-year colleges are more likely to transfer to another college....Studies...that count transfers as dropouts are likely to show higher female dropout rates....Also, men are more likely to transfer from a two-year to a four-year college.
- 3) The number of women entering higher education has increased rapidly....Since women entrants used to be a more selective group, older studies that did not control for academic ability would have

shown relatively lower female dropout rates than new studies or studies that did control for academic ability.

4) Because women tend to leave for nonscholastic reasons and men are more likely to be academic dropouts, studies that focus only on voluntary withdrawals show women with relatively higher dropout rates than studies that do not distinguish between voluntary and involuntary withdrawals.

5) There are large differences between the sexes at different institutions.... women are more likely to drop out when the ratio of men to women is high and men are more likely to withdraw from large, nonselective universities. (p. 8)

Age

The research on the relationship of age to retention has shown varying results. As with gender, some researchers reported that there is no evidence that the age of the student at the time of entry is a crucial variable in college persistence (Kohen, Nestel, & Karmas, 1978; Lenning, Beal, & Sauer, 1980; Lenning, Sauer, & Beal, 1980; Panteges & Creedon, 1978). Other researchers, however, pointed out that there are some differences between younger and older students (Astin, 1975; Lenning 1982; Newman, 1965; Odutola, 1983; Trent & Medsker, 1967).

Lenning, Sauer, and Beal (1980) reported that older and younger students withdrew for different reasons, but they

tended to withdraw with the same frequency when factors such as socioeconomic status and motivation were controlled. Panteges and Creedon (1978) and Lenning, Sauer, and Beal (1980) concluded that age per se was not a major factor although some correlates of age such as family responsibilities and employment might be significantly associated with retention. Lenning, Beal, and Sauer (1980) reported that although some studies showed that older students withdrew more readily than the traditional-aged student, there was enough conflicting evidence to conclude that age was not a primary factor in withdrawal decisions. Lenning (1982) stated that although older students were more highly motivated, more mature, and more traditional in their values, they also had fewer academic skills, were less able to adapt to quickly changing conditions, and were slower in their work and thinking; these ability factors may indeed have caused them to be more likely to withdraw from school.

Ethnicity

Studies on the relationship of ethnicity to retention also showed conflicting results. While the majority of researchers reported that the ethnicity of a student did not significantly affect persistence when background characteristics and ability were controlled (Astin, 1975; Brasher, Jones, & Blom, 1980; Foster, Astin, & Sherer, 1973; Gosman, Dandridge, Nettles, & Thoeny, 1983; Kohen,

Nestel, & Karmas, 1978; Lenning, 1982; Lenning, Beal, & Sauer, 1980; Lenning, Sauer, & Beal, 1980; Odutola, 1983; Tinto, 1987), other researchers reported that Black students at four year institutions had greater retention when measures of past academic achievements, aspirations, and socioeconomic status were controlled (Alfred, 1973; Astin, 1972; Peng & Fetters, 1978) or had lower persistence rates than white students (Bennett and Bean, 1984). Christoffel (1986) took issue with the finding that "minority dropout rates are similar to white rates after controlling for socioeconomic factors" (American Council on Education, 1985, p. 12) by reporting that, in reality, many minorities enter higher education with one or the other (in some cases, many) of the problems predictive of dropout decisions: low family income, first generation status, poor academic preparation, and other such factors. Allen (1986) also noted that race influenced students' experiences and outcomes in higher education.

Lenning, Beal, & Sauer (1980) reported that students from Spanish-speaking backgrounds had a lower chance of graduating than other ethnic groups. Blacks and Native Americans also were found to have a lower chance of graduating than whites. When high school rank in class and Scholastic Aptitude Test scores were controlled, Native Americans and whites had similar graduation rates to each other. Astin (1972) found that retention rates for Black

students were lower than the rates for white students except when academic aptitude and high school grades were controlled and then the retention rates for Blacks were at least as high as those of white students. Later, Astin (1973) reported a similar finding for Native Americans who in the early 1970's had the highest dropout rate of all ethnic groups. However, even after Scholastic Aptitude Test scores and high school grades were controlled, Spanish-speaking minority students still had lower retention rates than whites. Nelson, Scott, and Bryan (1984) found higher persistence rates for Black versus other ethnic groups but Szutz and Pounds (1988) reported a higher retention rate from the first to the second year for Black students.

Peng and Feters (1978), using data from the National Longitudinal Study of the High School Class of 1972, reported that white students were more likely than Black students to withdraw when achievement, aspirations, and socioeconomic variables were controlled. They stated that high school grades, college grades, and educational aspirations accounted for most of the variance and that race differences could largely be accounted for by variables such as rank in class, academic preparation, and socioeconomic status. Race alone had little effect on college persistence.

Bynum and Thompson (1983) used multi-institutional data of 1120 new freshmen students who entered college in the fall of 1977 and followed them until they graduated in the spring of 1981. They reported that at predominantly white colleges, more Black students dropped out proportionately with the result that only 9% survived to the senior year compared to 22% of the white students in that original freshman class; at predominantly Black universities, all of the white students withdrew before the third year. They concluded that students who are in a minority are much more likely than students of the racial majority to withdraw at that institution.

Astin (1982), drawing on the same data from the National Longitudinal Study of the High School Class of 1972, reported that white students were much more likely to complete the baccalaureate degree within four years than were minority students. According to his research, 34% of the white students, 24% of the Black students, 16% of the Native American students, and 13% of the Hispanic students who entered college in 1972 had graduated by 1976; in all likelihood, these differences could be attributed to the large number of minority students who graduated from community colleges (Astin, 1982). Further, 56% of white freshmen, 51% of Black freshmen, 42% of Puerto Rican freshmen, 40% of Chicano freshmen, and 39% of American Indian freshmen eventually completed the baccalaureate degree (Astin, 1982).

Szutz and Pounds (1988) studied a sample of 115 Black freshmen who lived on campus at a large predominantly white university and found that those students who obtained higher freshmen grade point averages and who perceived themselves as being more personally competent tended to persist academically.

Socioeconomic Status

The effect of socioeconomic status, as defined by varying measures, also appeared to be inconsistent across research studies. Peng and Feters (1978) stated that socioeconomic status was significantly related to college withdrawal after other predictor variables were controlled. Feters (1977) reported that more students from low socioeconomic backgrounds than from high socioeconomic backgrounds withdrew before completing a degree. According to Feters (1977), students from low socioeconomic backgrounds had lower educational aspirations which influenced their academic performance and affected their persistence. Lenning (1982) also reported that students from low socioeconomic levels dropped out more often than did more advantaged students.

Kohen et al. (1978), however, claimed that previous research reported erroneous inferences regarding socioeconomic influences. They examined longitudinal data on certain background characteristics of a national sample of young men attending college in the late 1960s. They

concluded that the effect of background characteristics, including socioeconomic factors, varied with the stage of the undergraduate career. According to these authors, socioeconomic factors had no significant net relationship with dropping out at any stage of the undergraduate career.

Family Income. Total family income had significant effects on the retention of students. Odutola (1983) and Gosman et al. (1983) reported that high family income was consistently associated with relatively low attrition rates and high progression rates when the effects of other variables were statistically controlled. Astin (1975) found a negative association between parental income and college attrition as did Cope (1969) and Trapp, Pailthorp, and Cope (1971). According to Astin (1975), the relationship between college attrition and family income appeared to be mediated by such factors as student ability, parental education, and student concern about finances. The fact that individuals from low income families tended to drop out more often could be attributed to their less educated parents, their reduced ability and motivation, and their greater concern for finances (Astin, 1975). Further, parental income alone was a significant predictor of persistence and achievement for all minority students but was unrelated to the college performance of whites in the National Longitudinal Study of the High School Class of 1972 (Astin, 1982). However, by contrast, Foster, Astin,

and Sherer (1973) stated that a multivariate analysis of their data failed to reveal any direct effects of the parents' income on the chances of finishing college.

Parental Education. The level of education of students' parents also influenced their persistence, according to some studies. Skaling (1971) reported that parents' level of formal education was the most powerful indicator of persistence among various components of socioeconomic status (e.g. income, occupation, education). Likewise, Cope and Hannah (1975), Panos and Astin (1968), Spady (1970), and Tinto (1975) reported a positive relationship between the education of parents and student retention. Foster, Astin, and Sherer (1973) found that students' chances of obtaining a degree improved by about 10% if the mother had a graduate degree and reduced by a little better than 5% if the mother never got beyond grammar school. Further, Stage (1985) in a study of college freshmen found that the two background characteristics that had the greatest effect on persistence were mother's and father's educational levels.

Several studies, however, found results conflicting with those cited above. Panteges and Creedon (1978) in their review of the literature reported that most socioeconomic variables were not significant when the student's high school grade point average was controlled. Rossman and Kirk (1970) and Pascarella and Terenzini (1980)

studied dropouts and persisters according to the educational level of their parents and found no significant differences between them.

Finally, Astin (1982) reported that minority students whose parents were better educated and had higher incomes were likely to perform more successfully than were those whose parents were relatively poor and uneducated. Ramist (1981) stated that even after controlling for other background variables, the student from an educated family was more likely to value higher education and to persist.

Summary of the Relationship Between Student

Background Characteristics and Retention

Research on student background characteristics revealed few definitive results regarding their relationship to retention. Gender, age, and ethnicity had mixed results, according to the reported research. Although gender appeared to have no effect overall, some studies revealed that there was a difference in gender for specific institutions (such as predominantly male or predominantly female institutions, commuter institutions, two-year or four-year institutions) and that males and females withdrew for different reasons. Age did not appear to be a significant factor in retention either. Even though there were differences in motivation, interests, and skill levels between younger and older students, and different reasons

for withdrawing, these factors did not affect retention rates. Studies of the retention rates between Black and white students also yielded mixed results. Black students' rates of retention were similar to white students' rates when background variables and achievement were accounted for. Retention of minority groups was definitely influenced by such confounding factors as low family income, poor academic preparation, and first generation college status.

Socioeconomic factors such as family income and parental educational levels had an influence on retention rates, but these factors were equivocal. It appeared, however, that the higher the family income and the more education the parents had, the better the retention rates of the children. It follows, then, that students from low income and poorly educated families would be more likely to drop out because of financial problems and lack of support for obtaining an education. Some of these problems have been offset in the last 25 years because of federal programs which not only pay for students' education, provided they meet certain criteria, but also provide extra academic and personal support for them once they are enrolled in college.

Some background variables seemed to be mediating and some seemed to be independent. For example, low parental income indirectly affected student persistence because of

the student's need to work to pay educational and personal expenses. Age also had an indirect effect on persistence because of the family and work responsibilities of the older student. Older and younger students withdrew for different reasons, with family, employment and marital status affecting the retention of older students. Gender also affected persistence indirectly; men and women withdrew from college for different reasons and variables relating to withdrawal for women were age-related. Ethnicity affected persistence through socioeconomic status, with lower socioeconomic students having more financial concerns and more academic deficiencies than students from higher socioeconomic backgrounds which affected students' decisions to remain or withdraw from the institution.

This researcher believes that the background characteristics discussed above are indirectly influential in a student's success in college in that they affect students' expectations of the collegiate experience as well as their ability to survive financially and culturally in the college community. Thus, these characteristics are mediating variables, affecting personal, family, and financial issues which then affect retention outcomes. The fact that background variables are mediating does not mean they should not be taken into consideration when conducting research on retention; however, it should be understood

that they are mediating variables, not independent variables. This study will address these four background characteristics (gender, age, ethnicity, and socioeconomic status), defining socioeconomic status as level of family income and parental educational status. Since the University under study is located in the rural mountains of Appalachia, it is expected that there will be a higher number of low income, first generation college students in its population, but a lower number of ethnic minorities. However, based on the research previously cited, it is expected that background characteristics will not have a significant effect on retention.

The Relationship of Achievement to Retention

Precollege Achievement

High school grade point average. Students' academic performance in secondary school is a major predictor of college attrition (Astin, 1975, 1977, 1982; Bean, 1980; Fetters, 1977; Lenning, 1982; Panteges & Creedon, 1978; Ramist, 1981; Summerskill, 1962; Tinto, 1975). Foster, Astin, and Sherer (1973) stated that the chances of a student completing college in four years or completing college at all increased 70 percent among students who had an A average in high school and decreased to nearly 25 percent if the student had a D average. Astin's (1973) study also showed that a student's probability of obtaining

a bachelor's degree within four years increased by 70 percent when the student had a B+ high school grade point average. Odutola's (1983) research on federal financial aid recipients reported that high school grade point average was significant in predicting persistence to graduation.

Some researchers reported correlations between high school achievement and college attrition. Ramist (1981) reported correlations of high school record with persistence have ranged from .25 to .50. Pantages and Creedon (1978) reviewed research in this area and reported that the relationships among high school grade point average, class standing, and attrition seldom achieved a correlation above the .50 level. Although these correlations are not strong or meaningful (e.g. .50 only accounts for 25 percent of the common variability), they remain the strongest single variable available in the study of persistence and attrition, according to Pantages and Creedon (1978). Similarly, Thomas and Andes (1987) studied the academic performance of freshmen prior to enrollment in a higher education institution and found that high school grade point averages did not distinguish among four categories of students in their study (persisters, stopouts, dropouts, and leavers) and thus were not good predictors of persistence. This is in contrast to the results discussed by much of the retention research (Astin, 1972).

Several studies focused on the relationship between high school achievement and college attrition/retention for minority students. Astin (1982) reported that high school grades were positively related to persistence for minority students. Allen (1986) studied a national sample of Black students attending selected predominantly white colleges and historically Black colleges and reported that high school grade point average was the strongest predictor of college grades for all groups except females on white campuses. However, Pascarella and Terenzini (1980) studied a sample of students after their freshman year and found no significant differences between white and Black students in preenrollment academic/grade performance factors associated with withdrawals.

Admissions Entry Tests. Entry level admissions tests, such as the Scholastic Aptitude Test and the American College Testing program test, were significantly related to student retention (Astin, 1975; Bean, 1982, 1985; Eddins, 1982; Lenning, 1982; Panteges & Creedon, 1978; Rossman & Kirk, 1970; Thomas & Andes, 1987); however, these tests were not as accurate in predicting retention as high school grade point averages (Astin, 1982; Foster, Astin, & Sherer, 1973). Using data from the College Board's Admissions Testing Program Summary Reporting Service (ATP-SRS), Ramist (1981) reported that the freshman year dropout rate ranged from 9 percent for those scoring 600 or above on the SAT math section to 27 percent for those scoring below 300.

Several researchers compared admissions tests with high school achievement in predicting college attrition/retention. Foster, Astin, and Sherer (1973) reported that the effect of academic ability as measured by standardized tests was only about half of those of high school grades. Astin (1982) also reported that high school grades were a more important predictor of undergraduate grades than were standardized tests.

In various studies, admissions tests and their ability to predict retention for minority students were investigated. Astin (1982) reported that standardized test scores contributed to the prediction of college grades and persistence for Black students. Tracey and Sedlacek (1985) studied Black and white students and concluded that SAT scores were not especially predictive of continued enrollment and that academic ability did not seem to be related to persistence for these students. For Black students, noncognitive factors such as self-confidence, realistic self-appraisal of academic skills, academic familiarity, having support for college plans and a preference for long-range goals were predictive of Black student persistence after three semesters; for white students, academic ability was the best predictor of first semester grades which were then predictive of persistence (Tracey & Sedlacek, 1985). Gosman, et al. (1983) stated that high SAT scores were consistently associated with low

attrition rates and high persistence rates of students who attended predominantly Black colleges when other background factors were controlled. Wilson (1981) reported that Black students entered higher education at an academic disadvantage in the sense that their average scores on the SAT Verbal and other variables used in admissions decisions were substantially lower than those of their nonminority classmates.

Finally, in contrast to studies that supported the influence of precollege achievement on retention, some studies found precollege achievement did not predict retention, but it did predict college achievement. Hodgkinson (1985) reported that high school rank in class and grade point average only predicted about half the cases and those mainly in the first year of college; SAT scores had only a small ability to predict college grades and no ability to predict dropouts. Pantages and Creedon (1978) reported that while high school achievement, rank in class, and entry level admissions tests were effective in predicting college achievement, they were less effective in predicting college persistence; they accounted for only a small proportion of the students who dropped out.

College Achievement

Most research has found a significant relationship between academic performance in college and student attrition even after other variables were controlled

(Aitken, 1982; Astin, 1975; Bean, 1980; Demitroff, 1974; Lenning, 1982; Peng & Fetters, 1978; Ramist, 1981; Ruddock & Wilkinson, 1983; Summerskill, 1962; Tinto, 1975).

Astin (1975) reported that the positive relationship between college grades and persistence confirm the involvement theory: students who were involved in the academic life of the institution were more likely to expend the effort necessary to obtain good grades, and students with poor grades experienced a lack of fit not only between their grades and those of their fellow students but also between their grades and the high value placed on achievement by the institution. In a national study by the American College Testing program, Beal and Noel (1980) reported that the two most important characteristics of dropout-proneness were "low academic achievement" and "limited educational aspirations (p. 19)," and Bean (1985) noted that college grades were an important predictor of dropout decisions. Odutola (1983) studied the retention of federal financial aid recipients and reported that undergraduate grade point average was the most important academic variable in predicting student retention.

Cope and Hannah (1975) found that the majority of withdrawers in their study were doing satisfactory academic work (at least a C average) at the time they left and that these students were leaving for other than academic reasons. Thomas and Andes (1987) stated that persisters

consistently earned higher grades than academically successful stopouts and dropouts. Ruddock and Wilkinson (1983) found that the average grade point average for returning students was significantly higher than for non-returning students. Aitken's (1982) research revealed that academic performance had a strong direct effect on persistence. Further, grade point average was the most important variable in determining academic satisfaction which, in turn, also affected retention. In contrast to these studies, Bean (1985) studied students at a midwestern university and reported that college grade point average was not significantly related to dropout rates, a result probably caused by using an available group rather than a randomly assigned group (an example of sampling bias).

Pascarella (1985) studied Black student college achievement and reported that the withdrawal of Black students was strongly connected to academic problems and poor grade performance more so than it was for white students. Allen (1986), in his study of a national sample of Black students attending selected predominantly white and historically Black colleges, predicted that college grades were highest where students were happier and more satisfied with college life; thus programs and services which enhanced student satisfaction with and involvement in college life tended to produce higher student grades. Trippi and Cheatham (1989) studied the effects of a special

counseling program on Black students at a predominantly white college and reported that students' first year cumulative grade point averages had the strongest relationship to persistence. They concluded that the ability to meet the academic demands of college was the most important variable associated with persistence and continuing enrollment status for Black students.

Summary of Relationship Between
Student Achievement and Retention

The majority of studies on the relationship between student precollege achievement and retention reported that high school grade point average was a strong predictor of persistence in college. Although entry level admissions tests were not accurate predictors of retention, some studies reported they were better predictors of college achievement than they were of retention. Studies which reported results relating college achievement to retention found a strong relationship between these two variables.

This researcher believes that precollege achievement has a strong influence on college achievement but not necessarily on college retention. The academic skills that students bring with them to college influence their collegiate academic performance, but in the intervening years between initial enrollment and graduation, students gain additional knowledge and skills which, in turn, influence their college achievement and eventual

graduation. College achievement is definitely related to retention. Students who are academically successful tend to remain in college and to graduate more often than students who are struggling academically.

The Relationship of Institutional Integration to Retention

The concept of institutional integration has its basic roots in the ideas of student-institution fit and the importance of the student's involvement in the life of the college community. The college fit model states that students bring to college certain skills, attitudes, and expectations and the college demands, either directly or indirectly, certain skills and attitudes before it will reward the student, in the form of grades and a degree (Panteges & Creedon, 1978). Woodward (1982) reported that the concept of fit has changed over the last decade from matching student and institutional characteristics to integrating the student into the institutional community. Delworth (1978) described an approach based on research regarding the person-environment fit concept, which she called the ecological approach. This approach consists of the interaction that occurs between persons and their environment, or how an environment affects people, their work, their leisure, and their personal growth. Advocates of this approach design educational environments that improve person-environment interaction and prevent

unnecessary problems in order to enhance student retention and growth. Researchers who have studied the effects of person-environment fit have found positive influences on persistence (Delworth, 1978).

Bean (1980) studied freshmen at a midwestern university and reported that institutional commitment had the greatest influence on dropout decisions for freshmen. Lenning, Sauer, and Beal (1980) reported that theory and research both demonstrated the importance of student-institution interaction variables as factors that relate to and explain retention and attrition. Iffert (1958) also provided evidence that the college environment played a major role in determining persistence. Thomas and Andes (1987) concluded from their study that students who remained enrolled had a more favorable impression of and greater affiliation with the institution and a closer attachment with it on a personal level. Ruddock and Wilkinson (1983) reported that students whose overall expectations of the university had not been fulfilled would probably not return, another indication of lack of student-institution fit.

Borden (1988) posited a student engagement model characterized by the student-college bond which emphasized students' psychological and social commitments to a college in order to provide a framework for understanding students' commitments. He found significant differences in

engagement between students who returned for the sophomore year and those who did not. He concluded from his study that persisters' engagement orientations were more congruent and consistent than those of nonpersisters.

Astin (1984) developed a theory of student involvement that had its roots in a longitudinal study of college dropouts (Astin, 1975). The study sought to identify factors in the college environment that influenced students' decisions to stay or leave the college. Those factors that contributed to persistence suggested involvement in the campus community whereas those that contributed to dropping out implied a lack of involvement.

With the concepts of student-environment fit and student involvement in mind, Tinto (1975, 1987) defined institutional integration as a combination of factors within the college environment that involved students in the academic and social systems of the institution. Academic integration is the combination of several factors: students' perceived intellectual development, faculty concern for student development and their own teaching, and the student's cumulative grade point average (Pascarella & Terenzini, 1980). Tinto (1975) specified that academic integration could be measured by both grade point average, which represented extrinsic motivation, and by intellectual development, which represented intrinsic motivation. Social integration is measured by the students' involvement

in extracurricular activities, the frequency and quality of non-class contacts with faculty members, and students' relationships with peers (Pascarella & Terenzini, 1980).

Researchers have studied the effects of academic and social integration on student retention with various results. Some have found academic integration to be influential in dropout decisions. Tinto (1975) reported that academic integration proved to be more important than social integration, especially among the more academically able student. Munro's (1981) study supported that of Terenzini and Pascarella (1978) in which academic integration variables accounted for nearly twice as much variation (5.6 percent of the variance after controlling for precollege traits and social integration variables) in dropout behavior as did social integration variables (3 percent of the variance after controlling for precollege characteristics and the academic integration variables). Even though these variances are small, Terenzini and Pascarella (1978) concluded that issues related to students' academic lives and the kinds of rewards they found appeared to be more important in attrition than was their integration into the social life of the institution.

Other researchers have reported that social integration was more influential in dropout decisions. Bynum and Thompson (1983) reported that the quality of social interactions and integration of the student within the

college environment was a major variable in determining students' dropout decisions. They stated that the presence of such social support as involvement in extracurricular activities, informal contacts with faculty members, and involvement with peer groups increased the likelihood that students would remain in college and refrain from withdrawing. In their study of students at a four year residential institution, Pascarella and Chapman (1983) found that social integration had a stronger direct and indirect effect than did academic integration. They concluded that institutional commitment in a residential university was largely a function of students' interactions with the social system of the institution. Likewise, Nelson, Scott, and Bryan (1984) found that successful students who did not stay in college perceived that they were performing adequately but were not participating in activities as did the successful stayers, and they were less satisfied with their social life than all other groups studied. They concluded that poor social integration rather than academic performance probably contributed to their leaving college.

Other studies reported that both academic and social integration strongly influenced dropout decisions. Terenzini and Pascarella (1977) and Pascarella and Terenzini (1983) reported that academic and social integration directly affected persistence behaviors; the

effects were approximately equal with academic integration slightly stronger in one study (Pascarella & Terenzini, 1983) and social integration slightly stronger in the other (Terenzini & Pascarella, 1977). Terenzini and Pascarella (1977) further reported that academic and social integration variables, while independent of each other, were able to differentiate significantly between groups of persisters and voluntary withdrawals. These researchers suggested that the quality of the student interaction with the college environment subsequent to enrollment is a more important factor in persistence than characteristics students bring with them. Stage (1985) studied relationships among motivational orientations of entering university freshmen, their involvement in social and academic systems, and their persistence/attrition behaviors. She reported that both academic and social integration directly influenced persistence.

Terenzini and Pascarella (1978) conducted a study to determine whether freshmen persisters and voluntary dropouts differed on certain attitudinal and behavioral measures of academic and social integration once selected background characteristics had been statistically controlled. Their results indicated that academic and social integration measures and their interaction with certain background characteristics were significantly related to attrition.

Some studies reflected differences in integration variables based on gender and ethnicity. Stage (1987) reported that academic and social integration positively influenced persistence for both males and females and that minorities at higher levels of social integration were more likely than whites to drop out and those at higher levels of academic integration were more likely than whites to persist. Pascarella (1985), however, reported that academic integration was a somewhat stronger predictor of degree attainment than social integration for whites but not for Blacks. He concluded that the social involvements of the Black students' collegiate experiences were equal to and perhaps even more important than academic involvements. Pascarella and Terenzini (1983) reported that social integration had a somewhat stronger direct effect on females' decisions to voluntarily stay or leave the institution than did academic integration and that the reverse was true for males. These researchers also reported that academic integration was most important for students with low levels of social integration and vice versa.

Summary of the Relationship Between
Institutional Integration and Retention

The literature, while mixed in its reports of the effects of academic and social integration examined separately, was clearly supportive of the effects on

retention of institutional integration which incorporates both academic and social integration. This researcher believes that institutional integration has a strong positive effect on students' decisions to withdraw from an institution or to stay in it. Students who feel a sense of belonging to the institution, who have positive interactions with both faculty and their peers, who believe that they are growing intellectually and personally, and who have the goal of graduating will remain in college and graduate.

The Freshman Seminar

Among different types of programs implemented to increase retention, the freshman seminar has been utilized for nearly a century to ease the transition from high school to college. Boston University instituted the first freshman orientation course in 1888, followed by Iowa State in 1900. Both of these institutions recognized the need, even before the turn of the century, for providing special guidance for entering college students (Gardner, 1986). In 1911 the Carnegie Foundation recommended that colleges and universities help students learn about themselves; both Amherst College in 1913 and Brown University in 1915 initiated freshman seminars in response to the Carnegie

recommendation (Gordon, 1982). Further, the first known course offered for academic credit was established at Reed College in 1911 and by 1928 more than 100 institutions were offering such courses (Gordon & Grites, 1984). Harvard's contemporary freshman seminar was founded in 1959 under the leadership of the noted American scholar, David Reisman (Gardner, 1986).

Such a course is typically an extended orientation activity which serves as a cushion between past and future learning experiences and reflects a developmental approach to meeting student needs. According to Titley (1985), freshman seminars "allow a more in-depth look at an institution and its personnel and programs as class members become a support group learning survival skills together. Adjustment to the new environment is thus more gradual and integrated and more likely to be lasting" (p. 227-228).

She further stated:

It would be very difficult to argue that the orientation course approach is not the most effective overall for students....Its greatest benefit, in my opinion, is its lifelong learning enrichment through establishing a positive attitude toward learning of any kind. This is true even for students who do not persist to a baccalaureate degree. No day-long or week-long program can achieve anything close in long-term effect. (p. 228)

Many educators attest to the impact of the freshman seminar on both student success, growth, and development and on institutional effectiveness and retention rates.

Ramist (1981) stated that it is necessary to have a good orientation program to help students make the most of their college career and stated that a college can deal with its dropout problem by doing everything it can to upgrade the broad educational services that it offers to students.

Gardner (1986) described the freshman year as the foundation upon which the rest of the college experience is based and urged institutions to intervene and resell the institution to the students during the first six weeks of the first semester of the freshman year since this is the time when the majority of students who decide to withdraw appear to make this decision. Pascarella and Terenzini (1986) believed that orientation should be conceived of as an ongoing attempt by the institution to enhance students' successful integration into the academic and social lives of the campus, recommending that orientation continue at regular times during the academic year. Tinto (1988) stressed that orientation programs were most effective when they reinterpret orientation from that of social integration to that of a time of passage to serious intellectual inquiry.

The literature of higher education contains a limited number of studies showing evidence of the effectiveness of freshman seminars; however, Fidler and Hunter (1989) reported that colleges and universities are beginning to

establish and evaluate such courses. These researchers further reported that it is not an easy task to demonstrate effectiveness of Freshman Seminars because they vary from one institution to another in content and structure, and evaluation designs suffer from various methodological limitations. Thus, unequivocal conclusions can not be drawn from the research.

Fidler and Hunter (1989) reported a number of studies that were included as papers and presentations of the National Conferences of the Freshman Year Experience held annually at the University of South Carolina. From their review of the literature, they found a number of variables studied in diverse institutions. These variables included retention, academic performance and relationships, knowledge and utilization of student services and activities, personality development, and other research variables. Three of these variables, retention, academic performance and institutional integration, were the focus of this study.

Freshman Seminar and Retention

Retention is the most widely studied variable in evaluations of freshman seminars and sufficient evidence is available to state that freshman seminars are associated with improved freshman retention (Fidler & Hunter, 1989).

Starke (1989) compared students over a period of five years at Ramapo College who participated in a freshman

seminar and students who did not participate. Retention rates for seminar students were consistently higher than non-seminar students and varied over the 5 years from 33% to 18% and reflected statistically significant differences between the two groups. The retention rate for participants remained high for as many as four semesters after completion of the seminar (Starke, 1989).

Prola and Stern (1984) evaluated an orientation course at York College, City University of New York, for effects of leadership and academic persistence. These researchers compared a random sample of seminar students with a random sample of non-seminar students three semesters after the students were enrolled in the orientation seminar. They examined the sample population's transcripts to determine the number of semesters for which the students had enrolled; this information was used as a measure of academic persistence. The seminar students were enrolled for an average of 2.73 semesters and the non-seminar students remained for 2.55 semesters. The difference, having a chance probability of occurrence of less than 5%, showed that the course seemed to facilitate the integration of students into the college community and to improve seminar students' persistence rates.

Shanley and Witten (1990) conducted a study at the University of South Carolina to investigate the differences in persistence seven years after participation in a

freshman seminar. They found that seminar students who were continuously enrolled (had never "stopped out") were retained at statistically significantly higher rates for each of the first three years in college than were non-seminar students. They also reported that of those participants who had stopped out at some point during the seven years, 59% persisted compared to 53% of the nonparticipants, a statistically significant difference. Finally, these researchers reported that freshman seminar students were less likely to drop out than nonparticipants; the dropout rate for participants was 41% compared with 47% for nonparticipants, again a statistically significant difference (Shanley & Witten, 1990).

Dunphy, Miller, Woodruff, and Nelson (1987) also found a statistically significant association between the freshman seminar and retention at Trenton State College. They reported that students who passed the seminar had a retention rate of 65.3% compared with a 12.4% rate for those who failed the seminar and a 42.5% retention rate for those who did not take the course.

Stupka (1986) studied the effects of an extended orientation class at Sacramento City College on students' persistence comparing three groups of students matched on age, sex, and recommended reading and writing placement scores. The three groups consisted of students who participated in a one hour orientation session, a four hour

student orientation program, or a freshman seminar. The results showed that students in the seminar had statistically significantly lower dropout rates (8.62% compared to 18.3% and 21.3% for the other two groups).

Wilkie and Kuckuck (1989) studied, over a three year period, retention rates of high risk students who successfully completed an orientation course in the first semester of their freshman year at Indiana University of Pennsylvania. They reported that the retention rates of participants were consistently higher than those of the control group although the differences did not reach statistical significance.

At the University of South Carolina, retention research has been conducted continuously since 1972 with stable results (Fidler & Hunter, 1989). Students participating in the freshman seminar achieved a higher sophomore return rate than nonparticipants for fourteen consecutive years and in ten of those years, the return rates attained statistical significance. The differences in return rates over the fourteen year period ranged from a low of 0.9% to a high of 7.2% annually (Fidler & Hunter, 1989). In a follow-up study after sixteen years, Fidler (1989) reported that rates of return to the sophomore year for seminar students ranged from 77.2% to 84.5% while survival rates for nonparticipants ranged from 73.2% to 80.5%. In 11 of these 16 years, the difference in return rates between

seminar participants and nonparticipants was statistically significant and in the remaining five years, participants also tended to have higher retention rates (Fidler, 1989).

Farr, Jones, and Samprone (1986) compared the retention rates of participants in a freshman seminar at Georgia College and a random group of nonparticipants in the fall semesters of 1981 and 1982. The two groups were further divided into two subgroups based on whether or not their SAT scores were above or below 800. These researchers reported significantly higher retention rates for seminar participants in both SAT categories.

Cartledge and Walls (1986) studied retention rates of participants in a freshman seminar at Columbus College. They reported that the retention rate of participants was 58% and that of nonparticipants was 48%, a statistically significant difference.

In some studies of the effect of freshman seminars on retention, researchers have found a type of compensatory effect. Fidler and Hunter (1989) stated that a compensatory effect occurs when seminar students were underprepared academically or were considered high risk students because of ethnicity or indecision about career goals and yet they were retained at the same rate as nonparticipants. In such cases, the freshman seminar is considered supportive of retention (Fidler & Hunter, 1989). An example of the compensatory effect occurred in

research studies at both Clarion University of Pennsylvania and at Bowling Green State University, both public four-year comprehensive universities. Potter and McNairy (1985) reported that seminar participants and nonparticipants achieved a similar three-semester retention rate at Clarion University of Pennsylvania even though the nonparticipants possessed a significantly higher mean SAT. Likewise, Scherer (1981) found that the return rate of seminar participants at Bowling Green State University was similar to that of the freshman class average even though seminar students were more likely to be undecided as to their major, a characteristic of students who are dropout-prone. Scherer (1981) concluded that these positive return rates of seminar participants resulted from their knowledge of campus resources, a component of the seminar.

Von Frank (1986) studied retention rates of seminar students and non-seminar students at Francis Marion College from 1983-1985. The sophomore return rate in 1983 for participants was 80% compared to 64% for nonparticipants, a statistically significant difference. However, the retention rates of participants in 1984 and 1985 were higher than nonparticipants but those differences were not statistically significant. Since the 1984 and 1985 classes contained a large portion of high risk students, the compensatory effect was determined to be present (Von Frank, 1986).

In contrast to most studies reporting the positive influence of the freshman seminars on retention, some research has reported no statistically significant effects. Banziger (1986) compared seminar freshman at Marietta College with all other freshman over a three year period. Although the most recent retention rate for seminar participants was 91% and for nonparticipants, 86%, the difference was not statistically significant nor was it significant for the previous two years. Banziger (1986) concluded that because the retention rates were above average, there was little opportunity for differences to be demonstrated, and, thus, the differences were not significant, an example of ceiling effects. Likewise, Woodward (1982) found no significant differences in retention rates for seminar students and non-seminar students at the State University of New York at Plattsburg after one semester. He stated that this finding may be due to the limitation of measuring retention at the end of the first semester of the freshman year; however, he conducted a follow-up study at the end of the second semester and the results were not significantly different from those conducted at the end of the first semester.

Mark and Romano (1982) also found that differences in retention rates of seminar students and a control group did not approach statistical significance. They studied approximately 257 students who applied to the College of

Liberal Arts at Pennsylvania State University, using a randomized experimental design. Among the outcomes measured was rate of retention in the College of Liberal Arts. At the end of the first term of the students' sophomore year, 78% of the seminar students and 72% of the control group students remained in the College of Liberal Arts, a nonsignificant difference.

In their study of a freshman cluster program with a similar design to freshman seminars, Dukes and Gaither (1984) reported that cluster students exhibited a significantly higher persistence rate in their first two terms of the freshman year when compared with noncluster students; however, their attrition rates returned to the baseline for the institution after one additional term. These authors concluded that while enrolled in the cluster program, the students were provided services which helped them make the transition to college, thereby significantly affecting their first year retention.

Freshman Seminar and Achievement

Researchers have found mixed results when studying the relationship between freshman seminar participation and grade point average. Some research showed that participating in a freshman seminar was often positively related to higher academic achievement. Stupka's (1986) study at Sacramento City College matched freshman seminar students with two other groups on age, sex, and recommended

reading and writing placement. The seminar participants achieved an average grade point average that was 0.71 points higher than students in either of the other two comparison groups.

At the State University of New York College at Cortland, Hopkins and Hahn (1986) also used a comparison group to test the results of students passing the seminar and those not enrolled, matching them on high school grade point average, SAT verbal scores and declared major. They reported that after one semester, students enrolled in the seminar in 1983, 1984, and 1985 achieved significantly higher grade point averages in each year studied; however, these results were reported after only one semester (Hopkins & Hahn, 1986).

Tammi (1987) conducted research at the University of North Carolina at Charlotte and compared a sample of seminar students with a sample of nonparticipants matched on predicted grade point average. She reported significant differences between the achieved grade point average of seminar students and the comparison group.

In a three year study composed of high risk students at Indiana University of Pennsylvania, Wilkie and Kuckuck (1987) randomly assigned eligible students to an experimental group (enrolled in an orientation seminar) and a control group (not enrolled in an orientation seminar). They reported that seminar students who successfully

completed the course achieved significantly higher cumulative grade point averages after three years than did students in the control group.

Other studies examining the relationship between enrollment in a freshman seminar and grade point average found no significant association between the two variables. Prola, Rosenberg, and Wright (1977) compared seminar students at York College, City University of New York, with a matched control group of students not enrolled in the course and found no significant differences in grade point averages. Dukes and Gaither (1984) reported that persisting students in both their cluster and non-cluster groups at California State University at Northridge had significantly higher grade point averages than non-persisters. They found no statistically significant differences in the grade point averages of cluster and other freshmen students.

Compensatory effects were found to be present in several studies relating freshman seminar and achievement. In their fourteen year study of seminar versus non-seminar students at the University of South Carolina, Fidler and Hunter (1989) reported that seminar participants achieved cumulative grade point averages at the end of the first year that were similar to those of nonparticipating students in nearly every year of the fourteen years. These outcomes were present even though the seminar participants

were often less well qualified academically than nonparticipants. Chapman and Reed (1987) conducted a study at Ohio University between seminar students and nonseminar students and reported no differences between the two groups in terms of cumulative grade point averages even though the composite ACT scores of students in the course were lower than those not in the course. They concluded that some compensatory aid was gained from the course because of the participants' ability to maintain a grade point average consistent with their higher scoring peers in spite of their own low entry scores (Chapman & Reed, 1987).

Farr, Jones, and Samprone's (1986) study at Georgia College also found no differences in mean grade point averages for seminar students and a control group selected at random from students not taking the course after both three quarters and six quarters, even though the seminar participants had significantly lower SAT scores (800 and below). Similarly, Potter and McNairy (1985) reported no significant differences between grade point averages for seminar and non-seminar students at the end of the first and third semesters at Clarion University of Pennsylvania, even though the seminar students had significantly lower SAT scores.

Freshman Seminar and Institutional Integration

Although there have been no studies comparing seminar students with non-seminar students on institutional

integration per se, some research has focused on specific aspects of integration, notably, faculty-student interaction, peer relationships, participation in extracurricular activities, and so on.

In 1986 Starke (1989) studied a treatment group of seminar participants and a control group of non-seminar students at Ramapo College and reported significant differences between the two groups on self-reported integration measures. Students who participated in the course attended more events on campus, belonged to more student organizations, were more comfortable with faculty, spoke more frequently with faculty outside of class, and were more familiar with college support services, which they also used more frequently. She found in 1987 and 1988, when almost all freshmen at Ramapo College took the course, that mean scores on measures of student-faculty interaction and faculty concern for students as individuals were significantly higher than those of a national sample of freshmen at public colleges (Starke, 1989). Although this comparison may be valid, there was no further description in her paper as to the nature of the national sample with which she compared the Ramapo freshmen. Because it was unclear exactly who the comparison group was, the use of this sample as a comparison group was inappropriate and meaningless.

Dunphy et al. (1987) found the differences on certain self-reported measures of integration were statistically significant at greater than the 95% level of confidence between seminar participants and nonparticipants at Duquesne University. The results of their survey of students indicated that participants felt they shared a greater sense of community with fellow students, were more comfortable talking to professors, were more capable of solving problems, and were more positive about their overall experience at the university (Dunphy et al., 1987).

Prola, Rosenberg, and Wright (1977), in their study at York College, City University of New York, found considerable evidence that the seminar was effective in integrating students into the life of the college. Integration was measured by participants' attendance at more college functions, their participation in more extracurricular activities, their greater awareness of college services, and their more positive attitudes toward teaching and toward counseling services. In a later study at the same university, Prola and Stern (1984) corroborated the earlier finding that the seminar helped students become assimilated into the ongoing life of the college and provided them with emotional and social linkages that stimulated them to remain in college and become leaders on campus.

Dukes and Gaither's (1984) study at California State University at Northridge found that students in the cluster program viewed the institution as a friendlier campus than did non-cluster students and that they made more friends than did their non-cluster counterparts. These researchers also reported that the "friendliness" aspect positively affected students' relationships with faculty as well as peers. They concluded that the program served a more social than academic function and concluded that this may have positively affected the persistence rates of cluster students.

Woodward (1982) stated that seminar students at the State University of New York, Plattsburgh, reported increased contact with faculty after one semester. However, the study was restricted to a time period of one semester.

Tammi (1987) also reported seminar participants at the University of North Carolina at Charlotte had significantly more contacts with faculty members than did nonparticipants. Tammi (1987) used the Adjective Rating Scale (Kelly & Greco, 1975) as a measure of academic and social integration in her study of the effectiveness of the freshman seminar. She found no significant differences between seminar students and non-seminar students on the scale and stated that the subjective quality of the Adjective Rating Scale failed to detect differences that

did appear on two objective measures she studied: grade point average and number of contacts with faculty members.

Fidler (1989) reported that seminar students at the University of South Carolina were more likely than nonparticipants to feel comfortable seeking guidance from a faculty or staff member, to know at least one adult on campus they could go to with a personal problem, to participate regularly in campus activities, and to feel comfortable going to the Counseling Center should a problem arise.

Summary of Literature on The Freshman Seminar

A review of the literature on freshman seminars provides evidence that supports the positive effects of seminars on student retention, academic achievement as measured by grade point average, and certain integration measures such as relationships and participation in extracurricular activities. Fidler and Hunter (1989) reported that while an increasing number of institutions are evaluating the seminars on their campuses, more and better research is necessary, specifically experimental research which controls for selection bias.

This researcher believes that The Freshman Seminar at Appalachian has a positive effect on students' integration into the college community. One of its major goals is to help students make the transition from their home communities to the college community. It does this by

assisting students in developing relationships with peers and faculty in a non-threatening environment, by encouraging participation in college activities, by helping students set goals and understand the meaning of a college education, and by making them more aware of utilizing study and learning skills. These activities appear to strengthen students' integration into the college community and, thus, lead to decisions to remain in college and to graduate. This researcher also believes that The Freshman Seminar may have a compensatory effect for students who enter the University with low academic skills or who come from low socioeconomic backgrounds. It can assist them in overcoming barriers to assimilating themselves into a community which is unfamiliar to them and about which they have little experience and knowledge.

CHAPTER 3
METHODOLOGY

The purpose of this study was to accomplish the following: (a) to investigate the effect of institutional integration (as measured by a survey) on student persistence; (b) to investigate the effect of The Freshman Seminar on institutional integration, achievement, and persistence; and (c) to investigate the effect of precollege characteristics (age, gender, ethnicity, socioeconomic status, and academic aptitude, and participation in extracurricular activities in high school) on student persistence/retention. This chapter includes descriptions of: the population studied, the treatment program, the research design, the limitations of the design, research procedures, measurement instruments, data collection, and data analysis.

Population

The population which this study investigated was the 1,983 entering freshmen at Appalachian State University for the fall of 1989. From this larger population, three samples were drawn: one group was composed of those students who wanted to enroll in The Freshman Seminar and were able to do so (the treatment group): a second group was composed of those students who did not want to enroll in the course and did not do so (the comparison group). A

third group of students who wanted to enroll in the course but were not able to because of lack of space was also followed to control for possible selection bias (second comparison group).

When all the data were collected and analyzed, a total of 1,672 students met all the criteria necessary for the study (they had completed two surveys and there was retention data available on them). Of these 1,672, 414 students completed the Freshman Seminar and comprised the treatment group, 954 students composed the first comparison group of students who did not enroll in and complete the Freshman Seminar, and 304 students composed the second comparison group of students who wanted to enroll in The Freshman Seminar but could not because of lack of space. Of the 954 students who did not enroll in and complete the Seminar, 896 returned for the second year and 58 did not. In order to have more nearly equal numbers and to facilitate the data analysis, a random sample of 300 returning students and 20 non-returning students was drawn by the computer. A Kolmogorov goodness of fit test was performed to compare the distribution of expected institutional integration scores and actual institutional integration scores between the random sample and the original sample. The test indicated that the random sample was representative of the total group on both the expected integration and the actual integration measures.

The three samples of students used in this study totaled 1,038. Of these 1,038, 414 students composed the treatment group, 320 composed the first comparison group, and 304 composed the second comparison group.

Program Description

The Freshman Seminar at Appalachian State University is an elective three semester hour course which is available to all first semester freshmen. The purpose of the course is to build academic and life skills; to provide opportunities for personal growth; to broaden perspectives, especially the student's view of the purpose of education; and to establish new relationships with faculty and other students. The course is a response to the needs of freshmen as they make the transition from their home communities to the college environment.

The course is taught by faculty from many different disciplines, by student development personnel, and by administrators. Becoming a Master Student by Ellis (1984) is the adopted textbook for all sections of the course. The course design includes various campus involvement activities, class discussion, and some lectures designed to involve students in the ongoing life of the University. Activities and topics of the course include study skills; career exploration; information about the history, traditions, and resources of the University; attendance at cultural events; discussions and readings on the value of a

liberal education and what it means to be an educated person; and an introduction to various disciplines and their ways of knowing. Students write about concerns that they would like to share with faculty, make class presentations, do outside readings of books or articles about particular topics, write and discuss their reactions to cultural events, and take tests on materials from the textbook. Approximately 20 students were enrolled in each of nearly 30 sections of the course taught during the fall of 1989; each section was taught by a different instructor.

The University provides support for the program in a variety of ways. Faculty members, staff, and administrators volunteer to teach the course and participate in a week of training before the semester begins. In addition, regular meetings of all persons who teach the course are held periodically throughout the semester for the purposes of formative evaluation, sharing of successes and problems, generation of new insights, and renewal of enthusiasm. Specific instructional modules have been developed so that unfamiliar material can be taught with a minimum of extra effort. Further, files of group exercises and activities and course syllabi are available for faculty to use in designing the activities and requirements for their particular sections of the course. Finally, departments are reimbursed for faculty who teach the course and administrative and clerical help is provided as a support for course instructors.

Design

The study utilized a nonequivalent comparison group quasi-experimental design (Campbell & Stanley, 1963) because of an inability to randomly assign students to groups. Although it was conducted at a single institution, the study was consistent with recommendations of Pascarella (1986) who advocated a rigorous experimental evaluation design which would be guided by theory, would be longitudinal in nature, would measure precollege characteristics, would use multiple measures, and would control for pre-enrollment characteristics.

The treatment variable was participation in The Freshman Seminar. Institutional integration (academic and social integration), student satisfaction (course evaluations), and student achievement (grade point average at the beginning of the sophomore year) constituted intermediary dependent variables. The ultimate dependent variable was persistence/retention to the sophomore year.

Limitations

This study was conducted at one comprehensive moderately selective state university in the Southeast. Results must, therefore, be interpreted with caution and cannot be generalized to all universities.

The lack of random assignment of students to groups adds sources of invalidity such as regression and interaction between selection and uncontrolled variables

such as maturation, history, and testing which are limitations of the study. By weighing the contribution of demographic data, student evaluations, student expectations, and student achievement to retention, the researcher was able to analyze the role those variables played in relation to institutional integration.

Procedures

Every student who entered Appalachian State University attended one of six one and one-half day summer orientation sessions designed specifically to administer English, reading, and math placement tests and to register for fall semester classes. During the opening session of each orientation period, the director of The Freshman Seminar program described the course to the freshmen and outlined the purpose, the content and activities, the benefits, the expectations, and the requirements. The students also received a brochure which described the course in detail. During the advising and registration period of the orientation session, students registered for the course. It was not a required course.

A survey instrument, The Entering Freshman Survey, which provided data on students' backgrounds and their expectations for college was administered to all incoming freshmen during the 1989 summer orientation period. The survey measured the students' expectations of the following items which defined the variable institutional integration:

peer group interaction, interaction with faculty, faculty concern for student development and teaching, academic and intellectual development, and institutional and goal commitment. The Entering Freshman Survey was completed by 1948 students during the 1989 summer orientation period. A second survey, The Freshman Follow-Up Survey, was administered during early registration advising in spring 1990 following the students' completion of the course and addressed the same items of the institutional integration variables. The follow-up questionnaire was administered to 1760 freshmen during the spring semester following their initial enrollment. Additionally, follow-up surveys were mailed, using on-campus mail boxes, to 134 freshmen who did not show up for early registration advising. Of these 134, 10 surveys were returned because the student was no longer enrolled in school and five students completed the survey and returned it. A follow-up mailing was done three weeks later to the students' home addresses and six completed surveys were received, with two surveys having been returned for insufficient address.

At the beginning of the fall semester of 1990, data on the students were gathered from University records; these data consisted of students' high school grade point averages and ranks in class, SAT composite scores, cumulative grade point averages at the beginning of the sophomore year, and whether or not they had returned for their second year.

Measurement Instruments

Justification for Using Instruments

Tinto (1976, 1987, 1988) developed a model of the withdrawal process which included the concepts of academic and social integration into the institution. His longitudinal model regards withdrawal behavior as a function of the quality of the students' interactions with the academic and social environments of the institution. According to Pascarella and Terenzini (1980), Tinto's model

asserts that students come to a particular institution with a range of background characteristics (e.g., sex, race, academic ability, secondary school performance, family social status) and goal commitments (e.g., highest degree expected, importance of graduating from college). These background characteristics and goal commitments influence not only how the student will perform in college, but also how he or she will interact with, and subsequently become integrated into, an institution's social and academic systems. (p. 61)

Pascarella and Terenzini (1980) developed an instrument that was specifically designed to assess the two dimensions of academic and social integration described by Tinto. The purpose of their study was

to determine whether a multidimensional measure of social and academic integration based on the elements of Tinto's conceptual model would significantly discriminate between freshman year persisters and voluntary dropouts with the influence of students' entering characteristics held constant. (p. 61)

The surveys used in this study were based on a similar survey developed by Pascarella and Terenzini (1980). According to their research using their survey, Pascarella and Terenzini (1980) reported that the instrument generally

supported the predictive validity of the major dimensions of the Tinto model. Since Pascarella and Terenzini's (1980) survey was developed to address the specific constructs of Tinto's model of student departure, it was appropriate to utilize it for the purposes of this study.

Description of the Instruments

Two instruments were used in this study: The Entering Freshman Survey and The Freshman Follow-up Survey, both of which were adapted from the Syracuse University Experience Follow-up Survey used by Pascarella and Terenzini (1980). The Entering Freshman Survey was used to gather pre-college information on the students' backgrounds and their expectations of their college experience. The Freshman Follow-up Survey was used to gather information on the students' actual experiences during their freshman year.

The Entering Freshman Survey was administered to all entering freshmen at freshman orientation during the summer of 1989. It requested the following information (all self-reported) (Pascarella, Terenzini, & Wolfe, 1986):

Family background: This characteristic included the family's socioeconomic status which was comprised of the mother's and father's educational levels and the family's combined annual income.

Individual attributes: This characteristic described the sex, age, and ethnicity of the student.

Pre-college schooling: This item asked for the number of secondary school extracurricular activities averaging two hours or more per week, as an indicator of secondary school integration.

Commitment to the goal of graduation: This characteristic was defined by the student's responses to two items, (a) highest expected academic degree and (b) importance of graduating from college.

Commitment to the institution: This characteristic was defined according to two items, (a) rank of Appalachian State University as a college choice and (b) confidence that choosing to attend Appalachian was the right choice.

Each student's rank in high school class and the combined SAT scores were obtained from University records. High school rank in class was used as a measure of precollege schooling and SAT scores were included as a measure of academic aptitude.

The Entering Freshman Survey also requested students to answer questions regarding their expectations of their college experiences (expectations of institutional integration). These questions were adapted from the Syracuse University Experience Follow-up Survey used by Pascarella and Terenzini (1980). While the Pascarella and Terenzini survey questions were phrased in the present tense (e.g. "I am satisfied with my academic experience at Appalachian"), the Entering Freshman Survey included the

same questions which were revised to address students' expectations (e.g. "I expect to be satisfied with my academic experience at Appalachian"). The sum of these questions yielded the expected institutional integration score and was used as a covariate in the data analysis. A copy of the Entering Freshman Survey is in Appendix A.

The Freshman Follow-up Survey was adapted from the same survey conceived, designed, and utilized by Pascarella and Terenzini (1980) in an effort to assess Tinto's concepts of academic and social integration. In a later article, Pascarella, Terenzini, and Wolfe (1986) stated that

academic integration is determined primarily by the student's academic performance and his or her level of intellectual development, whereas social integration is primarily a function of the extent and quality of peer-group interactions and the extent and quality of student interactions with faculty. (p. 160)

Therefore, The Freshman Follow-up Survey contained the following areas based on the instrument developed by Pascarella and Terenzini (1980) and reported by Pascarella, Terenzini, and Wolfe (1986):

Academic integration: This was defined as a combination of the freshman year cumulative grade point average obtained from University records and of 7 questions answered on a 5-point Likert factorially derived scale which measured the student's perceived level of intellectual development during the freshman year.

Social integration: This variable was defined as a combination of the following items: (a) involvement in

extracurricular activities averaging two hours per week, (b) frequency of nonclass contacts with faculty of 10 minutes duration or more, (c) 7 questions answered on a 5-point Likert scale which measured the extent and quality of a student's relationships with peers, and (d) 5 questions answered on a 5-point Likert scale which measured the impact and the quality of students' nonclassroom contacts with faculty.

Commitment to the goal of graduation: This characteristic was measured by one item on the survey which addressed the importance of graduation to the student.

Commitment to the institution: This characteristic was measured by the combination of two items: (a) the student's confidence in making the right choice to attend the institution and (b) the importance to the student of graduating from the institution.

The dependent variable, student voluntary persistence/retention, was obtained from University records during the fall following the student's freshman year. At Appalachian, students may remain in school on academic probation for two semesters. Thus, no student in the study was forced to withdraw for academic reasons. Students who did not return for their second year did so for reasons other than forced withdrawal and are considered "voluntary withdrawals." This is consistent with Tinto's (1975,1987) concept of "voluntary withdrawal." The sum of these

questions yielded the Institutional Integration score and was used as an intermediary dependent variable in the data analysis. A copy of The Freshman Follow-up Survey is provided in Appendix B.

Reliability and Validity of Instruments

The Entering Student Survey requested that students provide specific personal and demographic information. It also asked for information regarding students' expectations of their college experience.

As stated earlier, The Freshman Follow-up Survey was adapted from a survey developed by Pascarella and Terenzini (1980). They factor analyzed a 34-item Likert-type survey and reported the following:

The scree test yielded a solution of five factors with eigenvalues ranging from 6.14 to 1.67. This five factor solution accounted for 44.45 percent of the variance in the correlation matrix. Four items failed to load .35 or above on any factor and were not included in the computation of scale scores. (p. 65)

The five factors resulting from the factor analysis were peer-group interactions, interactions with faculty, faculty concern for student development and teaching, academic and intellectual development, and institutional and goal commitments. The computed alpha reliabilities on the five factors ranged from .71 to .84 and were judged as sufficient for further analyses. Further, according to Pascarella and Terenzini (1980), "the intercorrelations among the five scales were quite modest, ranging from .01

to .33 with a median correlation of .23. Thus, the scales would appear to be assessing dimensions of institutional integration that are substantially independent of one another" (p. 67).

The Entering Freshman Survey was field tested with a group of 12 students who were entering the 11th grade and who were enrolled in a University summer program. Revisions of wording in both the directions and the questions were made based on the feedback of these students. The Freshman Follow-up Survey was field tested with a group of 25 junior and senior level students who were enrolled in a College of Business management course. Feedback on the administration, content, and wording of this survey was received, and revisions were made based on this feedback.

Student course evaluations were conducted at the end of the 1989 fall semester. The evaluation instrument was designed by the director of The Freshman Seminar and has been used for several years to gather student feedback on their perceptions of course content, teacher preparation, and so on.

Operational Definitions

Hypotheses were measured using the following methods:

Hypothesis 1: There is a statistically significant difference in institutional integration scores, after adjusting for expected integration, between returning and non-returning students.

Institutional Integration was measured by The Freshman Follow-up Survey using a portion of a survey, entitled Syracuse University Experience Follow-up Survey, developed by Pascarella and Terenzini (1980). Retention was measured by determining from University records whether or not the student returned for the sophomore year.

Hypothesis 2a: There is a statistically significant difference in institutional integration scores, after adjusting for expected institutional integration, among the three research groups: students who completed The Freshman Seminar, those who chose not to enroll, and those who wanted to enroll but could not do so.

Institutional Integration was measured by The Freshman Follow-up Survey. Identification of the treatment group and the First Comparison Group was determined by University records. The Second Comparison Group was determined by the students' responses to question 13 on the Entering Freshman Survey (i.e. "Do you want to or plan to enroll in The Freshman Seminar course?"). Students who answered "Yes" to this question were matched with the class lists of The Freshman Seminar; those who answered "Yes" and were not on the class lists were placed in the Second Comparison Group.

Hypothesis 2b: Classification by research group is independent of retention status.

Retention was measured by determining from University records whether or not the student had returned for the

sophomore year. The identification of the three research groups is described in Hypothesis 2a above.

Hypothesis 3a: There is a statistically significant relationship among precollege characteristics (e.g. age, gender, ethnicity, socioeconomic status, academic aptitude, and participation in high school activities) and retention.

Precollege characteristics were determined from the Entering Freshman Survey which requested demographic data and responses to questions regarding the student's involvement in high school. Aptitude (combined SAT score), high school rank in class and retention were determined from University records.

Hypothesis 3b: There is a statistically significant relationship among research groups and precollege characteristics (the independent variables) and retention (the dependent variable).

Measurement of precollege characteristics is described in Hypothesis 3a above. Identification of the three research groups is described in Hypothesis 2a above.

Hypothesis 4: There is a statistically significant difference in student evaluations of The Freshman Seminar between returning and non-returning students.

Student perceptions were measured by the end-of-course evaluations. Retention information was obtained from University records. A copy of the course evaluation form is in Appendix C.

Hypothesis 5a: There are statistically significant differences in the rates of achievement between the treatment and the comparison groups, after adjusting for SAT scores and high school grade point average.

Student achievement was determined from University records using overall grade point average at the beginning of the sophomore year. Combined SAT scores and high school rank in class were obtained from University records. Identification of the three research groups is described in Hypothesis 2a above.

Hypothesis 5b: The treatment group will have higher rates of retention than the comparison groups, after adjusting for college achievement.

Student achievement and student retention were determined from University records. Identification of the three research groups is described in hypothesis 2a above.

Data Analysis

The research question addressed in this study was whether or not The Freshman Seminar at Appalachian State University was instrumental in improving students' grade point averages, their continuation to the sophomore year, and their academic and social integration into the life of the University community. The study further addressed whether there were statistically significant differences with regard to gender, age, ethnicity, socioeconomic status, academic aptitude, and participation in high school

activities among the three groups in the study. All analyses were done using SPSS-X.

In order to test Hypothesis 1, a one-way analysis of covariance was used to determine the relationship between institutional integration and retention with alpha set at .01. Expected Institutional Integration scores were used as a covariate. The multivariate analysis of variance was used to test the interaction between the covariate and the independent variable.

In order to test Hypothesis 2a, a one-way analysis of covariance was used to determine how effective The Freshman Seminar was for promoting institutional integration; specifically, differences between the mean scores of the Treatment Group and the Comparison Groups were compared on The Freshman Follow-up Survey. Expected institutional integration scores were used as the covariate. Alpha was set at .01.

In order to test Hypothesis 2b, a chi-square test was used to test for independence of treatment group classification versus retention status with alpha set at .01.

In order to test Hypothesis 3a, a logistic regression analysis was used to examine the relationship among demographic factors and retention with alpha set at .01.

In order to test Hypothesis 3b, a logistic regression analysis was performed to examine the relationship among

The Freshman Seminar and precollege variables and retention.

In order to test Hypothesis 4, significant differences in student evaluations of The Freshman Seminar between returning and non-returning students were determined using a t-test.

Alpha was set at less than .001 for Hypotheses 3b and 4. Because the sample size is so large, small correlations would be statistically significant. The alpha level was, therefore, set at less than .001 so that only correlations that were large enough to be of practical importance would be detected as statistically significant.

In order to test Hypothesis 5a, an analysis of covariance was performed to examine the relationship of achievement to retention for the treatment and comparison groups with the combined SAT scores and high school rank in class used as covariates. Alpha was set at .01.

Hypothesis 5b was not tested because the results of Hypothesis 5a showed that there were no statistically significant differences in students' achievement in the three groups under study.

CHAPTER 4
ANALYSIS OF THE DATA

This chapter begins with a description of the findings related to the background and pre-college characteristics of the students in the research study. The analysis for each of the eight hypotheses is then presented.

Profile of the Student Population

The population of students who comprised the study consisted of 1,038 students who completed both surveys and on whom persistence data was available. This section will present the following background characteristics of the population: gender, age, ethnicity, mother's educational level, father's educational level, and total family income. (Totals may not sum to 1,038 as data on some cases were missing.)

Table 1
Demographic Characteristics of the Study Population by
Frequency and Percentage N=1,038

Characteristic	Frequency	Percent
Gender		
Female	560	53.9
Male	474	45.7
Missing data	4	.4

Age		
17 years old	209	20.1
18 years old	789	76.0
19 years old	27	2.6
20 years old	3	.3
22 years old	3	.3
23 years old	1	.1
24 years old	2	.2
28 years old	1	.1
29 years old	1	.1
32 years old	1	.1
Missing data	0	0
Ethnicity		
White/Caucasian American	967	93.2
Black American	52	5.0
Hispanic American	4	.4
Asian American	5	.5
Other	8	.8
Missing data	2	.2
Mother's Educational Level		
Elementary school or less	2	.2
Some high school	32	3.0
High school graduate	268	26.0
Some college education (less than 4 years)	343	34.0
College graduate (from 4 year college)	186	18.0
Some graduate education	58	6.0
Graduate degree (master's, specialist's, law degree, pharmacy degree)	128	13.0
Doctoral degree	8	.8
Missing data	13	1.3
Father's Educational Level		
Elementary school or less	6	.6
Some high school	56	5.4
High school graduate	187	18.0
Some college education (less than 4 years)	272	26.2
College graduate (from 4 year college)	260	25.0
Some graduate education	61	5.9
Graduate degree (master's, specialist's, law degree, pharmacy degree)	139	14.0
Doctoral degree	51	5.0
Missing data	6	.6

Family Income		
Less than 15,000	53	5.1
15,000-35,000	247	23.8
36,000-55,000	362	34.9
56,000-75,000	167	16.1
75,000+	167	16.1
Missing data	42	4.0

The research population was 54% female and 46% male which compared favorably with the ratio of the total fall 1989 entering freshman of 53% and 47% respectively. The population was 93% White/Caucasian American which was the same as the percentage for the total freshman class. Ninety-six percent of the students were 17 or 18 years of age compared with 95% of all freshmen. Further, two-thirds of the students in the research population reported family incomes of less than \$55,000 with 30% having family incomes of less than \$35,000, and all freshmen reporting 67% and 32% respectively. Forty-two percent of the students reported that neither of their parents had a college degree, identifying them as first generation college students, and 58% reported that at least one parent had a college degree; these percentages were the same as those reported by all freshmen.

The following table shows the division of the students into the treatment group and the two comparison groups:

Table 2
Returning/Non-Returning Status by Three Research Groups

Group	Returning	Nonreturning
Enrolled in and completed Freshman Seminar	385	29
Did not enroll in Freshman Seminar	300	20
Wanted to enroll but couldn't	292	12
Total	977	61

Of the 1,038 students in the research population, 977 returned for their second year and 61 did not return.

Data Analysis for Each Hypothesis

Hypothesis 1. There is a statistically significant difference in institutional integration scores, after adjusting for expected integration, between returning and non-returning students.

This hypothesis focused on the relationship between institutional integration and persistence/retention, without regard to students' participation in The Freshman Seminar. A one-way analysis of covariance using expected institutional integration scores as covariates was used to compute the relationship between institutional integration and retention. Alpha was set at .01.

The mean expected integration score for both the returning and the non-returning students was consistent (111.421 and 111.098) with only a slight difference in the standard deviations (9.574 and 8.891). However, the actual integration scores showed a large difference in the mean

scores (114.570 and 106.328) and more than one standard deviation difference (12.564 and 13.683), indicating that there was more variability in the scores of the non-returning students.

An initial analysis of covariance was performed to determine if there was any interaction between the covariate and the independent variable. This step tested the assumption of parallel slopes among the treatment groups; that is, the assumption that a change in the prescore will affect the post-score in the same way across all treatment groups. The results indicated that there was not a statistically significant interaction between the covariate and the independent variable.

Tables 3 and 4 present the summary statistics relevant to this hypothesis:

Table 3
Institutional Integration by Returning and Non-Returning Status
N=1,038

	Returning	Non-returning	Total
Expected Institutional Integration			
N	977	61	1,038
Score	111.421	111.098	111.402
S. D.	9.574	8.891	9.531
Institutional Integration			
N	977	61	1,038
Score	114.570	106.328	114.086
S.D.	12.564	13.683	12.773

Table 4
Summary Statistics Using Analysis of Covariance with
Expectations of Institutional Integration as a Covariate

Source of Variation	SS	DF	MS	F	Sign. of F
Within cells	137483.82	1035	132.83		
Regression	27813.07	1	27813.07	209.38	.000
Returning	3736.24	1	3736.24	28.13	.000

The result of the analysis of covariance to test Hypothesis 1 was that there was a significant difference in institutional integration between the returning students and the non-returning students. Therefore, the null hypothesis was rejected.

Hypothesis 2a. There is a statistically significant difference in institutional integration scores, after adjusting for expected institutional integration, among the three study groups: students who completed The Freshman Seminar, those who chose not to enroll, and those who wanted to enroll but could not do so.

Hypothesis 2a of this study stated that the treatment group (who enrolled in and completed The Freshman Seminar) would exhibit a significantly higher mean score on the Freshman Follow-Up Survey (the institutional integration measure) than the comparison groups (who did not enroll in The Freshman Seminar and who wanted to enroll in The Freshman Seminar but could not because of lack of space), regardless of their returning or non-returning status. This hypothesis was tested using a one-way analysis of covariance, with the expected institutional integration

scores as covariates for each group. Alpha was set at .01. A preliminary analysis of covariance, which checked for factor-by-covariate interaction, was performed in order to test the assumption of homogeneous slopes. The assumption was upheld.

The expected integration scores were consistent across all three groups (111.524, 111.044, and 111.612). Standard deviations were also consistent (9.580, 9.245, and 9.779). Actual integration scores for all three groups were consistent (114.867, 113.850, and 113.270). Again, the standard deviations were consistent (13.155, 12.487, and 12.522) across the three groups.

Tables 5 and 6 present the summary statistics regarding this hypothesis:

Table 5
Institutional Integration By Three Research Groups

	Freshman Seminar	No Freshman Seminar	Wanted/ Couldn't
Expected Institutional Integration			
N	414	320	304
Score	111.524	111.044	111.612
S. D.	9.580	9.245	9.779
Institutional Integration			
N	414	320	304
Score	114.867	113.850	113.270
S. D.	13.155	12.487	12.522

Table 6
Summary Statistics Using Analysis of Covariance

Source of Variation	SS	DF	MS	F	Sign. of F
Within cells	140744.85	1034	136.12		
Regression	27979.53	1	27979.53	205.56	.000
Freshman Seminar group	475.21	2	237.61	1.75	.175

The test of significance for this hypothesis showed that there was not a significant difference in the mean institutional integration scores among the three research groups. Therefore, the null hypothesis was not rejected.

A supplementary two-way analysis of covariance was conducted to extend the findings of Hypotheses 1 and 2a. The analysis was performed to determine if there were significant differences in integration scores by students' participation or non-participation in The Freshman Seminar and their returning or non-returning status. Expected integration scores were used as a covariate. Table 7 presents descriptive data regarding the institutional integration of the three research groups according to their returning or non-returning status. This table shows that the mean integration score of the non-returning students was lower than that of the returning students and that the non-returning students who wanted to enroll in The Freshman Seminar but could not because of lack of space had the lowest mean integration score of the three groups.

Table 7
 Institutional Integration by Three Research Groups
 and Their Returning or Non-Returning Status
 N=1,038

	Returning student						Total		
	Yes			No			Count	Mean	Std Dev
	Inst. Integration			Inst. Integration					
	Count	Mean	Std Dev	Count	Mean	Std Dev			
Freshman Seminar status									
Enrolled Frs Sem	385	115.46	13.11	29	106.97	11.29	414	114.87	13.16
Wanted to didn't	292	113.83	12.04	12	99.75	16.58	304	113.27	12.52
Did not enroll	300	114.15	12.32	20	109.35	14.38	320	113.85	12.49
Total	977	114.57	12.56	61	106.33	13.68	1038	114.09	12.77

A two-way analysis of covariance was performed, using expected integration scores as a covariate. Alpha was set at .01. Table 8 presents both the expected integration scores and the actual integration scores for the three research groups, according to their returning/non-returning status, and Table 9 presents the summary statistics for this test.

Table 8
Expected Integration Scores and Actual Integration Scores by Three Research Groups and Their Returning/Non-Returning Status
N=1,038

	Expected Inst. Int.				Inst. Int.			
	Return		Non-Return		Return		Non-Return	
	M	S.D.	M	S. D.	M	S.D.	M	S.D.
F.S.	111.57	9.68	110.93	8.21	115.46	13.11	106.97	11.29
N/FS	111.03	9.17	111.25	10.54	114.15	12.32	109.35	14.38
W/CN	111.63	9.85	111.25	8.23	113.83	12.04	99.75	16.58

Table 9
Summary Statistics Using Two-Way Analysis of Covariance With Expected Integration Scores as the Covariate

Source of Var.	SS	DF	MS	F	Sign of F
Within Cells	136282.32	1031	132.18		
Regression	27779.49	1	27779.49	210.16	.000
Return	4096.40	1	4096.40	30.99	.000
FS Group	854.37	2	427.26	3.23	.040
Return by FS Gr.	572.37	2	286.19	2.17	.115

The supplementary test, two-way analysis of covariance, revealed that there was not a statistically significant interaction between the integration scores of the returning and non-returning students and their

participation in The Freshman Seminar. There was, however, a statistically significant difference at the .05 level of significance between the institutional integration scores of the three research groups after adjusting for expected integration, although it is not strong or meaningful.

Hypothesis 2b. Classification by research group is independent of retention status.

Part b of the second hypothesis stated that there will be a significant difference in the rates of retention between the treatment group and the two comparison groups. This hypothesis focused on the retention rates of the three study groups and compared their percentages, using a chi-square test of independence at the .01 level of significance. (A chi-square test is used when the data are in the form of frequency counts and compares the proportions observed with the proportions expected to see if there are any differences. See Gay, 1981.) Since the chi-square test is based on frequency data, it was decided to use the entire population of 1,672 students to test this hypothesis in order to present a stronger test. Table 10 presents the information relevant to this hypothesis:

Table 10
Three Research Groups by Returning/Non-Returning Status
 N=1,672

	Returning		Nonreturning		Total	
	N	%	N	%	N	%
Enrolled in Freshman Seminar	385	23.0	29	1.7	414	25
Did not enroll in Freshman Seminar	896	53.6	58	3.5	954	57
Wanted/Couldn't	292	17.5	12	.7	304	18
Total	1573	94.1	99	5.9	1672	100

A chi-square test revealed that there was not a significant association between membership in the research groups and returning or nonreturning status; chi-square was 3.04 with two degrees of freedom, producing an alpha value of .22. Therefore, the hypothesis that there is no difference between the three groups and their returning/nonreturning status is not rejected.

Hypothesis 3a. There is a statistically significant relationship among precollege characteristics (age, gender, ethnicity, socioeconomic status, academic aptitude, and participation in high school activities) and retention.

Hypothesis 3a stated that there will be a significant relationship among students' precollege characteristics (age; gender; ethnicity; socioeconomic status as defined by mother's and father's educational level and total family income; academic aptitude as measured by combined SAT scores and high school rank in class; and by participation

in secondary school extracurricular activities) and retention. This hypothesis looked at certain precollege characteristics of students (regardless of their participation in The Freshman Seminar) and attempted to predict retention based on these characteristics.

Correlations between retention and the characteristics previously identified in the literature as showing some relation to retention are presented in Table 11. As can be seen, correlations range from .0000 to .0729.

Table 11
Correlations Among Retention and Background Characteristics

Variable	R
Age	.0468
Gender	.0000
Ethnicity	.0000
Father's Education	.0000
Mother's Education	.0628
Family Income	.0419
Activities in High School	.0000
High School Rank	.0000
Combined SAT Score	.0729

A logistic regression procedure was used, and an alpha of .01 was required in order to indicate significance of an individual coefficient. Logistic regression is a multivariate technique for estimating the probability that an event will occur. This technique was selected because the author wished to predict a categorical outcome using

categorical, ordinal, and ratio scale independent variables (Norusis, 1990).

Because of missing data in the categories of high school rank and family income, only 936 cases were available for examination of this hypothesis. Descriptive statistics were conducted on both samples of students, the total sample of 1,038 and the available sample of 936, to determine if there were any differences between the two samples on any of the background characteristics. This procedure showed that there were no obvious differences between the two groups and, therefore, it seems reasonable to conclude there are no differences in the variables under study in this hypothesis.

The results of the logistic regression indicated that none of the variables studied was an accurate predictor of retention. Therefore, the null hypothesis that there is not a significant relationship between these variables and retention was not rejected.

Hypothesis 3b. There is a statistically significant relationship among research groups and background characteristics (the independent variables) and retention (the dependent variable).

Hypothesis 3b extended the logistic regression to include participation in The Freshman Seminar as a possible independent variable to predict retention. However, when participation in The Freshman Seminar was tested as a potential independent variable, it, too, was not a valid predictor of retention. Therefore, the null hypothesis

that there is not a significant relationship between participation in The Freshman Seminar and retention was not rejected.

Table 12 presents information regarding correlations with participation in The Freshman Seminar:

Table 12
Correlations Between the Independent Variables (3 Research Groups and Background Characteristics) and Retention

Variable	R
Age	.0468
Gender	.0000
Ethnicity	.0000
Father's Education	.0000
Mother's Education	.0628
Family Income	.0419
Active in high school	.0000
High School Rank	.0000
Combined SAT Score	.0729
The Freshman Seminar	.0000

Hypothesis 4. There is a statistically significant difference in student evaluations of The Freshman Seminar between returning and non-returning students.

This hypothesis focused only on the group of students who enrolled in The Freshman Seminar, their evaluations of the course, and their returning/non-returning status. Of the 428 students who submitted evaluations of the course, 381 had valid social security numbers. Of this number, 338 matched with the research file, having met the criteria of the study (submitted both the entering survey and the follow-up survey and returned or not returned for the second year), with 315 returning and 23 not returning.

The course evaluation consisted of 12 items asking for student feedback on various aspects of the course, including content, instruction, preparation and delivery, and the overall learning experience. The items were rated on a 5-item Likert-type scale with 5 valued at Strongly Agree and 1 at Strongly Disagree. The summed responses for each student represented the total evaluation score. Descriptive information regarding the evaluation scores revealed that the scores were predominantly high and that the mean and the median were close. This descriptive information is presented in Table 13.

Table 13
Course Evaluation Scores by Returning/Non-Returning Status N=338

	N	Mean	Median	S. D.
Returning	315	48.0	49.0	8.0
Non-Returning	23	46.8	46.0	7.9

A t-test for independent samples was conducted to determine if there was a statistically significant difference in the mean scores on the evaluation survey between the returning and the non-returning students. This test revealed that there was no significant difference in the means or in the standard deviations between the two groups. Table 14 presents the statistical information.

Table 14
T-Test for Evaluation Scores by Returning/Non-Returning Status N=338

Variances are equal		Pooled Variance Est.		
F-Value	2-tailed Prob.	t-value	df	2-tailed Prob.
1.03	.992	.63	336	.530

The null hypothesis that there is no significant difference in student evaluations of the course between returning and non-returning students was not rejected.

Correlations were computed to determine the relationship between the evaluation scores and institutional integration. Table 15 presents these correlations.

Table 15
Correlations Between Evaluation Scores and Institutional Integration N=338

	Entering Survey	Follow-Up Survey
Evaluation Scores	.19 p<.0005	.25 p<.0005

The low probability levels ($p < .0005$) were set because of the large sample size. Even though the coefficients of .19 and .25 were significant and in the right direction, they were not high and, therefore, not meaningful because they accounted for only 4% and 6% of the variability, respectively.

Supplementary correlations were computed to determine the relationship among the evaluation scores, institutional integration scores, and retention. Table 16 presents the correlations:

Table 16
Correlations Between Evaluation Scores and Institutional Integration Scores by Returning/Non-Returning Status
 N=338

	Returning Eval. Scores	Non-Returning Eval. Scores
Entering Freshman Survey (expected integration scores)	.1703	.4365
Number	315	23
probability	.001	.019
Freshman Follow-up Survey (actual integration scores)	.2478	.2434
Number	315	23
probability	<.0005	.132

The results of this supplementary correlation procedure revealed that there were correlations between the institutional integration scores, the evaluation scores and students' returning/non-returning status. That is to say that, among Freshman Seminar students, low expectations were associated with low course evaluations and high expectations were associated with high course evaluations more strongly for non-returning students than for returning students.

Hypothesis 5a. There are statistically significant differences in the rates of achievement between the treatment and the comparison groups, after adjusting for SAT scores and high school grade point average.

This hypothesis focused on the achievement of students in the three research groups regardless of their returning or non-returning status. It was tested using an analysis of covariance with the SAT combined scores and the high school grade point average as covariates. Because of missing cases in the data, only 977 cases were available for analyzing this hypothesis.

An initial analysis of covariance was performed to determine if there was any interaction between the covariate and the independent variables. This step tested the assumption of parallel slopes between the treatment groups and the independent variables: that is, the assumption that a change in the pretest score will affect the posttest score in the same way across all groups. The results indicated that there was not a significant interaction between the covariates and the independent variables, so the assumption of homogeneous slopes was accepted.

Table 17 presents the information regarding the test for significance for this hypothesis:

Table 17
Analysis of Covariance Between Achievement and Research Groups, Using SAT and High School Grade Point Average as Covariates N= 977

	SS	DF	MS	F	Sign. of F
Source of Variation					
Within Cells	336.41	972	.35		
Regression	83.42	2	41.71	120.51	.000
FS Group	.71	2	.35	1.02	.360

The analysis of covariance showed that there was no difference in the cumulative grade point average of the students in the study among the three research groups, after adjusting for the SAT scores and the high school grade point average. Therefore, the null hypothesis was not rejected.

Hypothesis 5b. The treatment group will have higher rates of retention than the comparison groups, after adjusting for college achievement.

Hypothesis 5b was a secondary analysis to be performed if a difference was found in the grade point averages of the students in the three research groups. Since no differences were found, the secondary analysis was not performed.

However, a two-way analysis of covariance was performed to test for a significant difference in achievement associated with either of the independent variables, enrollment in The Freshman Seminar or students' returning/non-returning status. The analysis used retention and classification according to participation in The Freshman Seminar as the independent variables and cumulative grade point average as the dependent variable. High school grade point average and the combined Scholastic Aptitude Test score were the covariates. Alpha was set at .05.

Table 18 presents descriptive data regarding cumulative grade point average by the three research groups and their returning or non-returning status. Of the three research groups, the non-Seminar returning students had the highest mean cumulative grade point average (2.64), the returning Seminar students had the second highest (2.56) and those who wanted the Seminar but could not enroll had the lowest (2.48). Standard deviations were consistent (.66, .62, .65 respectively). However, among the non-returning students, those who participated in the Seminar had the highest cumulative grade point average, those who wanted the course but could not enroll had the second highest (2.36) and the non-Seminar students had the lowest (2.13). Standard deviations for the non-returning groups showed more differences, indicating more variability in the scores (.88, .62, .92 respectively).

Table 18
 Cumulative Grade Point Average of Three Research Groups
 by Their Returning or Non-Returning Status
 N=1,038

	Returning student						Total		
	Yes			No			Count	Mean	Std Dev
	Cumulative GPA			Cumulative GPA					
	Count	Mean	Std Dev	Count	Mean	Std Dev			
Freshman Seminar status									
Enrolled Frs Sem	385	2.56	.62	29	2.42	.88	414	2.55	.64
Wanted to didn't	292	2.48	.65	12	2.36	.62	304	2.48	.65
Did not enroll	300	2.64	.66	20	2.13	.92	320	2.61	.69
Total	977	2.56	.64	61	2.31	.85	1038	2.55	.66

Table 19 presents descriptive data regarding the division of students in the three research groups into high, medium, and low achievement groups, according to their cumulative grade point average. Again, this table further identifies the students by their returning/non-returning status. The table shows that of the 414 students who enrolled in The Freshman Seminar, 87 students had cumulative grade point averages below a C, 215 had C averages, and 112 students had B or A averages. Further, of the 29 students who participated in The Freshman Seminar and did not return for their second year, 9 had a cumulative grade point average below a C, 9 had C averages, and 11 had B or A averages.

Table 19
 Frequency and Percentage by Achievement Group of Three
 Research Groups and Their Returning or Non-Returning Status
 N=1,038

	College Achievement Group									Total
	Low: < 2.0			Medium: 2.0-2.99			High: 3.0-4.0			
	Returning student		Sub Total	Returning student		Sub Total	Returning student		Sub Total	
	Yes	No		Yes	No		Yes	No		
Freshman Seminar status										
Enrolled Frs Sem	78	9	87	206	9	215	101	11	112	414
	89.7%	10.3%	100.0%	95.8%	4.2%	100.0%	90.2%	9.8%	100.0%	100.0%
Wanted to didn't	69	2	71	154	9	163	69	1	70	304
	97.2%	2.8%	100.0%	94.5%	5.5%	100.0%	98.6%	1.4%	100.0%	100.0%
Did not enroll	49	8	57	154	8	162	97	4	101	320
	86.0%	14.0%	100.0%	95.1%	4.9%	100.0%	96.0%	4.0%	100.0%	100.0%
Total	196	19	215	514	26	540	267	16	283	1038
	91.2%	8.8%	100.0%	95.2%	4.8%	100.0%	94.3%	5.7%	100.0%	100.0%

Table 20 presents the summary statistics regarding the two-way analysis of covariance test of significance with cumulative grade point average as the dependent variable and participation in The Freshman Seminar and returning/non-returning status as independent variables:

Table 20
Analysis of Covariance on Cumulative Grade Point Averages Using Returning/Non-Returning Status and Participation in The Freshman Seminar, With SAT and High School Grade Point Averages as Covariates N=977

	SS	DF	MS	F	Sign. of F
Source of Variation					
Within Cells	332.75	969	.34		
Regression	82.18	2	41.09	119.66	.000
FS Group	1.85	2	.92	2.69	.068
Return Group	1.83	1	1.83	5.34	.021
FS Group by Return	1.70	2	.85	2.48	.084

The two-way analysis of covariance showed that there was a significant difference in cumulative GPA (after adjusting for SAT and high school grade point averages) between returning students and non-returning students at the .05 level of significance. The returning students had statistically significantly higher grade point averages than the non-returning students, but there were no differences by research group.

Table 21 combines all the variables into one table and presents data on the three research groups according to their achievement groups, their institutional integration score, and their returning or non-returning status.

Table 21

Institutional Integration by Achievement Group and by Three
 Research Groups and Their Returning or Non-Returning Status
 N=1,038

	College Achievement Group											
	Low: < 2.0						Medium: 2.0-2.99					
	Returning student						Returning student					
	Yes			No			Yes			No		
	Inst. Integration			Inst. Integration			Inst. Integration			Inst. Integration		
	Count	Mean	Std Dev	Count	Mean	Std Dev	Count	Mean	Std Dev	Count	Mean	Std Dev
	Freshman Seminar status											
Enrolled Frs Sem	78	109.35	12.85	9	105.44	8.49	206	115.43	12.61	9	100.44	8.14
Wanted to didn't	69	110.77	11.78	2	74.50	10.61	154	113.91	11.72	9	103.67	12.58
Did not enroll	49	111.41	11.67	8	102.25	9.35	154	113.53	12.02	8	113.00	16.16
Total	196	110.36	12.16	19	100.84	12.68	514	114.40	12.18	26	105.42	13.17

(continued)

	College Achievement Group						Total		
	High: 3.0-4.0						Count	Mean	Std Dev
	Returning student								
	Yes			No					
	Inst. Integration			Inst. Integration					
	Count	Mean	Std Dev	Count	Mean	Std Dev			
	Freshman Seminar status								
Enrolled Frs Sem	101	120.25	12.41	11	113.55	12.57	414	114.87	13.16
Wanted to didn't	69	116.70	12.44	1	115.00	.	304	113.27	12.52
Did not enroll	97	116.53	12.82	4	116.25	16.21	320	113.85	12.49
Total	267	117.98	12.64	16	114.31	12.63	1038	114.09	12.77

CHAPTER 5
DISCUSSION AND CONCLUSIONS

This chapter includes a brief summary of the theory and design of this investigation and the discussion for each hypothesis tested. Limitations are noted and recommendations are suggested for future research.

Summary

Higher educational institutions are placing an increasing emphasis on student retention programs for administrative, economic, and humanistic reasons. Decline in college enrollments is a major concern to these institutions. In attempting to explain attrition, Vincent Tinto (1975, 1987) developed a theory of student departure which stated that leaving college can be viewed as a process of interactions between the individual student and the academic and social environment of the college and that, other things being equal, the greater the extent of academic and social integration of the student into the college community, the more likely the student is to persist to graduation.

This study was undertaken to investigate the effectiveness of The Freshman Seminar at Appalachian State University for improving both retention and grade point average, as well as increasing students' academic and

social (institutional) integration. During the summer of 1989, 1,948 full-time freshmen students at Appalachian State University completed the Entering Freshman Survey (EFS). The EFS collected information on personal characteristics, background information, and students' expectations on a variety of activities that described academic and social integration. During the spring of 1990, 1,755 freshmen students completed the Freshman Follow-up Survey (FFS) which collected information on students' experiences with, and participation in, the academic and social integration activities described in the EFS. In the fall of 1990, the University identified the retention status of those freshmen. A sample of 1,038 students who completed both surveys and on whom retention information was available was used as the population of interest. These students were divided into a treatment group (students who enrolled in The Freshman Seminar) and two comparison groups (students who did not enroll in the Seminar and students who wanted to enroll but could not because of lack of space). Statistical analyses were performed to determine if The Freshman Seminar made a significant difference in students' retention to the sophomore year, their cumulative grade point average, and their integration into the college community.

Discussion

The findings of this study corroborate the hypothesis that there is a significant difference between the

integration scores of returning and non-returning students, after adjusting for students' initial expectations (Hypothesis 1). This finding validates Tinto's (1975, 1987) theory of the importance of institutional integration to student persistence. It also supports earlier research by Pascarella and Terenzini (1980, 1983), Stage (1985), and Terenzini and Pascarella (1977).

No statistically significance differences in integration scores by research group were, however, found (Hypothesis 2a). This finding is similar to that of Tammi (1987), even though she measured institutional integration with a different scale (the Adjective Rating Scale) and compared only two groups (participants in The Freshman Seminar and non-participants).

There are several reasons that may explain this result. First, the factors that defined institutional integration i.e. peer group interactions, interactions with faculty, faculty concern for teaching and student development, academic and intellectual development, and institutional and goal commitments are factors that students encounter in other classes besides The Freshman Seminar and in their other campus involvements. Thus, a student who was not enrolled in The Freshman Seminar could have developed quality relationships with other faculty members and fellow students that would cause him/her to rate high those questions on the FFS pertaining to

student-faculty interactions and peer interactions. Further, Appalachian State University, a largely residential college, puts a high priority on small classes taught by full-time faculty and on a community-like environment that encourage both faculty-student interaction and student-student interaction. Academic and personal development, two goals of The Freshman Seminar, are also emphasized both in classes and in student organizations. Lastly, questions on the EFS regarding institutional and goal commitments revealed that as entering students, 94% of the study population ranked Appalachian as their first or second choice of a school to attend and 85% of them were confident or extremely confident that they had made the right choice in attending Appalachian. This indicates that initially they were confident in their choice of a college and had a positive identification with it, and participation in The Freshman Seminar did not alter these perceptions of Appalachian as the place they wanted to be.

A chi-square test of statistical significance was performed on the retention rates of the three research groups in order to test the hypothesis that there was a difference in the retention rates of the three groups (Hypothesis 2b). The test revealed no significant differences in the retention rates among the three groups. These results may be partially explained by the fact that the freshman-to-sophomore return rate for the entire class

of freshmen who enrolled at Appalachian in the fall of 1989, according to the Office of Institutional Research, was 86.3%. This rate is somewhat higher than the freshman-to-sophomore return rates at Appalachian for the last ten years which ranged from 74.8% in 1980 to 86% in 1989. It is also higher than the rates reported in recent retention literature. For example, Beal and Noel (1980) reported a 66% return rate; Brasher, Jones, and Blom (1980) reported a 70% return rate; and Noel et al. (1985) reported a 68% return rate. Ceiling effects, or interaction of selection (the research groups) and the instrumentation (retention rates), may be present (Vockell, 1983). When an institution is already producing above average results, it is more difficult to show large gains than it would be if the institution had low retention rates since there is not much room for improvement.

The unusually high freshman-to-sophomore return rate at Appalachian can be attributed to several factors. The University has increased the quality of its recruiting efforts and printed materials. It has accentuated its unique setting and its emphasis on academic quality, a small faculty-student ratio, attention to the individual needs of students, and its sense of community. It has also admitted better qualified students than in past years who have higher high school grades and SAT scores and who tend to remain in school and to graduate. Further, the

University has been cited in several national surveys as an outstanding public, comprehensive university (U. S. News and World Report and Money), reinforcing its positive image and contributing to its attractiveness to students.

Lastly, it has instituted and supported a number of programs in the last six years that were targeted toward the academic and personal growth of the students, toward bonding the student to the University, and toward improving retention. In addition to The Freshman Seminar, these programs include an expanded and comprehensive academic advising and orientation program, improved student development opportunities through residence halls and clubs and organizations, and increased academic support services which comprise a University-wide tutorial program as well as special services for disadvantaged, learning disabled, handicapped, and adult students and athletes.

None of the variables studied in Hypothesis 3a was an accurate predictor of retention. This result is consistent with some of the literature which reported that there is no association between precollege characteristics and retention (Bean, 1980; Eddins, 1982; Fetters, 1977; Pascarella & Terenzini, 1980, 1983; Terenzini, Pascarella, Theophilides, & Lorang, 1983). However, this finding is in contrast to Tinto's (1975, 1980) conjecture that precollege characteristics directly influence retention/persistence.

One explanation for the fact that in this study precollege characteristics had no effect on persistence is that the student population at Appalachian is very homogeneous (e.g. 93% of the research population was Caucasian American and 96% of them were 17 or 18 years of age). According to Light, Singer, and Willett (1990), when unnaturally restricted or homogeneous samples are studied, the variability of the predictors or the outcomes will be decreased and the likelihood of detecting an effect will be diminished. This is the concept of range restriction. These authors stated that when a select subsample is used, particularly in single-institution studies which are limited to students who met the institutional criteria for admission, a restriction of range may appear in both the predictor and the outcome. If the research population had been more heterogeneous, it is likely that precollege characteristics would have affected retention.

When The Freshman Seminar was added as a possible predictor (Hypothesis 3b), it also showed no predictive validity. Therefore, it was not possible to isolate the Seminar as a valid independent variable because of the homogeneity of the research population and the fact that other programs and services on campus may affect retention/persistence.

Correlations between course evaluation scores and institutional integration scores were computed (Hypothesis

4). The results were positive and in the right direction, but the results were not meaningful because of low amounts of variability. A further correlation among seminar evaluations, institutional integration, and returning/non-returning status was performed. These results showed that there was a correlation between evaluation scores, expected integration scores, and returning/non-returning status. Non-returning students who had low initial expectations also had low course evaluations and those who had high expectations had high course evaluations, a statistically significant correlation. It seems reasonable to conclude that students' initial expectations influence their perspective of their experiences.

Tests to determine differences in the cumulative grade point averages (CGPA) of the three research groups, regardless of their returning or non-returning status, (Hypothesis 5a) revealed that there were no statistically significant differences in cumulative grade point averages among the three research groups. However, further tests revealed that differences between cumulative grade point averages and returning and non-returning status were statistically significant. The fact that non-returning students had statistically significantly lower college cumulative grade point averages is not surprising. Most studies cited in the literature found a significant

relationship between academic performance in college and student attrition/retention after other variables were controlled (Aitken, 1982; Astin, 1975; Beal & Noel, 1980; Bean, 1980; Demitroff, 1974; Lenning, 1982; Odutola, 1983; Peng & Fetters, 1978; Ramist, 1981; Ruddock & Wilkinson, 1983; Summerskill, 1962; Tinto, 1975, 1987).

The fact that there were no statistically significant differences by research group was, however, disappointing. One possible explanation may be the number of academic support services that were available to all students at the University. These include the University-wide tutoring program, learning skills courses and workshops, and the Supplemental Instruction program that is available in the History and Biology departments, two departments which have a large number of freshman students taking classes. Through these various support programs, students were exposed to study and learning skills and gain assistance with difficult courses so that they are able to successfully complete their academic work. Thus, Seminar and non-Seminar students were able to receive academic support in the form of study skills and tutoring.

The summary tables point out an interesting fact. Eleven students who were in The Freshman Seminar and in the high achievement group did not return for their second year. One would assume that students who are doing well academically and had good institutional integration scores

would also have high retention rates. Related literature would suggest that such students (or students in similar circumstances) would have non-academic reasons for withdrawing from school such as family, personal, or financial problems or concerns (Lenning, Beal, & Sauer, 1980). This would be useful information for institutions to obtain through follow-up studies.

Conclusions

Several general conclusions seem warranted from these results. First, since returning students had significantly higher integration scores than the non-returning students, it appears that the integration factors outlined in Tinto's (1975, 1987) model of student departure were directly related to student persistence. This would suggest that the quality of the students' experiences in the collegiate environment subsequent to enrollment is an important influence in persistence. This conclusion was strengthened by the fact that students' expectations of their integration into the college community were controlled, indicating that their expectations had no interaction with persistence. This result validated Tinto's (1975, 1987) theoretical model as well as the studies by Pascarella and Chapman (1983) and Pascarella and Terenzini (1978, 1980, 1983).

Secondly, the study corroborated studies which reported that student performance in college was directly related to

retention/persistence. That is, returning students had higher grade point averages than non-returning students. This finding was consistent with the majority of the research on college achievement and retention (Aitken, 1982; Astin, 1975; Beal & Noel, 1980; Bean, 1980; Demitroff, 1974; Lenning, 1982; Odutola, 1983; Peng & Fetters, 1978; Ramist, 1981; Ruddock & Wilkinson, 1983; Summerskill, 1962; Tinto, 1975, 1987). This finding was strengthened by the fact that college achievement was examined independently of SAT scores and high school grade point average.

It also appears that participation in The Freshman Seminar had no significant, direct effect on integration, achievement, or retention/persistence, using the statistical procedures utilized in this investigation. However, this finding does not mean that The Freshman Seminar was not effective in meeting its goals and objectives. It may simply mean that the present study was unable to detect how The Freshman Seminar influences institutional integration, college achievement, and retention.

However, the Seminar may have indirect effects on persistence through such auxiliary areas as intellectual development, personal development, study skills, and/or career development, and these dependent factors influenced persistence. According to Pascarella (1986), "indirect

effects reflect the impact of an intervention on persistence through some intervening variable (e.g., if A positively influences B, and B positively influences C, then A has a positive indirect effect on C through B)" (p. 105). The Freshman Seminar may enable students to cope with challenging academic and social experiences; the process of applying these coping skills and developing successful integration strategies may be a factor that directly affects persistence.

Limitations

This study had several limitations. First, it was a single-institution, single-sample study conducted over a period of one academic year. Therefore, caution should be taken in generalizing the results to other institutions. Some researchers have found substantial variability among different institutions when testing the specific factors associated with integration and persistence (Pascarella & Terenzini, 1977, 1980, 1983; Terenzini, Lorang, & Pascarella, 1981; Terenzini, Pascarella, Theophilides & Lorang, 1983).

Self-selection bias was a second limitation of this study. Students were not randomly assigned to the research groups. In an effort to offset this bias, the third research group (composed of students who wanted to enroll in The Freshman Seminar but were unable to do so) was examined. Further, demographic data, student course

evaluations, students' initial expectations of integration, and student precollege achievement were used as controlling variables in order to minimize initial differences that might have an effect on the outcome. The following steps were taken to limit the effects of the self-selection bias: (1) a quasi-experimental research design was used; (2) the dependent variables were identified as cumulative grade point average, persistence to the sophomore year, and institutional integration; and (3) the variables judged to be most likely to have an effect on the dependent variables (age, gender, ethnicity, father's and mother's educational levels, total family income, high school rank in class, and combined SAT scores) were statistically controlled.

A further limitation was that the number of non-returning students was small, resulting in a restriction of the range, discussed earlier. A larger number of students in this category would have made for stronger comparisons and thus for stronger tests of significance and, possibly, different results.

Lastly, instrumentation was a limitation of the study. The study's results may reflect the ways in which institutional integration was defined. It is possible that different factors and/or different questions relating to each factor would have produced different responses. Although this study was guided by Tinto's (1975, 1987) theoretical model and other studies which validated it, the

findings may nevertheless reflect the particular operational definitions of the model's important factors.

Given these limitations, however, the findings suggest certain implications for higher educational institutions. First, the study would underscore the fact that the experiences of students once they are enrolled in college may be more important than their expectations of their collegiate experience. After expected integration scores were controlled, students who returned for the second year had higher integration scores than students who did not return. Activities, programs, and attitudes that are present during the freshman year directly influenced the students' feelings of belonging and, in turn, their decisions to return for their second year. Institutions which are struggling to increase their retention rates can find confirmation in this study to focus on activities and services that tend to bond the student to the institution and involve them in the life of the college community as a means of increasing their retention.

Recommendations for Further Study

Several recommendations for further research grow out of this study.

1. A study focusing on the specific components of institutional integration that accounted for the direct relationship between integration scores and persistence would more clearly isolate the particular factors that influenced student retention.

2. A follow-up study using selected post hoc interviews of returning and non-returning students would corroborate this study.

3. A study which disaggregates the influencing factors into direct and indirect effects, particularly testing the indirect effects of participation in The Freshman Seminar, would more clearly show the effectiveness of participation in the Seminar.

4. A follow-up study four years and five years after entry would provide longitudinal data on the long-term effects of freshman year experiences on retention/persistence.

5. A replication of this study at an urban institution with a more diverse population would provide additional data on the effects of background variables and participation in The Freshman Seminar on retention.

With an 86.3% freshman-to-sophomore retention rate, it is obvious that Appalachian is doing something that encourages students to be committed to the institution. Within the confines of this study, however, it was impossible to specify what the contributions of The Freshman Seminar were to this retention rate.

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APPENDIX A

ENTERING FRESHMAN SURVEY

This survey is being administered at Appalachian State University to obtain information about the characteristics and expectations of entering freshmen. Please answer all questions honestly. All answers are confidential and will be used for research purposes only.

Please understand that your participation is completely voluntary and that your participation may be discontinued at any time without any adverse consequences for you.

DIRECTIONS: Please use the accompanying computer form to answer all questions. On side 2 of the answer sheet write in the following information and darken the circles under the appropriate number or letter:

Name: Write your last name first in the space

ided

prov

Sex: Shade the circle beside female or male in the space provided

Social security number: In the area labeled Identification Number, write your social security number

Age: In the area labeled Special Codes, write your age in the two spaces to the far right

Directions: For questions 1-13, darken in the circle beneath the letter of the answer of your choice. Please darken only one circle for each question.

1. What is your ethnic background?
 - A. White/Caucasian American
 - B. Black American
 - C. Hispanic American
 - D. Asian American
 - E. Other

2. During your last year in high school, in how many extracurricular activities did you spend, on the average, more than 2 hours per week? (include clubs, organized athletics, etc.)?
 - A. None
 - B. One
 - C. Two
 - D. Three
 - E. More than three

3. What is the highest academic degree you expect to obtain?
 - A. Bachelor's degree (BA, BS, BSBA, BFA, etc.)
 - B. Master's degree (MA, MS, MBA, etc.)
 - C. Ph.D., Ed.D, Doctor of Medicine, Dentistry, Veterinary Medicine
 - D. Law degree (J.D.; LL.B.)
 - E. Other

4. When applying to colleges, was Appalachian your:
 - A. First choice
 - B. Second choice
 - C. Third choice
 - D. Fourth choice or lower choice

5. How important is it to you that you graduate from college? (choose one)
 - A. Not at all important
 - B. Somewhat important
 - C. Very important
 - D. Extremely important

6. How confident are you that you made the right decision in choosing to attend Appalachian? (choose one)
 - A. Not at all confident
 - B. Somewhat confident
 - C. Very confident
 - D. Extremely confident

7. What is your family's total annual income?
 - A. Less than \$15,000
 - B. \$15,000-\$35,000
 - C. \$36,000-\$55,000
 - D. \$56,000-\$75,000
 - E. More than \$75,000

Questions 8 and 9 refer to your father's highest educational level. Please answer both questions.

8.
 - A. Elementary school or less
 - B. Some high school
 - C. High School graduate
 - D. Some college education (not a 4 year degree)
 - E. None of the above

9.
 - A. Less than a four year college graduate
 - B. College graduate (from four year college)
 - C. Some graduate education
 - D. Graduate degree (master's, specialist's, law degree, pharmacy degree)
 - E. Doctoral degree (Ph.D., Ed.D., M.D.)

Questions 10 and 11 refer to your mother's highest educational level. Please answer both questions.

10. A. Elementary school or less
B. Some high school
C. High school graduate
D. Some college education (less than 4 years)
E. None of the above
11. A. Less than a four year college graduate
B. College graduate (from a four year college)
C. Some graduate education
D. Graduate degree (master's, specialist, law degree, pharmacy degree)
E. Doctoral degree (Ph.D., Ed.D., M.D.)
12. Of the faculty members you will be in contact with during the coming year, how many times per month do you expect to meet informally with any one of them outside of class for 10 minutes or more?
A. None
B. Once
C. Twice
D. Three times
E. More than three times
13. Do you want (or plan) to enroll in the Freshman Seminar course (US 1530)?
A. Yes
B. No

DIRECTIONS: For questions 14-41, please choose the response that is most like you and shade in your answer on the answer sheet using the following responses (please darken only one circle for each question):

- A. Strongly agree
 - B. Agree
 - C. Not sure
 - D. Disagree
 - E. Strongly disagree
14. I expect my courses at Appalachian this year to be intellectually stimulating.
 15. I expect to be satisfied with my academic experience at Appalachian.
 16. I expect to attend more cultural events (for example, a symphony, lecture, or art show) than I did before enrolling.

17. I expect to be satisfied with the extent of my intellectual development while enrolled at Appalachian.
18. I expect my interest in ideas and intellectual matters to increase at Appalachian.
19. I expect to have an idea of what to major in by the end of my freshman year.
20. I expect my academic experience at Appalachian to have a positive influence on my intellectual growth and interest in ideas.
21. Getting good grades is not important to me.
22. I expect to perform academically as well as I want to.
23. I expect my interpersonal relationships with other students at Appalachian to have a positive influence on my intellectual growth and interest in ideas.
24. I expect to develop close personal relationships with other students at Appalachian.
25. I expect the student friendships I develop at Appalachian to be personally satisfying.
26. I expect my interpersonal relationships with other students at Appalachian to have a positive influence on my personal growth, values, and attitudes.
27. I expect it to be difficult for me to meet and make friends with other students.
28. I expect that few of the students I know will be willing to listen to me and help me if I have a personal problem.
29. I expect that most students at Appalachian will have values and attitudes which are different from my own.
30. I expect to be satisfied with the opportunities at Appalachian to meet and interact informally with faculty members.
31. I expect that few of the Appalachian faculty I will have contact with to be willing to spend time outside of class to discuss issues of interest and importance to students.
32. I expect to develop a close, personal relationship with at least one faculty member at Appalachian.

33. I expect that my nonclassroom interactions with Appalachian faculty members will have a positive influence on my intellectual growth and interest in ideas.
34. I expect that my nonclassroom interactions with Appalachian faculty will have a positive influence on my personal growth, values and attitudes.
35. I expect that my nonclassroom interactions with Appalachian faculty will have a positive influence on my career goals and aspirations.
36. I expect that few of the Appalachian faculty members I will have contact with will be genuinely outstanding or superior teachers.
37. I expect that few of the Appalachian faculty members I will have contact with will be genuinely interested in students.
38. I expect that most Appalachian faculty members I will have contact with will be genuinely interested in teaching.
39. I expect that most Appalachian faculty members I will have contact with will be interested in helping students grow in more than just academic areas.
40. I expect to graduate from Appalachian.
41. I expect to register at Appalachian for my sophomore year.

Thank you for completing this survey. If you would like a copy of the results, please contact Nancy G. Spann, Director of the Learning Assistance Program, Room 200, DDD Library, ASU, Boone, N. C. 28608.

APPENDIX B

FRESHMAN FOLLOW-UP SURVEY

This survey is being administered at Appalachian State University to obtain information about the experiences of first year freshmen. Please answer all questions thoughtfully and honestly. Your cooperation is greatly appreciated and will assist Appalachian as it continually seeks to meet the needs of students during their critical freshman year.

Directions: Please use the accompanying computer form to answer all questions. On side 2 of the answer sheet, write in the following information and darken the circles under the appropriate letter. Please use #2 pencil only.

Social Security Number: In the area labeled Identification Number, write your social security number

For questions 1-3, darken in the circle beneath the letter of your choice. Please darken only one circle for each question. Start on side 1 of the computer form.

1. Did you enroll in and complete the Freshman Seminar course?
 - A. Enrolled in the course and completed it
 - B. Enrolled in the course and did not complete it
 - C. Did not enroll in the course
 - D. Wanted to enroll but could not because of space limitations

2. During the current academic year, in how many organized student activities (including athletic activities) did you spend, on the average, two or more hours per week?
 - A. None
 - B. One
 - C. Two
 - D. Three
 - E. More than three

3. Of the faculty members you were in contact with during the year, how many times per month did you meet informally with any one of them outside of class for 10 minutes or more?
 - A. None
 - B. One
 - C. Two
 - D. Three
 - E. More than three times

Directions: For questions 4 - 33, please choose the response that is most like you and shade in your answer on the answer sheet using the following responses: (Please darken only one circle for each question.)

- A. Strongly agree
 - B. Agree
 - C. Not sure
 - D. Disagree
 - E. Strongly disagree
4. Few of my courses this year have been intellectually stimulating.
 5. I am satisfied with my academic experience at Appalachian.
 6. I am more likely to attend a cultural event (for example, a concert, lecture, or art show) now than I was before coming to Appalachian.
 7. I am satisfied with the extent of my intellectual development since enrolling at Appalachian.
 8. My interest in ideas and intellectual matters has increased since coming to Appalachian.
 9. I have no idea at all what I want to major in.
 10. My academic experience at Appalachian has had a positive influence on my intellectual growth and interest in ideas.
 11. Getting good grades is not important to me.
 12. I have performed academically as well as I anticipated I would.
 13. My interpersonal relationships with other students at Appalachian have had a positive influence on my intellectual growth and interest in ideas.
 14. Since coming to Appalachian, I have developed close personal relationships with other students.
 15. The student friendships I have developed at Appalachian have been personally satisfying.
 16. My interpersonal relationships with other students at Appalachian have had a positive influence on my personal growth, values and attitudes.

17. It has been difficult for me to meet and make friends with other students.
18. Few of the Appalachian students I know would be willing to listen to me and help me if I had a personal problem.
19. Most students at Appalachian have values and attitudes which are different from my own.
20. I am satisfied with the opportunities at Appalachian to meet and interact informally with faculty members.
21. Few of the Appalachian faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students.
22. Since coming to Appalachian, I have developed a close, personal relationship with at least one faculty member.
23. My nonclassroom interactions with Appalachian faculty members have had a positive influence on my intellectual growth and interest in ideas.
24. My nonclassroom interactions with Appalachian faculty have had a positive influence on my personal growth, values and attitudes.
25. My nonclassroom interactions with Appalachian faculty have had a positive influence on my career goals and aspirations.
26. Few of the Appalachian faculty members I have had contact with are genuinely outstanding or superior teachers.
27. Few of the Appalachian faculty members I have had contact with are genuinely interested in students.
28. Most Appalachian faculty members I have had contact with are genuinely interested in teaching.
29. Most of the Appalachian faculty members I have had contact with are interested in helping students grow in more than just academic areas.
30. It is important for me to graduate from college.
31. It is important to me to graduate from Appalachian State University.

32. I am confident that I made the right decision in choosing to attend Appalachian.
33. It is likely that I will register at Appalachian in the fall.

Thank you for completing this survey. If you would like a copy of the results, please contact Nancy G. Spann, Director of the Learning Assistance Program, Room 200, DDD Library, ASU, Boone, N. C. 28608.

Appendix C

Evaluation
The Freshman Seminar
Fall, 1989

Indicate the degree to which the following statements are descriptive of your experience in this course. Use the following scale:

- A - Strongly disagree
- B - Disagree
- C - Neutral (No strong feeling)
- D - Agree
- E - Strongly agree

1. This course increased my knowledge of the variety of ASU offices and services available to assist students.
2. This course has helped me develop more effective study skills.
3. This course has helped me develop new friendships with other freshmen students.
4. This course has helped me learn to appreciate cultural and artistic activities.
5. This course has helped me clarify my educational goals.
6. This course has helped me take responsibility for my education and my personal growth.
7. I would recommend this course to other freshmen students.
8. The instructor of this course was well prepared for classes.
9. Grading in this course was fair and clearly explained.
10. The course material was well chosen and helpful.
11. I felt comfortable discussing questions and problems in class.
12. The instructor of this course showed caring and concern for me.