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for Community Colleges
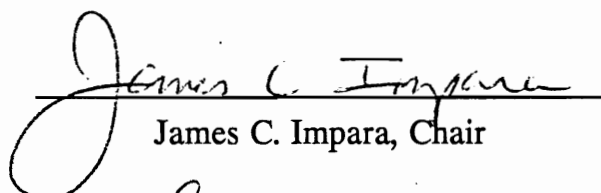
by

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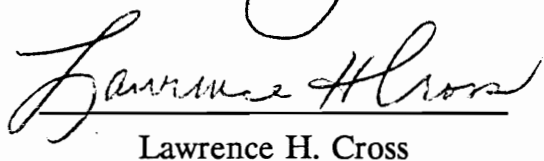in partial fulfillment of the requirements for the degree of

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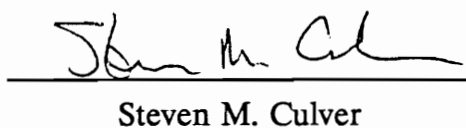
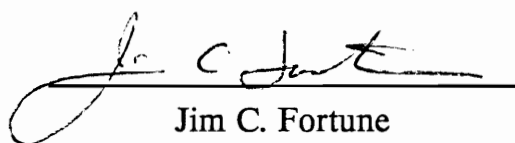in

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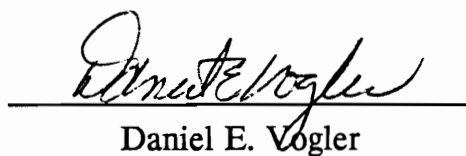
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Blacksburg, Virginia

A COMPARISON OF TWO DEFINITIONS OF SUCCESS FOR COMMUNITY COLLEGES

by

Jean Myers Williams

Committee Chairman: James Impara
Educational Research and Evaluation

(ABSTRACT)

This study examined community college students' educational goals at the time of first enrollment in college and the status of attainment of those goals two and four years later. A comparison of the traditional definition of success for community college students - on time graduation or transfer to a four-year institution - and a definition reflecting Southern Association for Colleges and Schools criteria for institutional effectiveness was conducted to determine what effect changing success criteria would have numbers of students who are considered successful. Between 1985 and 1989, 11,553 student attending community colleges in southwestern Virginia were tracked to determine the degree to which they attained entry level educational goals. Students who enrolled for the purpose of attaining a credential were more likely to graduate and to exceed their educational goals than their non-degree-seeking counterparts. Non-degree-seekers were more likely to attain their educational goals exactly and then discontinue their community college enrollment. Differences among demographic groups are discussed and suggestions for policymakers are given.

ACKNOWLEDGEMENTS

possible by providing access to the centralized computing system on campus and being the first person to provide his college's data. I am grateful for his faith in my ability as well as his kindness in opening doors for me so other community colleges would follow his lead and allow me to use their data.

My mother served as a motivator without equal as she frequently told me about the accomplishments of her friends' children, ending each conversation with, "And when will **you** finish **your** paper?"

Finally, the two most important people in my life have sacrificed so much so that I could pursue this goal. There is no way I can ever thank them for all of the little things they have done to help me through this process. Jonathan spent the majority of his formative years having to deal with a "Graduate Student Mom" and never complained when he had to fend for himself on class nights or wait for a study break to get the attention he so richly deserved. I hope I have provided him with a positive role model as he strives to make his dreams come true, embarking on a similar journey down a slightly different path.

My husband David willingly provided enormous financial and emotional support throughout the "graduate school years". He was always available to help me through the rough spots and provided balance to my life when I tended to spend too much time in the pursuit of knowledge and not enough in the pursuit of happiness. His unwavering faith and optimism are constant reminders that I have a dear friend on my side. More than anyone else, he helped make this goal attainable.

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CHAPTER 1

INTRODUCTION

Background

During the late 1950's and early 1960's community colleges began operating

in the United States. From the first private junior college, which opened in the

early days of this century, the number has snowballed, and there are now

community colleges in all fifty states. The phenomenal growth between 1963 and

the end of the decade of the 1980's has led to challenges for community college

administrators. In 1963, 63 percent of two-year college students were male. In

1989, only 45 percent were male. . . . The participation rates of women,

minorities and working adults increased significantly in the 70's and 80's. (Wilson,

1989)

This phenomenal growth is partially the result of an emphasis on access to

the educational system. During the 20-year period between 1963 and 1983,

colleges were considered successful if they enrolled more students each year,

regardless of why the students enrolled or what happened to them after

enrollment. (Richardson, 1986, p. 28) "This tendency has produced a downside

to the growth success of the past two decades. In some communities, two-year

institutions are viewed . . . as centers for leisure-time activities, social-welfare

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institutions, or places for underprepared learners, but not as educational institutions providing excellent opportunities." (Wilson, 1989, p. 2)

In 1983, the National Commission on Excellence in Education published a broad-reaching, comprehensive essay about the status of the nation's public school system with its publication of A Nation At Risk. While this was not the first document to address the topic of "what's wrong with our schools", it was the first nationwide study in a number of years to outline specific steps which needed to be taken to identify and address the problems and hopefully to bring about needed changes. Among the recommendations was the suggestion that schools attempt to assess how well their students were learning through a scientifically designed system of measuring the outcomes of a public school education. Information obtained from such an assessment should be used to improve school programs for the benefit of student learning.

In 1984, following closely on the heels of A Nation At Risk, the National Institute of Education (NIE) issued its own set of recommendations in a report entitled Involvement In Learning. In the opening remarks of this document, the authors stated that

> When the report of the National Commission on Excellence in Education
> was released in the spring of 1983, its recommendations stimulated a
> tremendously positive period of self-examination and reform in American
> education, particularly at the elementary and secondary school levels. But
> the Commission's background work provided two other valuable services for

all those who care deeply about education in the United States: first, it underscored the ways in which higher education influences the other levels of education; and secondly, it drew our attention to the need for using the knowledge base, the results of research, to inform our debates concerning improvement in education. (National Institute of Education, 1984, p. ix)

In other words, what A Nation At Risk did for elementary and secondary schools, Involvement in Learning hoped to do for postsecondary education. While not so highly critical of the system as a whole as the earlier work, the authors of this report did attempt to pinpoint specific problems inherent in the system of higher education in the United States. Among these problems was the fact that many colleges did not know the extent to which their students were learning, or what the students "took with them" when they left postsecondary institutions. There seemed to be few systematic methods in place to measure the value which attendance at a postsecondary institution added to a person's quality of life. The authors of this report found this to be an area in need of improvement and recommended, among other things, that:

1.   Faculty and academic deans should design and implement a
      systematic program to assess the knowledge, capacities, and skills
      developed in students by academic and co-curricular programs.
      (p. 55)

2.   Accrediting agencies should hold colleges, community colleges, and universities accountable for clear statements of expectations for student learning, appropriate assessment programs to determine whether those expectations are being met, and systematic efforts to improve learning as a result of those assessments. (p. 69)

3.   State officials should establish special and alternative funding for both public and private institutions to encourage efforts that promote student involvement and institutional assessment. (p. 70)

It seems that institutions of higher education, accrediting agencies and state officials across the nation have taken these recommendations seriously, as they have established programs to assess the outcomes of higher education for students. Most of the nation's accrediting agencies have instituted requirements that colleges assess the effectiveness of institutional programs, and that a part of that assessment should be a close look at student outcomes. The Southern Association of Colleges and Schools (SACS) devoted an entire section of its Criteria for Accreditation (1984) to issues dealing with institutional effectiveness - research, planning and evaluation.

In addition, state governing agencies and legislatures have handed down mandates that require institutions to examine the effects of a college education in order to justify to constituents that tax monies are being spent on quality programs which will have long-term benefits. By 1988, only fourteen states had

not established some sort of program to assess the outcomes of higher education. (National Governors' Association, 1988, p. 39) Some of these programs were tied to funding while others were tied to licensing or simply reporting information to appropriate agencies to satisfy the mandates.

Requirements for assessment of student outcomes range from periodically ascertaining "the change in the academic achievement of their students" (Southern Association of Colleges and Schools, 1984, p. 9) to outlines of specific information which should be collected. Such information usually includes

peer evaluation of educational programs; structured interviews with students and graduates; changes in students' values as measured by standard instruments or self-reported behavior patterns; pre-and post-testing of students; surveys of recent graduates; surveys of employers of graduates; student scores on standardized examinations or locally constructed examinations; performance of graduates in graduate school; performance of graduates of professional programs on licensure examinations; or, the placement of graduates of occupational programs in positions related to their fields of preparation. (pp. 9-10)

Statement of the Problem

As a result of their twenty-year policy of open access, community colleges find themselves serving a clientele with varying degrees of educational preparedness. "The typical community college . . . often serves clientele ranging

from third grade reading levels to college levels." (Richardson, 1986, p. 4) The influx of females and minorities, combined with the number of low-achieving students, has created a student body with such needs as financial aid, day care programs, and tutorial or remedial assistance.

The diversity of community college populations is further illustrated by the fact that students enroll for a wide variety of reasons, such as: to earn an Associate degree; to obtain transfer credit; to take courses required by their chosen profession; to prepare for a career change; and to learn more about a topic of interest to them, often with no educational or vocational goals in mind and no concern for receiving credit for their work. (Obetz, 1987, p.1)

Community colleges are becoming increasingly concerned with the extent to which students achieve defined educational objectives (Richardson, 1986, p. 2) This concern represents a shift away from measuring success in terms of participation, or equality of opportunity, and toward measurement of excellence in terms of achievement of educational goals.

"A major concern of community college administrators is the large number of students who attend college without completing certificate, diploma, or degree requirements. . . . This trend is illustrated by large attrition rates at many community colleges and the proliferation of short-term programs designed to attract students. One approach recommended to combat these problems is to place top priority for the remainder of this decade upon doubling the number of associate degrees awarded. Additionally, accrediting agencies are revising the

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criteria by which institutions are evaluated to incorporate more emphasis on student outcomes and institutional effectiveness." (Wilson, 1989, p. 2)

The Southern Association of Colleges and Schools (SACS) now focuses on learning outcomes, specifically concentrating on institutional effectiveness defined as "ongoing" documented comparison of performances to the institution's future mission and purpose. (Southern Association of Colleges and Schools, p. 4) "This new focus implies that institutional effectiveness is determined by examining how well an institution meets and fulfills the specific needs of the area that it serves." (Wilson, 1989, p. 6) "Too often, the effectiveness of community college education has been evaluated almost exclusively in terms of the number of degrees granted and the number of students transferring to four-year colleges and universities. While these statistics are certainly important, they do not adequately describe the diversity of student goals or the variety of desirable outcomes produced through the community college experience." (Commission on the Future of Community Colleges, 1987, p. 46)

"To apply any traditional measure of success, where success is defined as the attainment of a degree, would ignore the fact that many students never intend to earn a degree. Therefore it becomes necessary to construct a measure that adequately allows for both the diversity of student intentions at enrollment, and institutional baselines that will enable the separation of those who have achieved a satisfactory level of progress from those who have not." (Obetz, 1987, p.1) Administrators and faculty at community colleges are beginning to examine

alternative ways of measuring the success of students for whom traditional measures are inappropriate. One alternative is to compare students' stated educational goals with the extent to which these goals are being met, i.e., how successful are students in attaining their stated goals. This alternative would define success in terms of *goal* attainment rather than *credential* attainment, and is particularly appropriate for students with no desire or commitment to persist in their studies until graduation. Using goal attainment as a success criterion takes into account the diversity of intentions and degrees of commitment present among community college students.

A second alternative is to consider the protracted attendance patterns typical of community college students and measure success after an extended period of time rather that at the end of only two years of study. By giving the same students four of more years in which to complete their studies, a more accurate picture of community college effectiveness will emerge.

An examination of the ERIC document system since 1966 and other current sources of literature in the field of educational research, student attrition and retention research, student services or database management turned up no studies dealing with community college student entry goals and their relationship to outcomes assessment issues. This study is an attempt to "fill that gap", to provide a model for collection of educational goal information before students enroll in college, and to discuss methods for utilization of such information for the

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assessment of educational outcomes and, more importantly, for the improvement of learning.

Many published studies have dealt with graduates, their degree of success after graduation, satisfaction with college experiences, contributions to society after graduation and employer satisfaction with skills obtained by students while enrolled in college. While these are important points to be considered for students who want a credential, they ignore those students who enroll in college for reasons other than credential attainment. During the five fall semesters from 1985 - 1989, 100,177 students enrolled in the community college system in Virginia, while only 27,203 degrees have been awarded during that time, with many students earning more than one degree (Virginia Community College System Student Enrollment Booklets, 1985-1987, Table 3J). What happens to the other (at least 72,974 in Virginia alone between 1985 and 1988) students who enroll in college but do not graduate? Has the system failed them? Have the students themselves failed?

A study conducted by the Community College System in California suggests that the answer to both of these questions is no (Slark, 1988, p.12). Slark's results indicate that students sometimes enroll in college courses with a specific purpose in mind other than graduation, and once that purpose is accomplished, they may or may not choose to enroll in additional courses. The same may be true for community college students who do not remain in college long enough to attain a credential.

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With recent mandates to assess the outcomes of a college education and the effectiveness of educational institutions, it is increasingly important to determine whether students who leave college prior to graduation or transfer do so because the institution has not met their educational needs or because they have accomplished their goals. In terms of institutional effectiveness, this distinction may make the difference between counting a student as a success or a failure on the effectiveness balance scale, and may affect curricular and organizational decisions within the institution.

The Call for Action

Alfred (1985) presents a comprehensive analysis of the impact of changing societal conditions, such as the transition to a global economy, tightening state control, change in government spending priorities, and transition in the structure of the family. In light of these conditions, one must question the utility of the associate degree as a student outcomes measure for all students. Is it possible that the degree may suffer a decline in utility among student and resource markets as changing societal conditions alter constituency needs? "To illustrate, in a labor market marked by increased emphasis on service and technological jobs, students may perceive the degree as under-education for some jobs and over-education for others." (Alfred, 1985, p. 5)

Alfred's view is shared by many people who are involved in community college education, perhaps the most notable of whom is Arthur Cohen, director of

the ERIC Clearinghouse for Junior Colleges, who characterized the community college as being vastly different from four-year colleges in a variety of ways. According to Cohen, "the community college is not like a traditional institution with a faculty dedicated to inquiry, students committed to study, and a sequestered enclave that supports both. Nor is it like the community itself . . . . The (community) college is somewhere between." (Cohen, 1986, p. 14) He encourages the development of inter-institutional connections which are made stronger when community college staff work closely with universities in order to identify and encourage transfers. Such inter-institutional connections include: (p. 19)

1.   Collecting information on intentions from entering students and alerting the institution to which they are likely to transfer so that early contact can be made.

2.   Identifying characteristics of successful transfers so that the information may be fed back to the sending institution.

Brawer, director of research at the Center for Study of Community Colleges seems to agree with Cohen about the differences between community colleges and four-year colleges. When addressing the Maryland Deans Meeting in March, 1988, Brawer stated that measures of success typically applied to senior colleges are not sufficient for two-year colleges to demonstrate their contributions. "Some community colleges offer lower-division courses for recent high school graduates

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who aspire to the baccalaureate, a group accounting for around 35% of their matriculants; progress toward degree attainment is a valid measure for that portion of their effort. But one-third of their students seek skills enabling them to gain immediate employment; 15% seek retraining or relicensure in a field in which they are already employed; and 15%, many of whom already hold degrees, take college-credit courses only for their personal interest. Half the students take only one or two classes per term. Clearly, different measures must be applied to account for institutional effect on those variant groups." (Brawer 1988, p. 2)

The first step in sorting out the variety of students, variety of goals, and variety of outcomes is to establish the reason for the students' matriculating. One may not assume that all students in transfer classes want to transfer to four-year colleges or that all students in vocational classes want to enter the job market. The fact that courses carry transfer credit is an "artifact of college accreditation, staffing and financing", (p. 6) and relates to the goals or intentions of only a portion of the students enrolled.

Addressing the Issue

The current study focuses on the educational goals held by students when they entered community colleges, the extent to which these goals were achieved or exceeded, and the types of students most likely to achieve or exceed their stated educational goals. The study was therefore guided by the following research question: **What is the effect of changing the definition of success for community**

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college students from on-time graduation (the traditional measure of success) to long-term goal attainment on measures of institutional effectiveness?

1. To what extent are traditional measures of accountability used for higher education appropriate for community colleges? Would different measures of accountability be more valid indicators of success than graduation rates?

2. To what extent do stated goals and goal-attainment differ by the following groupings?

   a. Race

   b. Gender

   c. Age

   d. Full time or part time

   e. Occupational/Technical or Arts and Sciences/Transfer Students

   f. Day or Evening Students

Significance of the Study

During the past ten years educational researchers have conducted many studies of student retention. As Brawer stated in her address to Maryland Deans, this area is an especially "'hot' topic now, one that has generated both considerable research and exhortation." (Brawer, p. 5) Brawer was correct in stating that this area has generated considerable research. In his most recent

book, Leaving College, Tinto listed no fewer than fifteen pages of references dealing with attrition/retention studies conducted primarily over the last ten years. As one of the nation's leading researchers in the area of student attrition and retention, Tinto concluded that students' educational goal or "intentions regarding participation in higher education generally and attendance at a specific institution are important predictors of the likelihood of degree completion." (Tinto, 1987, p. 40)

One problem with most retention studies, according to Brawer, is that their usefulness "is limited by the fact that they were obtained from samples of younger students. The CIRP surveys first-time-in-college-, full-time freshmen, 90 percent of whom are aged nineteen or younger. The samples in other studies are not as extremely biased, but they usually draw students only from among those taking credit courses and often use the class itself as the unit of sampling, thus skewing the sample in the direction of full-time students." (Brawer, p. 7) A second problem is that these studies rely on responses to questions such as "What is the highest academic degree you intend to obtain?" This question suggests that a degree is a goal to be reached at some point in the student's life. Few persons would admit that they never intend to go any further in the educational system since doing so would be an admission that they have closed off one of life's options (Brawer). This question also does not assess students' actual educational goals, or reasons for attending college. A third problem is that these large data sets do not provide for assessment at the individual college or even the state level.

Many administrators feel that, even if their students were included in such a large study, the results would tend to mask their institutions' contributions to individual constituents.

The ERIC Clearinghouse for Junior Colleges in Los Angeles recently published a report dealing with the types of statistical information available on two year colleges. The search for information included materials contained in ERIC, the Statistical Reference Index, the American Statistics Index, and the libraries of the University of California, Los Angeles. According to this report, the ERIC Clearinghouse on Junior Colleges frequently receives requests for information on the educational objectives of community college students. Information requested frequently includes the percent of students who intend to transfer to a four-year colleges and the percent who are enrolled to prepare for a career that does not require a baccalaureate. According to this report, only scattered data are available on the educational intent questions, and some of the available data are unreliable. "This is a critical problem for two-year colleges; often many colleges are criticized for the low proportion of students who transfer, yet many community college students are enrolled for reasons other than pursuit of a baccalaureate." (Cohen, 1985, p. 4)

In summarizing this report, Cohen states that

"Available sources of data on community colleges are useful to the researcher who needs data on total expenditures, total enrollment, and the demographic characteristics of student, faculty, and administrators. Three

limitations, however, circumscribe the value of these data in more complex research problems: (1) lack of data that are disaggregated by program of study; (2) the dearth of information on the educational objectives of students, and (3) the scarcity of information on student outcomes, i.e. the academic and vocational success of transfer students and program graduates. In the final analysis, then, most available national and state data sources are of little help in determining whether community college students meet their educational objectives and in determining how the colleges allocate resources between the academic and vocational curricula in the college program." (p. 5)

To assess whether students are achieving their educational goals, one must collect data from entering students to determine their reasons for attending college and the goals they expect to achieve while enrolled. These students may then be tracked for a number of years to understand goals and their effects on subsequent college outcomes. One of the major benefits of utilization of such a data set is that it would help researchers to assess outcomes through a thorough understanding of educational goals. While such database utilization would not enable one to assign causality, "the data can be viewed in terms of programmatic decisions, student services, and other factors that colleges can control. The main measure of goal attainment must be based on student outcomes. If you . . . can

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acquire a valid database on that alone, you will have achieved a major step in assessing student goals and outcomes." (Brawer, p. 13)

Brawer's opinions about the importance of assessing outcomes in light of student educational goals were given credence by the Commission on the Future of Community Colleges, which stated that, "a community college, tied to local community and a unique student population, should shape the elements of its own evaluation." (Commission on the Future of Community Colleges, 1987, p. 44)

Limitations of the Study

1. This study is limited to students who enrolled for the first time in the community college system in Virginia in the fall of 1985.

2. The study tracked students for only four years, a period of time which is insufficient to determine how many of the part time or occasional students will eventually either complete an organized program and obtain a credential or will attain their goals.

3. Only small to moderate size schools in rural areas of southwest Virginia are included in the population.

4. This study is based upon the assumption that students accurately reported their educational goal at the time of enrollment.

5. The racial balance of this population does not necessarily represent that of the population in general, and conclusions regarding

differences among racial categories should be generalized with great care.

CHAPTER 2

REVIEW OF RELATED LITERATURE

To close observers, the quality of higher education in this country is
(a) an American triumph or (b) a national disgrace. Apparently our
postsecondary system has the characteristics of a Rorschach inkblot:
one sees what one is predisposed to see.

<div align="right">William Turnbull</div>

Observers who see an American triumph point to the system of higher education which has developed over the past two centuries in America, and which is "unprecedented in its depth and breadth and in its accessibility." (Turnbull, 1985, p. 23) Our research universities are a notch above those from other parts of the world. They act as magnets for the ablest students from every continent. At the same time, the breadth of postsecondary education in unequalled. "Our colleges and universities now enroll about half of all high school graduates - the highest proportion of any country in the world. The United States has the world's best 'system' of higher education. This is a result, in part, of the system's diversity, ranging from multicampus public institutions to small private colleges serving special constituencies." (Turnbull, p. 23)

Those who view the system as a national disgrace are appalled at what they consider to be low quality within this diverse system. This group of observers

points to decay in the college course of study, evidence of decline and devaluation everywhere, remedial programs designed to compensate for lack of skill in using the English language, foreign language incompetence which is not only a national embarrassment but a threat to the conduct of international business and diplomacy, and the difficulty of the business community in recruiting literate college graduates. (Turnbull, p. 23) During the past ten years, those who point with pride have been greatly outnumbered by those who view our educational system with alarm.

The idea of accountability is not new to secondary schools, which have been repeatedly examined and found lacking in the area of turning out literate high school graduates. Evidence of this may be found in the large number of states which now require that all high school students demonstrate minimum competency on tests of basic skills before they are presented with a high school diploma. This is the public school system's attempt to maintain standards of quality represented by the high school diploma. Many college administrators, legislators and educators have contended that quality control, or accountability, measures are needed for postsecondary schools.

A number of important publications have focused attention on the need for higher education institutions to examine their effect on students. In 1985, Turnbull stated that, "Twelve states are considering whether or not to adopt a state assessment policy . . . another twenty have taken formal action to develop or implement such policies." (p. 39) According to a survey sponsored by the

National Governor's Association and reported in <u>Results in Education</u> (1988),
only fourteen states have not taken action to consider or begin campus programs
to assess undergraduate student learning. By 1991 twenty-seven states had
established statewide policy initiatives for higher education assessment, either
through board resolution, executive directive, or statute. "Further initiatives are
expected or planned in an additional dozen states over the next five years."
(Ewell, Finney, & Lenth, 1990.) These initiatives take a variety of forms,
including:

- common statewide testing of basic skills of incoming freshmen.
- periodic statewide testing of college students to determine program effectiveness, and
- institutional submission of local assessment plans consistent with their missions.

The National Governor's Association endorses such actions, stating that "When
results are used to hold institutions accountable and to improve teaching and
learning on campus, improvement follows." (Turnbull, p. 39)

Ewell, Parker and Jones reviewed a number of national reports which have
acted as stimuli for statewide accountability, or assessment, mandates since 1983.
After reviewing <u>A Nation At Risk</u>, <u>Involvement in Learning</u>, <u>To Reclaim a</u>
<u>Legacy</u>, <u>Integrity in the Curriculum: A report to the Academic Commission</u> and
<u>Time For Results: The Governor's 1991 Report on Education</u>, the authors

concluded that two themes are common to all of these reports. These are: (Ewell, Parker, & Jones, 1988, p. 1)

1. Higher education in the United States must be improved if the nation is to maintain its competitive edge economically, militarily and politically. Quality in higher education has thus become an anchor point for issues of economic development and national competence.

2. Acquiring information on institutional effectiveness as a device for improving effectiveness at individual institutions and for enhancing policy oversight by legislative and other branches of state government should be stressed.

When the above reports were published, many states already had assessment programs in place, and many schools had established assessment programs long before they were required to do so by their governing boards. Two such schools are frequently cited as examples of the best way to assess outcomes: Alverno College and Northeast Missouri State. The primary objective of their programs is to serve as an additional mechanism for gauging an individual student's mastery of a particular body of knowledge in order to provide guidance for future development. This individual developmental focus is the dominant emphasis of their assessment programs (Ewell, 1985, p. 36). At Northeast

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Missouri State, the three primary goals for collection of student outcomes data are: (McClain, 1985, p. 37)

1. To know everything possible about the student.

2. To demonstrate that the university made a positive difference in the student's life.

3. To demonstrate that students who graduated from the university were nationally competitive.

Alfred (1986) suggested that student outcomes may be viewed as a three-dimensional construct comprised of (1) antecedent conditions such as economic conditions, social attitudes, changing technology, and other factors that influence student decisions related to college attendance and major field selection; (2) educational process conditions such as performance in courses, instructional strategies employed by faculty, and other factors that combine with antecedent conditions to shape student decisions relative to degree completion and post-college plans; and (3) outcomes achieved by students in work and further education. The views of Alfred and administrators at Northeast Missouri State are consistent with those of the National Governor's Association which stated that an assessment policy should, among other things, encourage faculty and university officials to define and set goals for what students should know and learn.

A weakness of this point of view is that it does not consider the role of individual student goals. While it is important for institutions to have stated

educational goals which are consistent with their overall mission, it is equally important to understand students' educational goals and how they fit in with their overall career or professional intentions. It would seem that there should be a shift of focus from strictly institutional goals to inclusion of individual student goals when determining the success or failure of institutions of higher learning.

There have been very few studies focusing on students' educational goals when they enter college. The few which have been conducted dealt primarily with four-year schools, and none have dealt with educational goals from the standpoint of tying them to assessment of student outcomes or institutional effectiveness. What exists in current literature is a call for action on the part of educators and administrators from all areas of the country to begin collecting the type of data described in this study and to use such information for the improvement of college programs, and ultimately to improve student success in college.

Lessons from Four-Year Colleges and Universities

Published attrition research through the 1970s focused primarily on four year colleges (Walleri, 1981) and on conceptual/statistical models for predicting attrition (Tinto, 1975, 1982, 1987). The majority of community college studies appear as unpublished technical reports, or as "published" entries in the ERIC collection. Across higher education, most attrition occurs from the first to the second year (Losak, 1986, p.3). National longitudinal data reveal that 40% of first-time-in-college community college students leave after one year, as do 25%

of students in four year colleges (Fetters, 1977). Up to 35% of students in four

year colleges will never attain a degree (Jackley and Henderson, 1979; Ramist,

1981).

In examining why such a large proportion of students leave college before

attaining a degree, Tinto (1987) isolated two attributes which stand out as primary

roots of departure: *unfocused intention* and lack of *commitment*. "Each refers to

important dispositions with which individuals enter institutions of higher

education. These not only help set the boundaries of individual attainment but

also mirror the attributes, skills and dispositions of individuals prior to entry and

the effect of external forces on individual participation in college." (p. 39)

Tinto (1987) stated that individual intentions regarding participation in

higher education are good predictors of the likelihood of degree completion.

"Generally speaking, the higher the level of one's educational goals, the greater

the likelihood of college completion. This is especially true when the completion

of college is seen as part of a wider career goal" (p. 40).

Tinto uses degree attainment, and specifically attainment of a four-year

degree, as the measure of student success or failure. He acknowledges that there

are students who leave college prior to degree completion simply because they

never had an intention to stay until degree completion. In four-year schools, such

students enroll for a specific reason such as the acquisition of additional skills, to

learn a different content area, or to obtain course credits (Tinto, 1987). Such

enrollment goals are associated with specific occupational needs or demands.

There is also a smaller group of students of limited participation who enroll in college for the pleasure of learning.

Tinto also acknowledges other groups of students who leave four-year colleges prior to degree attainment, such as college graduates who seek to retrain themselves for the rapidly changing occupational market. Some students also enroll with the expectation of transferring to a different institution in order to obtain a degree or further training.

Mishler (1983) conducted a study of older students who returned to a four-year college and graduated. Data on educational goals collected after students had graduated indicated two primary reasons for students to return to college: to develop a new career and to have the satisfaction of having a degree (Mishler, 1983, p. 218). The goal of satisfaction of having the degree also emerged in research conducted by Eggert (1975) and Astin (1976).

Willingham (1985) stated that freshmen who declare their interest in or commitment to a particular area of study are more likely to achieve in that area. The author concluded that when students defined success as the attainment of a four-year degree, their goals and interests added consistently to high school rank and SAT scores in predicting success in college,

Differences Between Two-Year and Four-Year Colleges

As stated above, comparative studies find higher attrition rates at community colleges than at four-year colleges or universities (Astin, 1975; Tinto,

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1975, Beal and Noel, 1980). These institutional differences presumably remain even when controlling for factors mitigating against community college student success as traditionally defined (Losak, 1986). Many of these studies have been criticized for applying large numbers of variables to small samples of students (See, for example, Tinto's 1975 critique of Astin). Tinto (1975) states that most comparative findings are tentative at best. A more important consideration is that all of these studies have been university oriented, utilizing success criteria and timelines appropriate for four-year college students. They fail to consider the "several missions of community colleges which may or may not involve attaining a formal degree" (Losak, 1986) or the diversity of students who attend community colleges.

Virtually every study of student attrition and retention contains reference to the model of student persistence developed by Tinto (1975, 1982, 1987) in which he specifies a reciprocal relationship between academic integration and social integration. The earliest suggested improvements to Tinto's model for community college students was developed by Pascarella, Duby and Iverson (1983). "These authors found that among first-time two-year college students attending commuter institutions, student background characteristics had direct effects on persistence that were unmediated by the extent of either academic or social integration." (Voorhees, 1987. p. 116)

There does appear to be a general recognition that causes and consequences of attrition differ greatly between two- and four-year colleges. Bean

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and Metzner (1985) point out that many of the factors identified as increasing the likelihood of attrition are especially prevalent for non-traditional students. They are older, commute rather than live on campus, tend to be married or employed off campus, and attend part-time. All of these factors limit the possible intensity and duration of socialization into the academic milieu. Walleri (1981) states that most community college withdrawals occur for valid reasons such as employment and family responsibilities. Most students leave in good standing, are generally satisfied with the help they received at the institution, and many will return to postsecondary education at a later time (Lenning et al., 1980)

Much research indicates that increasing student involvement within an institution increases retention. Specifically, activities which increase the amount of interaction between the student and college personnel have been shown to have strong positive influences on retention rates (Astin, 1985). Bean and Metzner (1985) indicated that factors which increase the fit between the institution and the student increase retention. Because of the diversity of students present in community colleges, a good "fit" is less likely than at four-year institutions.

Voorhees (1987) obtained essentially the same results in a replication of the Pascarella, et.al., study of the effects of demographic variables on persistence. He concluded that academic integration as measured by persistence, grade-point average, number of informal interactions with faculty, and number of hours spent studying each week, was not a predictor of persistence. In other words, none of

the explanatory variables could be considered a logit for persistence. This is an important finding since community college students, because of other commitments, may have less time to spend studying each week, and since most live off campus, they have less interaction with faculty and other students. Voorhees concluded that, "Academic integration may be of less importance in explaining the persistence of community college students than corresponding measures are in explaining the persistence of four-year college or university students." (p. 127)

Research in Maryland (Tschechtelin, 1976; Tschechtelin & McLean, 1980) has identified a close relationship between students' educational objectives and actual educational attainment. Because of the availability of one- and two-year career programs and specific-skill courses at community colleges, many students who enroll in these colleges are not seeking four-year degrees. Most students who enter four-year colleges, on the other hand are seeking at least a baccalaureate degree (Eaton, 1988). In addition, students who enter community colleges are not as likely to hold lofty educational goals as are students in the four-year sector, and they are more likely to intend to depart prior to program completion even when holding lofty goals (Tinto, 1987).

Lessons from Other Two-Year Colleges

Most community colleges do not survey students prior to enrollment to determine the degree they hope to attain. An instructive lesson from the

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California Community College system longitudinal studies is that inferences about degree intent emerged after the fact when investigators attempted to explain why so few students were graduating (Hunter and Sheldon, 1981). Students described in the final report were those who had no intention of completing a degree (Sheldon, 1982). In a subsequent study in the California Community College system, information about educational goals was collected before students enrolled in developmental/remedial courses. Slark and others determined that many of those students dropped out after completing only the remedial courses. When comparing the students' educational goals at entry for the students who dropped out, it was determined that many of the early dropouts were those whose stated entry goal was to improve academic skills in order to be prepared for college level work. They had no intention of doing more than completing developmental/remedial courses (Slark, 1988).

Some researchers have used surveys conducted after students graduated to determine the degree to which educational goals were met. Student's age at entry has been shown to have an impact on goals and commitment to goal achievement (Midgen, 1985; Mishler, 1983). Midgen's (1985) study indicated that both traditional and nontraditional (those over the age of 24 at the time of enrollment) students had career-oriented goals, but that while traditional students were interested in preparing for their first career, nontraditional students were interested in making a career change or improving their chances for a promotion. Achievement of educational goals was not found to be related to age in these

studies. This is a potentially important finding since community colleges serve a large number of nontraditional, older students.

As mentioned above, national studies of community college effectiveness have been limited by the fact that they have not investigated alternative benefits for those students who do not achieve bachelors degree or other goals. For community college students, the issue of alternative outcomes is particularly important, since short-term career program alternatives that do not exist in four-year colleges are available to community college entrants (Eaton, 1988). Therefore, the fact that community college students can have a much broader range of entry-level goals is an important factor to be considered when assessing community college effectiveness.

Breneman and Nelson (1981) conducted an analysis of data contained in the National Longitudinal Study of the High School Class of 1972 in which they examined the outcomes of college attendance. According to these authors, the diversity which is a source of strength in the community college sector contributes to a proliferation of judgments on outcomes from community college experiences. "The analogy of the blind men trying to describe an elephant applies quite well in that many observers see only a few activities of one institution and assume that the rest are similar." (pp. 54-55)

As institutions designed to serve a wide variety of students, community colleges offer no simple criterion or definition of success. At four-year institutions, good grades, graduation and achievement in one's chosen field are the

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standard measures of accomplishment. "But the relevance of these measures for community colleges is questionable." (Breneman and Nelson, p. 55) Even such a simple decision as whether dropping out represents success or failure is not simple for community colleges, where students may enroll in order to learn a specific skill and not enroll in subsequent terms because the goal has been achieved. Are such students dropouts, or are they goal attainers?

As mentioned above, national longitudinal data reveal that 40% of first-time-in-college community college students leave after one year and that 25% of students at four-year colleges do also. (Fetters, 1977) Up to 35% of students entering four-year institutions will never get a degree. (Morris and Losak, 1986) Only recently have research reports emerged which account for the diversity of community college students educational goals and to speculate that at least some of the students who leave after one year may be leaving because they have reached their goals.

Community colleges have just begun to "scratch the surface of the total adult population desiring postsecondary education." (Lenning and Hanson, 1977) During the late seventies and early eighties, community colleges enrolled adults with traditional high school academic backgrounds who were not representative of low income and academically unprepared students in younger age groups. "Postsecondary education embraces an increasingly large segment of the public, yet the public image of the typical undergraduate remains locked in the stereotype of a middle class, full-time, academically able nineteen-year-old pursuing a

baccalaureate degree which 'he' will complete within four years." (Morris and Losak, p. 1)

The general public is not the only group maintaining stereotypical images of higher education students. Research reviewed thus far has focused primarily on *graduates* of both four-year and two-year colleges.

"Graduation as a success criterion carries with it the clear implication that leaving college without a degree is non-success. Students who 'fail' to graduate are automatically tallied against college success." (Morris & Losak, p. 3) This is a potentially dangerous practice since overall graduation rates are expected to decline as a result of protracted attendance patterns typical of nontraditional students. The most common criterion of postsecondary educational success, on-time graduation, ignores the fact that across all higher education in the United States, "stopping out" of college has become more prevalent and part-time enrollment is on the rise. (Eckland & Henderson, 1981)

Miami-Dade Community College utilizes three separate dimensions to measure its success (Morris & Losak):

1. Academic Standing - Most who stop short of a degree leave in good standing.

2. Persistence

    a. Students still enrolled

    b. Graduates

    c. Attainers - Completed goal and left prior to graduation.

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3.   Goal Attainment - Recognized as an important mitigating variable in literature on attrition.

An examination of more than forty research reports on dropouts by Bean and Metzner (1985) concluded that attrition should be defined in relation to student expectations and attainment of stated goals. The authors stated that conceptual models used to study college students define a dropout as someone who "enrolls at an institution one semester but does not enroll the next semester and has not completed his or her formally declared program of study." (Bean and Metzner, 1985, p. 189) Such definitions are limited by the fact that they offer an institutional rather than a national perspective, and that "the period considered (semester to semester) is brief, so that stopouts would not be differentiated from dropouts." (p. 189) The difference between stopping out and dropping out is crucial for non-traditional students, who typically exhibit protracted attendance patterns or else transfer. Tinto (1982) also emphasized that the term "dropout" should be reserved for students who fail to complete their goals.

An application of the "traditional" definition of success and goal attainment to "traditional" students at Miami-Dade (Morris & Losak) revealed a 70% success rate. After two years, 13% of the students had graduated. This figure increased to 31% after four years, illustrating protracted attendance patterns discussed above. More importantly, 9% of the students were still enrolled and 30% had left in good standing. A problem with the Morris and Losak study is that only

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traditional, college-age students were included, thereby excluding nontraditional students who are becoming more and more important to community colleges.

The only study which attempted to relate student educational goals at entry to goal completion was conducted by Slark, et. al. (1988) for the California Community College System. At the end of one semester of work, developmental and remedial students indicated they had accomplished more course objectives than they had originally intended. Clearly, "student outcomes cannot be adequately described with only one semester's worth of work, particularly for community college students who . . . move through the curriculum and progress towards their goals slowly." (Slark, et.al, 1988, p. 42), but Slark's results indicate that students have educational goals clearly in mind when they enroll. The practice of identifying entry-level goals and assessing goal completion is in need of attention for program development and for research methods development.

Two areas may be examined, according to Breneman and Nelson (pp. 61-62), which will improve future studies:

1.   Basic student characteristics such as sex, age, and full-time or part-time attendance status and information about the type of program should be identified. Where included, these factors were generally strongly related to short-term outcomes. Students' educational goals or intentions upon first enrolling also seemed important to consider.

2.   Comparisons are essential to examinations of outcomes: for example, between those included in follow-up studies and the rest of

the student population, or between a particular kind of student at one college and his counterpart in another two-year or four-year institution.

Most research conducted on community college attrition and retention have focused on graduates who complete their program of study after two years. This is partly an artifact of the close association of two- and four-year colleges when community colleges were in their infancy, when many two-year colleges were created as branches of well-established four-year institutions. Definitions of success measures typically were prescribed by the four-year institution. While such close associations were in existence, such definitions were appropriate, but as community colleges have grown and matured, and as legislation requiring new accountability measures has been passed, it has become increasingly necessary for two-year institutions to change their "measuring sticks" for institutional effectiveness. Ewell stated that "notable changes have taken place in the conceptual basis of assessment measurement." He suggests that a shift away from the traditional value-added approach to assessment and toward "complex formulations demanding truly longitudinal research designs and a theoretical foundation" is needed. (1991, p. 76)

Seventy-five percent of all college administrators think the assessment of student outcomes is a good idea whose time has come. More importantly, almost all, 91%, think that such assessment should be linked to instructional

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improvement. (El-Khawas, 1986) In other words, the assessment of student outcomes should not be an end in itself but rather should be an integral part of an institution's strategy to improve teaching and learning. (Cross, 1987) How better to integrate assessment efforts into the total effectiveness framework than by seeking to provide feedback needed by the institutions to help students achieve their educational goals?

In addition, community college researchers would do well to heed the advice of the American Association of Community and Junior Colleges Commission on the Future of Community Colleges (1987) which stated that in order to preserve both access and excellence, great care must be exercised to ensure that "outcomes assessment" and "accountability" do not become code words for a new elitism, nor should the assessment of student outcomes be considered as the only dimension of accountability. Quality must not be measured in terms of how many students are excluded from the educational process, but by meeting students where they are, by good teaching, and by providing services needed for students to fulfill their career and educational objectives.

CHAPTER 3

METHODOLOGY

This chapter describes the population, variables under consideration, and data collection and analysis methods. The population description includes information about which colleges were selected and why. Specific student selection issues are not discussed because all students on a selected college's database are included in the study.

Variable specification and definition includes information about demographics, student attributes such as their curriculum division, courseload, time and location of attendance, and whether they were developmental students. A major part of this section deals with students' educational goals stated at the time of application for admission. Closely associated with educational goals is a definition of how goal attainment is measured.

Finally, statistical analyses are described and information about computer hardware and software is provided.

Population

All students who enrolled for the first time in fall, 1985, in a community college whose chief executive officers agreed to participate and whose computerized student information files are maintained at the Western Regional

Computer Center at Virginia Western Community College were included in the population. In all, nine out of the ten college presidents agreed to participate. Letters of permission to use college data as well as a copy of the letter of request are included as Appendix A. Because they were guaranteed anonymity, names of the institutions are not included in this report. Instead, each college was given a code number between one and nine, and results are reported by code.

To further ensure anonymity, a log transformation was applied to enrollment data. This was necessary because enrollment data are public information and anyone could examine community college system reports and determine which colleges were involved in the study and nobody can compute the anti-log. The logarithmic transformation had no effect on percentages, rank orders, or any other statistics reported and interpreted in this document. It does, however, disguise exact enrollment figures. All statistics reported are calculated using transformed data.

Fall, 1985 was selected because it was the first term in which the Virginia Community College System used the computerized Student Information System, from which data for this study were extracted. Because of the protracted attendance patterns of community college students discussed above, it was important that the earliest possible term be used to provide ample time for students to attain their goals. Schools in the western region of the state are on the same central computing system, the Western Regional Computer Center at Virginia Western Community College, for which access was provided, and data

needed to conduct the study were centrally available for all schools on the system. Additionally, data elements and file structure were consistent for all of these colleges. As Table 1 indicates, the adjusted total number of students enrolled for the first time in fall, 1985 is 11,553.

Variable Specification

This study examined demographic, achievement and educational intention variables to determine which students did not achieve, exactly achieved, or exceeded their educational goals.

Demographic Variables

Demographic variables examined in this study included the following:

1. **Student Type - Traditional or Non-Traditional** - Age of the student when enrolled for the first time in the Virginia Community College System. For the purpose of this study, age was used as a general indicator of whether the student was a recent high school graduate, a college student in the traditional sense, or a non-traditional student who had been away from school for a number of years and was at least 25 years of age at the time of initial enrollment.

2. **Gender**

3.   **Race** - These three categories are 'Black', 'White', and 'Other'. The 'Other' category includes any student who does not fit in the first two, including native Americans, Asians, Hispanics and Pacific Islanders.

4.   **Community College Attended**

As Table 2 indicates, 54.4% of the population was female and 45.6% was male. The most disproportional category is race. Nearly 94% of the population is white, while only 6% is black, and less than 1% fits in the 'Other' category. It is also evident from Table 2 that non-traditional students far outnumber traditional college-age students who graduated from high school and then went to college within a short period of time.

Table 1

<u>Relative Size of Participating Colleges Based on Adjusted Fall, 1985 Enrollment</u>
<u>Data</u>

Community College	Adjusted Number of Students
1	809
2	855
3	880
4	910
5	1,000
6	1,148
7	1,427
8	2,002
9	2,522
TOTAL	11,553

Source: Fall, 1985 VCCS Student Information System, Subprogram 505

Table 2

<u>Demographic Description of Population</u>

	N	%
Gender		
Male	5,264	45.6
Female	6,289	54.4
Race		
Black	689	6.0
White	10,818	93.6
Other	46	0.4
Non-Traditional/Traditional		
Non-Traditional	8,191	70.9
Traditional	3,362	29.1

Student Attribute Variables

Student attribute variables examined include the following:

1. **Curriculum** - The specific curriculum in which students enrolled; included for the purpose of grouping students by program or division. This is a categorical variable, with each curriculum being coded according to guidelines established by the Virginia Community College System. (See Appendix B.)

2. **Division** - Students were grouped according to the division with which their curriculum was most closely associated. The two divisions are Occupational/Technical and Arts and Sciences.

3. **Courseload** - This indicates the number of credit hours students took each semester. Students were categorized according to the number of quarter hours for which they were registered. Those who took fewer than 12 hours were considered to be part-time students, and those registered for 12 or more were considered to be full-time. This variable was coded for each academic term, since students could be part-time one term and full-time another.

4. **Time of Attendance** - Classified students by the time of day that they attended college. This variable was included for each academic term, since students may attend during the day one term and in the evening another.

5. **Developmental** - Classified students according to whether they took a developmental class or not. This is a general indication of academic ability at the time of initial enrollment.

6. **Place of Attendance** - This variable describes whether students took courses primarily on or off campus. A separate category is reserved for those students who took an equal mix of on-campus and off-campus courses.

Table 3 breaks down the numbers of students by these attribute variables. From this table, it is evident that the vast majority of community college students involved in this study chose to enroll in the occupational/technical division (63.8%), compared to only 20.0% unclassified and 16.2% in the college transfer division. This is consistent with information in Table 2 which states that about 70.9% of the students are non-traditional. One would expect that the majority of college transfer students would be those who have recently graduated from high school and are collecting credits to transfer to a four-year institution.

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Table 3

<u>**Students Classified by Attribute Variables**</u>

	N	%
College Division		
Unclassified	2,312	20.0
Occupational/Technical	7,375	63.8
Arts & Sciences/College Transfer	1,866	16.2
Courseload - Number of Quarters of Full-Time[*] Study		
0	7,826	66.9
1	990	8.6
2	576	5.0
3	596	5.2
4	298	2.6
5	206	1.8
6	575	5.0
7	235	2.0
8	112	1.0
9	91	0.8
10	37	0.3
11	13	0.1
12	2	0.02
Time of Attendance		
Day	6,523	56.5
Evening	4,183	36.2
Both	847	7.3
Developmental/Non-Developmental		
Developmental (0)	573	5.0
Non-Developmental (1)	10,980	95.0
Place of Attendance		
On Campus	9,560	82.7
Off Campus	1,702	14.7
Both	291	2.5

[*]Full-Time Study: Student took at least 15 quarter hours during the term.

Two-thirds of the students did not complete a single quarter in which they were enrolled full time (12 or more quarter hours).

Table 3 also indicates that most students (56.5%) took the majority of their classes during the day rather than in the evening, and that very few (7.3%) attended an equal number of classes during the day and in the evening (the "Both" category). A similar pattern holds true for on campus vs. off campus attendance. Most students (82.7%) attended class on campus, compared to 14.7% off campus attendance. Only 2.5% of the students attended nearly equal numbers of on and off campus courses. Only 5.0% of the students involved in this study are classified as developmental students, meaning that they took at least one developmental studies course.

Educational Goals

Community colleges involved in this study ask students to indicate their educational goals at the time they apply for college admission. A sample copy of the data collection instrument used at one of the institutions is included as Appendix C. All colleges involved use similar data collection tools, and computer codes are standardized for all colleges on the Western Regional Computer Center system. It may be noted that the Code Book contains far more curricular codes than those included in Appendix C. This is because each college may select curricula from the state curriculum guide which contains a much wider variety of

curricula than those found in a single school. Codes included in Appendix C represent all of those in use by participating colleges during fall quarter, 1985. Educational intention choices are divided into two groups: Curricular and Non-Curricular choices. Curricular choices include options which eventually lead to a credential in the form of a certificate, diploma or degree. Non-curricular choices include options which do not typically lead to the acquisition of a credential.

For the purpose of this study educational goals were grouped into eight categories. The first category contained students who stated that their primary purpose was to audit a course (5030), to enroll for personal satisfaction (5024), to obtain credits to transfer to another community college which they attended (5025), and to obtain college credit while still attending high school (5027). Auditors and students attending for personal satisfaction make a natural grouping because of the manner in which they are handled on the computer system, and because their stated goals are to attend that particular college for a short period of time to obtain information, skills, or credits not necessarily leading to a credential from that college. Typically, students who wish to audit a course are listed in the personal satisfaction category and are changed to audits after several weeks of course work if they decide they do not want to receive credit for the course. Many community colleges discourage students from signing up to audit a course before they have had an opportunity to try it for credit. Students who attend high school or a different college were also included in the first category.

These students stated that their educational goal was to obtain credits which may be transferred to the other school which they are attending.

The second category included students who enrolled in a community college to upgrade job skills, either to improve performance on their current job (5021) or to develop skills for a new position (5022), and students who are undecided about career or occupational choices (5023) and wish to explore their options.

The third category included students who desire to obtain more credit hours than the previous two categories. Such students are enrolled in continuing career studies (4221), which means they plan to earn 15 to 30 credit hours, or they are waiting to enroll in a curriculum, either because of lack of space (5029) or they have not met all entry requirements for the curriculum (5028).

Remaining categories were arranged according to the number of credit hours needed to complete the program. One-year certificate, two-year diploma, and A.A.S. programs are primarily occupational/technical programs designed to provide graduates with skills and knowledge needed to enter or advance in the job market. They typically do not include the extensive general education requirements of a A.S. degree, and graduates of these programs usually do not go on to four-year institutions. A.S. degree programs include a more stringent general education component and are frequently used as a stepping stone to a four-year degree. Entry goal categories and their descriptions are included in Table 4.

For the purpose of this study, educational goals were measured at a single point in time. Virginia community colleges currently collect this information only at the time of initial application. No attempt was made to determine whether these goals were stable over time, as students may change their minds about what they hope to accomplish during their community college careers.

Attainment Variables

Several measures of student attainment were used to determine whether goals had been met. This information was captured at two points in time:

1.   At the end of spring quarter, 1987; two years after initial

       enrollment - the amount of time used in traditional success

       measures (on-time graduation)

2.   At the end of spring semester, 1989.

Table 4

Definition of Educational Goals

Goal	Definition
1	Auditing and do not plan to obtain credit for any courses Taking courses for personal satisfaction High School Student enrolled concurrently in the community college Student enrolled at another college and planning to transfer the credit
2	Upgrading skills for job currently held Developing skills for new job Undecided about career
3	Continuing Career Studies Mini Certificate Program (15-30 credit hours) Cannot enroll in program of choice because of limited enrollment Haven't met entry requirements for program of choice
4	One-Year Certificate program (45-51 credit hours)
5	Two-Year Diploma Program (91 credit hours)
6	Planning to transfer to a four-year college or university before earning a degree
7	Two-Year College Transfer program (97 credit hours)
8	Two-Year Associate in Applied Science Program (98 or more credit hours)

These two measures represent short-term (1987) and long-term (1989) measures of attainment and were calculated from data collected at the end of each academic term. Information collected for each academic term includes:

1. **Number of Credit Hours Earned** - This was calculated by converting credits earned after spring, 1988 to quarter hours and then summing across all terms since fall, 1985.

2. **Grade Point Average** - Information about grades was collected in the form of cumulative grade averages (GPA) in spring, 1987 and spring, 1989.

3. **Enrollment Status** - A dichotomous variable coded '0' if the student is not enrolled and '1' if still enrolled each term.

4. **Graduation** - Also a dichotomous variable coded '0' if student did not graduate during the academic term in question or '1' if graduation occurred during that term.

5. **Goal Attainment** - A dichotomous variable coded '0' if student did not attain stated educational goal and '1' if educational goal was attained. Attainment is defined for credential-seeking (Curricular) students as earning a credential. For non-curricular students, attainment is defined in terms of the number of credit hours required to reach stated educational goals.

From these data elements, cumulative information was calculated as described above. Total number of credit hours earned since fall, 1985, number of terms required to attain goal, number of terms enrolled and cumulative GPA may be calculated at the end of spring quarter, 1987 and at the end of spring semester, 1989.

Criteria for determining whether students met their stated goals are included in Table 5. Because of the make-up of the database, it was necessary to establish criteria dependent upon the number of quarter hours attained and credentials awarded. Therefore, a student whose stated educational goal is development of career skills (Goal 2) was counted as successful if he or she attained a total of twelve credit hours. Students who did not earn at least twelve credit hours were counted an non-successes, even if they actually improved skills needed for their careers.

Pilot Study

Data collection methods were pilot tested using data from one of the mid-sized colleges. Statistical Analysis System (SAS) software was used to extract data from computer files at the Western Regional Computer Center in Roanoke, VA, and to build the database used in this study. SAS programs were tested against the college's data files and a complete analysis of data was conducted before proceeding to the files from other colleges. No institutional identification is

Table 5

Criteria for Attainment of Educational Goals

Goal	Criteria
1	Student completed at least one course, either for credit or not
2	Accumulated at least twelve quarter hours
3	Accumulated at least thirty quarter hours
4	Earned a credential in a One-Year Certificate Program (45-51 credit hours)
5	Earned a credential in a Two-Year Diploma Program (91 credit hours)
6	Earned at least 90 quarter hours
7	Earned an A. S. degree (97 credit hours)
8	Earned an A. A. S. degree (98 or more credit hours)

included in this report in accordance with the wishes of some of the presidents of participating colleges.

Statistical Analysis

Statistical analysis consisted of descriptive statistics such as means, standard deviations, and frequencies or percentages broken down by students' educational goals, curriculum, demographic variables, time of attendance, courseload, and other variables which are described in the variable specification section. For categorical variables, frequency tables were generated to describe the point in students' educational careers at which they leave college as well as describing types of students who persist until they attain their educational goals. Such tables contain information for students who leave before attaining their stated educational goals, who attain their goals exactly, and who exceed their goals.

For continuous variables such as grade point averages (GPA's) and number of terms enrolled, means and standard deviations were compared by the following categories:

1. Curriculum

2. Gender

3. Race

4. Courseload: Part-time/Full-time

5. Time of Attendance: Day/Evening

6. Goal Attainment: Didn't Achieve, Achieved Exactly, Exceeded

7.   Educational Goal

8.   Developmental/Remedial Student

9.   Age at entry

10.   College Division: Occupational Technical or College Transfer

CHAPTER 4

RESULTS

Educational Goals

When college enrollment was broken down by students' educational goals,
it became evident that some schools did not counsel their students to select
certain goals, or that they encouraged them to select others. As Table 6
illustrates, at one school (College 9) more than 52 percent of the students selected
Goal 2 - "To upgrade skills or to develop skills for new job", while no students
listed Goal 6 - "planning to transfer to a two-year college prior to earning a
degree." In contrast, only 0.1% of the students at College 8 stated that they were
enrolling for the purpose of developing career skills, while nearly 36% stated that
they were seeking a one-year certificate (Goal 4). Such trends may be a function
of college philosophy as much as they are student aspirations. Counselors at one
college may encourage students to list as their goals the attainment of a two-year
degree prior to transferring to a four-year institution (Goal 7), while another
college placement officer may encourage students to select Goal 6 - to earn credit
hours which may be transferred to a four-year institution, with no intention of
attaining a two-year degree.

The population of each college was classified by the students' educational
goals at entry, and is reported in Table 6. For the population as a whole, the

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Table 6

Breakdown of Population by Educational Goal

Goal N =	1 1906	2 3443	3 244	4 1702	5 164	6 97	7 940	8 3057
College								
1 (n=809)[*]	13.2	32.3	0.1	10.2	12.2	3.8		28.1
2 (n=855)	35.1	11.9	2.1	20.6	3.9	2.4		26.1
3 (n=880)	33.6	23.9	9.4	6.7			0.1	26.6
4 (n=910)	11.0	31.8	2.7	9.9	0.8	2.5	13.7	27.6
5 (n=1000)	18.2	39.8	0.1	1.03		3.5		38.0
6 (n=1148)	30.7	23.2	0.2	14.0	0.8	0.3		30.7
7 (n=1427)	6.9	41.7		17.8		0.1		33.5
8 (n=2002)	15.1	0.1	0.1	35.8			20.8	28.1
9 (n=2522)	6.8	52.4	4.4	6.2	0.6		15.7	13.9
Total (n=11,553)	16.5	29.8	2.1	14.7	1.4	0.8	8.1	26.5

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
          Goal 2 = Developing Career Skills
          Goal 3 = Career Studies Mini-Certificate
          Goal 4 = One-Year Certificate
          Goal 5 = Two-Year Diploma
          Goal 6 = Transfer to Four-Year College (No Degree)
          Goal 7 = Two-Year Transfer Program (A.S. Degree)
          Goal 8 = A. A. S. degree

[*]Community College population figures reported here are logarithmic transformations of actual population figures.

most frequently selected goal was to upgrade skills for a current job or to develop skills for a new job. This goal (Goal 2), selected by 29.8% of the population, was followed closely by the attainment of a two-year associate degree (Goal 8), selected by 26.5% of the population. The smallest number of students, only 0.8%, indicated that they planned to transfer to a four-year college or university prior to earning a degree, or that they planned to enroll in a two-year diploma program (1.4 percent).

Between schools comparisons indicate few discrepancies from the population as a whole. Two of the most dramatic discrepancies are for College 1 students who selected a Two-Year Diploma Program (Goal 5), and College 3 students who selected a Two-Year College Transfer program (Goal 7). In the first instance, only 1.4% of the population as a whole selected the goal, compared to 12.2% for the college. In the second example, only 0.1% of the students at College 3 selected Goal 7, compared to 13.7, 15.7, and 20.8 percent of the other colleges who offered this option.

While such differences among colleges included in the sample are important because they may explain some of the variability in the proportion of students who select educational goals, population totals and percentages should also be noted. Column percentages, representing the population as a whole, ranged from 0.84 to 29.8, with all goals represented to some extent. The smallest number of students stated that they planned to transfer to a four-year college prior to earning a degree, whereas 8.1% who stated that they planned to earn a

degree first. Discussions with community college administrators and placement officers indicated that this is typical of students who plan to earn two years of credit at a community college prior to transfer to a four-year college or university; they decide that they "may as well go for a two-year degree since they must earn almost enough credits to do so before transferring." (C. R. Joyce, Personal Communication, April 25, 1989)

Demographic Factors

When demographic factors are broken down by college goals stated at entry, it is evident that entry-level educational goals are not consistent across all groups of students. As Table 7 illustrates, there are extreme differences between some of the categories. For instance, while only 16.5 percent of the population selected Goal 1 (completing a single course), 80.2 percent of the Unclassified students selected this goal. These are perhaps the students who are still in high school and trying to "get ahead of the game" or college students who intend to take courses at a community college and then transfer the credit to their home college or university.

Students in the "Other" category for "Race" were far more likely to select Goal 3 (Upgrading or Developing Job Skills) and far less likely to select Goal 4 (One-Year Certificate Program) than the population. It should be noted that there are very few students in this category, and the 11.4% represents only eight

Table 7

Percent of Students in Each Demographic Category Broken Down by Educational Goal Selected at Entry

	Goal								Total	
	1	2	3	4	5	6	7	8	N	%
n =	1906	3443	244	1702	164	97	940	3057	11,553	
% =	16.5	29.8	2.1	14.7	1.4	0.8	8.1	26.5		
Gender										
Male	13.7	30.5	2.2	17.4	2.9	0.7	6.6	26.8	5,264	45.6
Female	18.8	29.2	2.0	12.5	0.2	0.9	9.4	26.2	6,289	54.4
Race										
Black	11.7	23.7	1.7	17.1	3.3	0.8	9.8	31.8	689	6.0
White	16.8	30.2	2.1	14.7	1.3	0.8	8.1	26.1	10,818	93.6
Other	20.0	28.6	11.4	4.3	0.0	0.0	2.9	32.9	46	0.4
Time										
Day	12.4	22.5	1.5	17.6	2.4	0.8	10.0	32.7	6,523	56.5
Evening	23.4	42.6	3.0	10.0	0.2	0.6	5.3	14.9	4,183	36.2
Neither	14.7	22.3	2.2	15.7	0.1	1.9	7.9	35.4	847	7.3
Dev./Non-Dev.										
Develop.										
Non-Dev.	13.3	9.1	3.1	13.4	1.7	0.7	14.8	43.8	573	5.0
	16.6	30.8	2.1	14.8	1.4	0.8	7.8	25.7	10,980	95.0
College Division										
Occ./Tech.	0.0	43.7	0.0	23.0	2.2	0.0	0.0	31.0	7,375	63.8
Coll. Trans.	3.5	0.0	0.0	0.0	0.0	5.2	50.4	40.9	1,866	16.2
Unclassified	80.2	9.2	10.6	0.0	0.0	0.0	0.0	0.0	2,312	20.0
Location										
On	15.3	27.0	2.5	15.3	1.7	1.0	9.0	28.4	9,560	82.7
Off	23.2	45.4	0.5	11.1	0.0	0.1	3.3	16.3	1,702	14.7
Neither	20.5	31.1	0.0	17.3	0.3	1.4	7.8	21.6	291	2.5
Age										
Non-Trad.	15.1	39.0	2.2	16.2	0.7	0.8	5.8	20.3	8,191	70.9
Trad.	19.9	7.4	2.0	11.2	3.3	1.1	13.9	41.4	3,362	29.1

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

students. To determine whether this is truly representative of Asian, Native American, Pacific Islanders and other students who might be classified in this category, it would be necessary to examine the goals of a larger sample of this segment of the population.

Evening students seem to be less likely to select educational goals which require long-term commitment, such as the attainment of a degree. On the contrary, these students seem to be those who have immediate educational needs, i.e., upgrading skills for a current job, or taking courses for pleasure. The large number of evening students who selected Goal 2 (Upgrading or Developing Job Skills) is not surprising since one would expect persons who have full-time jobs to attend college after working hours.

When time of attendance is compared to location, almost identical patterns emerge, as nearly equal numbers of day students and on-campus students have similar goals, and similar numbers of evening and off-campus students have similar goals.

As would be expected, traditional students, those who have recently graduated from high school, are more likely to select Goals 6, 7 and 8 (College transfer or A.A.S. degree) than the population in general. These are students who are using the community college as a stepping stone to a four-year degree, or who have career goals which require a two-year degree.

Course-Taking Habits and GPAs

An examination of students' course-taking habits by educational goals indicates that students who enroll for the purpose of attaining a credential attempt and complete more quarter hours than students who enroll simply to enhance their skills and knowledge. Table 8 illustrates that students who selected Goals 1 and 2 had attempted an average of 6.3 and 5.0 quarter hours respectively by the end of two years. These numbers changed only slightly by the end of the four years of study. It is evident that such students enroll with a singular purpose in mind, to take the courses necessary to accomplish their goal, and then do not continue their studies. It should be noted that by selecting Goal 1 students indicated that they intended to take a maximum of one course, and the fact that the average number of credit hours attempted by this group far exceeds that number is an indication of community college holding power.

On the other hand, students who wanted to complete a two- or four-year degree increased the number of quarter hours attempted by greater margins between 1987 and 1989. For example, students who enrolled in a two-year college transfer program (Goal 7) took an average of 30.5 quarter hours by the end of the second year, and had increased that average by 10.2 quarter hours at the end of four years. Similar patterns are evident for other credential-seeking students. Students who wanted to earn a two-year diploma seemed to be more persistent at taking courses, as they attempted an average of 67.3 quarter hours during the first two years, a figure that increased to 76.8 during the next two years. This average

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Table 8

Number of quarter hours enrolled and completed and grade point averages broken down by educational goal at entry.

	Goal	1	2	3	4	5	6	7	8
	n	1906	3433	244	1702	164	97	940	3057
	%	16.5	29.8	2.1	14.7	1.4	0.8	8.1	26.5
Number of Quarter Hours	$\bar{x}$	6.3	5.0	11.2	17.6	67.3	17.4	30.5	37.2
Attempted by Spring 1987	SD	12.0	8.2	17.5	29.8	64.0	21.1	39.6	49.1
Number of Quarter Hours	$\bar{x}$	9.4	6.4	15.2	23.1	76.8	21.4	40.7	45.9
Attempted by Spring 1989	SD	19.8	12.1	25.9	37.1	73.8	28.0	50.9	83.3
Number of Quarter Hours	$\bar{x}$	5.8	4.6	9.4	17.2	66.2	15.6	28.6	33.3
Completed by Spring 1987	SD	11.5	7.7	16.4	28.2	62.7	20.4	38.1	46.1
Number of Quarter Hours	$\bar{x}$	8.7	5.9	13.2	21.0	72.1	24.9	37.1	41.9
Completed by Spring 1989	SD	18.9	11.5	24.8	35.2	72.2	27.0	48.7	57.4

	n	1547	2603	205	1615	161	94	866	2953
GPA, 1987	$\bar{x}$	3.1	3.5	2.4	2.9	2.5	2.6	2.2	2.6
	SD	3.1	3.0	2.3	2.7	2.0	2.5	2.2	2.7
GPA, 1989	$\bar{x}$	2.7	3.4	2.4	2.9	2.4	2.5	2.4	2.6
	SD	3.0	3.0	2.4	2.7	2.0	2.5	2.2	2.7

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

increase of 9.5 quarter hours attempted may seem small, but it is reflection of the fact that all students who enrolled for the first time during the fall of 1985 were included in the calculations, whether or not they were still enrolled between 1987 and 1989.

Grade point averages (GPAs) indicate that students who select Goals 1 and 2 tend to earn higher grades in the few courses that they take than students who select other goals. At the end of two years, the average GPA for "occasional" students was above 3.0 on a 4-point scale. This compares to a range of 2.2 to 2.6 for credential-seeking students. After four years, the trend is the same. "Occasional" students' GPAs clustered around the 3.0 mark, while long-term students ranged from 2.0 to 2.7. It should be noted that GPAs for students who did not plan to stay at their college through degree completion (goals 1, 2, and 6) tended to drop during the second two-year period.

Graduation Rates and Goal Attainment

Table 9 presents information about the percentage of students who graduated arranged by students' educational goals and the extent to which those goals were attained. Of all students who enrolled for the first time in fall, 1985, only 4.9% had graduated two years later, the traditional measure of success for community colleges. When the period allowed for graduation was extended to four years, the number of graduates increased to 9.0%.

Table 9

Percent of Students Who Graduated or Attained Stated Educational Goals After Two-Year and Four-Year Enrollment

	Goal	1	2	3	4	5	6	7	8	Total
	n	1906	3433	244	1702	164	97	940	3057	11,553
Graduation										
Graduated by 1987	n	10	24	0	97	32	0	39	363	565
	%	0.5	0.7	0.0	5.7	19.5	0.0	4.2	11.9	4.9
Graduated by 1989	n	29	52	8	160	42	2	92	654	1039
	%	1.5	1.5	3.4	9.4	25.8	2.1	9.8	21.4	9.0
Change, 1987 to 89	n	19	28	8	63	10	2	53	291	474
	%	1.0	0.8	3.4	3.7	6.3	2.1	5.6	9.5	4.1
Goal Achievement										
Achieved Goal Exactly-'87	n	1551	113	0	44	4	0	13	183	1948
	%	81.4	3.3	0.0	2.6	2.5	0.0	1.4	6.0	16.9
Achieved Goal Exactly-'89	n	1628	120	147	46	4	0	64	254	2,263
	%	85.4	3.5	60.2	2.7	2.5	0.0	6.8	8.3	19.6
Change, 1987 to 89	n	77	7	147	2	0	0	51	71	315
	%	4.0	0.2	60.2	0.1	0.0	0.0	5.4	2.3	3.15
Exceeded Goal-'87	n	0	203	30	34	28	0	26	180	501
	%	0.0	5.9	12.3	3.0	17.0	0.0	2.8	5.9	4.3
Exceeded Goal-'89	n	0	299	34	112	37	2	28	400	912
	%	0.0	8.7	14.0	6.6	22.8	2.1	3.0	13.1	7.9
Change, 1987 to 89	n	0	96	4	78	9	2	2	220	411
	%	0.0	2.8	1.6	4.6	5.8	2.1	0.2	7.2	3.6

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

For all groups of students, the number of graduates increased between 1987 and 1989, even those groups whose entry-level goals did not include graduation. For instance, by 1987, 10 students who stated that they planned to take a single course when they originally enrolled in the community college had graduated. This number increased to 29 by 1989. Similarly, 52 students who selected Goal 2 (Developing Career Studies) and two students who selected Goal 6 (Transfer to a Four-Year College without earning a degree) had graduated by 1989. These findings indicate a trend which is consistent across all goal categories - given the opportunity and time, some students will continue to graduation, even if their initial goal was to stop short of that level.

For students who aspired to attain a degree, according to educational goals stated at entry, this trend is even more prevalent. It seems that the more education to which the student aspired, the more likely he or she was to attain a degree by the end of four years. Students who stated that they wanted to complete either a two-year diploma (Goal 5), two-year transfer program (Goal 7) or an A.A.S. degree (Goal 8) experienced 19.5%, 4.2% and 11.9% graduation rates by 1987. This figure increased to 25.8%, 9.8% and 21.4% respectively between 1987 and 1989. Ironically, students who needed only ninety credit hours to attain their goal (Goal 5) experienced the highest graduation rate. By 1987,19.5% of this group had graduated, compared to 11.9% for those seeking an A.A.S degree, the next highestgroup. By 1989, the graduation rate for this group had increased to 25.8%, still higher than any of the other groups.

Goal achievement figures demonstrate that the most successful group was students who selected Goal 1, to complete at least one course, followed by Goal 3 students who stated that they wanted to accumulate at least thirty credit hours. These two groups had goal achievement rates of 85.4% and 60.2% respectively. It should be noted that no Goal 3 students had accumulated enough credit hours to be deemed successful by the end of two years of study. However, a large percentage of these students persisted until they reached their goals.

To accurately consider goal achievement status of all students, a discussion of those who exceeded their educational goals should be included. For some groups it is relatively easy to determine whether goals are exceeded. For instance, students who state that they want to take only a single course (Goal 1) and end up attaining a credential would obviously be considered to have exceeded their goals. However, a student who chooses Goal 6, to transfer to a four-year institution, was counted as exceeding his or her educational goals only if he or she earned more than 90 credit hours. Criteria for attainment of educational goals were described in Table 5. Students who either earned credit hours in excess of those criteria or earned a credential when they didn't set out to do so, were counted as goal exceeders for the purpose of this study.

As Table 9 illustrates, 74.2% of Goal 3 and 85.4% of Goal 1 students either achieved or exceeded their educational goals. Of the Goal 1 students who achieved their goals, 1618 (99.4%) would have been considered unsuccessful using

traditional success measures since they did not attain a credential during the first two years of community college enrollment.

Degree-Seeking vs. Non-Degree-Seeking Students

When educational goals are dichotomized, placing students seeking a credential into one category and those not seeking a credential into the other, a clearer picture of student success emerges. Tables 10 through 15 contain such information broken down by a variety of variables. According to Table 10, by 1987 only 0.6% of the non-degree-seeking students had graduated, compared to 8.7% of the degree-seekers. By 1989 this margin had widened as 15.7% of degree-seekers had graduated compared to 1.5% of the students who did not aspire to attain a degree. This increase was not equal for males and females, in that 5.3% more males graduated between 1987 and 1989, compared to only 3.1% more females for the same period. After two years of study, only 4.9% of the total population had graduated, 5.9% of the males and 4.1% of the females. Only 9.0% had graduated after four years.

The largest change between 1987 and 1989 occurred for male students who enrolled to attain a credential. This group experienced an 8.4% increase (244 additional graduates) between spring, 1987 and spring, 1989, compared to a 5.6% increase for females. Far fewer students (1.5% of the males and 0.5% of the females) who enrolled for purposes other than the attainment of a credential had graduated by the end of four years.

Table 10

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Gender

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma		Enrolled to Attain a Degree, Certificate, or Diploma		Total	
		(Goals 1, 2 and 6)		(Goals 3-5 and 7-8)			
Male	n =	2,368		2,896		5,264	
Female	n =	3,078		3,211		6,289	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Graduation							
Graduated by 1987							
Male		24	1.0	279	9.6	309	5.9
Female		10	0.3	252	7.8	256	4.1
Total		34	0.6	531	8.7	565	4.9
Graduated by 1989							
Male		59	2.5	526	18.2	585	11.1
Female		24	0.8	430	13.4	458	7.3
Total		83	1.5	956	15.7	1,039	9.0
Change, 1987 to 1989							
Male		35	1.5	244	8.4	277	5.3
Female		14	0.5	181	5.6	197	3.1
Total		49	0.9	425	7.0	474	4.1

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

Table 10 (continued)

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Gender

	Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 0, 1 and 5)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 2-4 and 6-7)		Total	
Male n =	2,368		2,896		5,264	
Female n =	3,078		3,211		6,289	
Total n =	5,446		6,107		11,553	
	n	%	n	%	n	%
Goal Attainment						
Ach. Goal Exactly - 87						
Male	1,068	45.1	167	5.8	1,235	23.5
Female	596	19.4	117	3.6	713	11.3
Total	1,664	30.6	284	4.6	1,948	16.9
Ach. Goal Exactly - 89						
Male	1,122	47.4	312	10.8	1,434	27.2
Female	626	20.4	203	6.3	829	13.2
Total	1,748	32.1	515	8.4	2,263	19.6
Change, 1987 to 1989						
Male	54	2.3	144	5.0	196	3.7
Female	30	1.0	87	2.7	119	1.9
Total	84	1.5	231	3.8	315	2.7
Exceeded Goal - 87						
Male	123	5.2	152	5.3	273	5.2
Female	80	2.6	146	4.5	228	3.6
Total	203	3.7	298	4.9	501	4.3
Exceeded Goal - 89						
Male	197	8.3	327	11.3	524	10.0
Female	104	3.4	284	8.8	388	6.2
Total	301	5.5	611	10.0	912	7.9
Change, 1987 to 1989						
Male	73	3.1	173	6.0	246	4.7
Female	25	0.8	140	4.4	165	2.6
Total	98	1.8	313	5.1	411	3.6

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Table 11

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Race

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma		Enrolled to Attain a Degree, Certificate, or Diploma		Total	
		(Goals 1, 2 and 6)		(Goals 3-5 and 7-8)			
Black	n =	263		426		689	
White	n =	5,175		5,643		10,818	
Other	n =	10		36		46	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Graduation							
Graduated by 1987							
Black		2	0.8	18	4.2	20	2.9
White		32	0.6	513	9.1	545	5.0
Total		34	0.6	531	8.7	565	4.9
Graduated by 1989							
Black		4	1.5	45	10.6	49	7.1
White		79	1.5	911	16.1	990	9.2
Total		83	1.5	956	15.6	1039	9.0
Change, '87 to '89							
Black		2	0.8	30	6.1	28	4.1
White		47	0.9	399	7.1	446	4.1
Total		49	0.9	425	7.0	474	4.1

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

Table 11 (continued)

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Race

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
Black	n =	263		426		689	
White	n =	5,175		5,643		10,818	
Other	n =	10		36		46	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Goal Attainment							
Ach. Goal Exactly-87							
Black		56	21.3	10	2.6	66	10.0
White		1,608	31.1	274	4.8	1,882	17.4
Total		1,664	30.6	284	4.6	1,948	16.9
Ach. Goal Exactly-89							
Black		61	23.2	26	6.7	87	13.2
White		1,687	32.6	489	8.7	2,176	20.2
Total		1,748	32.1	515	8.4	2,263	19.6
Change, 1987 to 1989							
Black		5	1.9	16	4.1	21	3.2
White		79	1.5	215	3.8	294	2.8
Total		84	1.5	231	3.8	315	2.7
Exceeded Goal - 87							
Black		6	2.3	7	1.8	13	2.0
White		197	3.8	291	5.1	488	4.5
Total		203	3.7	298	4.9	501	4.3
Exceeded Goal - 89							
Black		8	3.0	29	6.8	37	5.6
White		293	5.7	582	10.3	875	8.1
Total		301	5.5	611	10.0	912	7.9
Change, 1987 to 1989							
Black		2	0.8	21	5.4	23	3.7
White		96	1.9	292	5.2	388	3.6
Total		98	1.8	313	5.1	411	3.6

Table 12

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Time of Attendance

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma		Enrolled to Attain a Degree, Certificate, or Diploma		Total	
		(Goals 1, 2 and 6)		(Goals 3-5 and 7-8)			
Day	n =	2,331		4,192		6,523	
Evening	n =	2,784		1,399		4,183	
Both	n =	330		517		847	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Graduation							
Graduated by 1987							
Day		10	0.4	452	10.8	462	7.1
Evening		23	0.8	55	3.9	78	1.9
Both		1	0.3	24	4.6	25	3.0
Total		34	0.6	531	8.7	565	4.9
Graduated by 1989							
Day		40	1.7	825	19.7	865	13.3
Evening		40	1.4	92	6.6	132	3.2
Both		3	0.9	39	7.5	42	5.0
Total		83	1.5	956	15.6	1,039	9.0
Change, 1987 to 1989							
Day		30	1.3	370	8.8	400	6.1
Evening		17	0.6	40	2.9	57	1.4
Both		2	0.1	15	2.9	17	2.0
Total		49	0.4	425	6.9	474	5.9

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

Table 12 (continued)

<u>Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Time of Attendance</u>

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
Day	n =	2,331		4,192		6,523	
Evening	n =	2,784		1,399		4,183	
Both	n =	330		517		847	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Goal Attainment							
Ach. Goal Exactly - 87							
Day		610	26.2	191	4.6	801	12.3
Evening		922	33.1	73	5.2	995	23.8
Both		132	40.0	20	3.9	152	17.9
Total		1,664	30.6	284	4.6	1,948	16.9
Ach. Goal Exactly - 89							
Day		664	28.5	358	8.5	1,022	15.7
Evening		947	34.0	124	8.9	1,071	25.6
Both		137	41.5	33	6.4	170	20.1
Total		1,748	32.1	515	8.4	2,263	19.6
Change, 1987 to 1989							
Day		45	1.9	145	3.5	190	2.9
Evening		33	1.2	72	5.1	105	2.5
Both		6	1.8	14	1.0	20	2.4
Total		84	1.5	231	3.8	315	2.7
Exceeded Goal - 87							
Day		105	2.5	284	6.8	389	6.0
Evening		84	6.0	8	0.6	92	2.2
Both		14	4.2	6	1.5	20	2.4
Total		203	3.7	298	4.9	501	4.3
Exceeded Goal - 89							
Day		110	4.7	564	13.5	674	10.3
Evening		174	6.3	28	2.0	202	4.8
Both		17	5.2	19	3.7	36	4.3
Total		301	5.5	611	10.0	912	7.9
Change, 1987 to 1989							
Day		11	0.5	281	6.7	292	4.5
Evening		81	2.9	22	1.6	103	2.5
Both		6	1.8	10	1.9	16	1.9
Total		98	1.8	313	5.1	411	3.6

Table 13

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Developmental vs. Non-Developmental Students

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma		Enrolled to Attain a Degree, Certificate, or Diploma		Total	
		(Goals 1, 2 and 6)		(Goals 3-5 and 7-8)			
Developmental	n =	132		441		573	
Non-Developmental	n =	5,314		5,666		10,980	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Graduation							
Graduated by 1987							
Developmental		0	0.0	0	0.0	0	0.0
Non-Develop.		34	0.6	531	9.4	565	5.1
Total		34	0.6	531	8.7	565	4.9
Graduated by 1989							
Developmental		0	0.0	0	0.0	0	0.0
Non-Develop.		83	1.6	956	16.9	1,039	9.4
Total		83	1.5	956	15.7	1,039	9.0
Change, 1987 to 1989							
Developmental		0	0.0	0	0.0	0	0.0
Non-Develop.		49	0.9	425	7.5	474	4.3
Total		49	0.9	425	7.0	474	4.1

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

Table 13 (continued)

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Developmental vs. Non-Developmental Students

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
Developmental	n =	132		441		573	
Non-Developmental	n =	5,314		5,666		10,980	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Goal Achievement							
Ach. Goal Exactly - 87							
Developmental		11	8.3	0	0.0	11	1.9
Non-Develop.		1,653	31.1	284	5.0	1,937	17.6
Total		1,664	30.6	284	4.7	1,948	16.9
Ach. Goal Exactly - 89							
Developmental		11	8.3	3	0.7	14	2.4
Non-Develop.		1,737	33.0	512	9.0	2,249	20.5
Total		1,748	32.1	515	8.4	2,263	19.6
Change, 1987 to 1989							
Developmental		0	0.0	3	0.7	3	0.5
Non-Develop.		84	1.6	228	4.0	312	2.8
Total		84	1.5	231	3.8	315	2.7
Exceeded Goal - 87							
Developmental		0	0.0	0	0.0	0	0.0
Non-Develop.		203	3.8	298	5.3	501	4.6
Total		203	3.7	298	4.9	501	4.3
Exceeded Goal - 89							
Developmental		0	0.0	1	0.2	1	0.2
Non-Develop.		301	3.8	610	10.8	911	8.3
Total		301	5.5	611	10.0	912	7.9
Change, 1987 to 1989							
Developmental		0	0.0	1	0.2	1	0.2
Non-Develop.		98	1.8	312	5.5	410	3.7
Total		98	1.8	313	5.1	411	3.6

Table 14

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Location

	Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
On n =	4,122		5,438		9,560	
Off n =	1,170		532		1,702	
Both n =	154		137		291	
Total n =	5,446		6,107		11,553	
	n	**%**	**n**	**%**	**n**	**%**
Graduation						
Graduated by 1987						
On	25	0.6	513	9.4	538	5.6
Off	8	0.7	14	2.6	22	1.3
Neither	1	0.6	4	2.9	5	1.7
Total	34	0.6	531	8.7	565	4.9
Graduated by 1989						
On	57	1.4	919	16.9	976	10.2
Off	24	2.1	30	5.6	54	3.2
Neither	2	1.3	7	5.0	9	3.1
Total	83	1.5	956	15.7	1,039	9.0
Change, 1987 to 1989						
On	32	0.8	406	7.5	438	4.6
Off	16	1.4	16	3.0	32	1.9
Neither	1	0.6	3	2.2	4	1.4
Total	49	0.9	425	7.0	474	4.1

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

Table 14 (continued)

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Location

	Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
On n =	4,122		5,438		9,560	
Off n =	1,170		532		1,702	
Both n =	154		137		291	
Total n =	5,446		6,107		11,553	
	n	%	n	%	n	%
Goal Attainment						
Ach. Goal Exactly - 87						
On	1,316	31.9	197	3.6	1,513	15.8
Off	304	26.0	85	15.9	389	22.8
Both	44	28.6	2	1.4	46	15.8
Total	1,664	30.6	284	4.6	1,948	16.9
Ach. Goal Exactly - 89						
On	1,350	32.8	440	8.1	1,790	18.7
Off	342	29.2	72	13.5	414	24.2
Both	56	36.4	3	2.2	59	20.2
Total	1,748	32.1	515	8.4	2,263	19.6
Change, 1987 to 1989						
On	36	0.9	226	4.2	262	2.7
Off	35	3.0	4	0.7	39	2.3
Both	13	8.4	1	0.7	14	4.8
Total	84	1.5	231	3.8	315	2.7
Exceeded Goal - 87						
On	171	4.1	291	5.4	462	4.8
Off	27	2.3	5	0.9	32	1.9
Both	5	3.2	2	1.4	7	2.4
Total	203	3.7	298	4.9	501	4.3
Exceeded Goal - 89						
On	247	6.0	589	10.8	836	8.7
Off	44	3.8	18	3.3	62	3.6
Both	10	6.5	4	2.9	14	4.8
Total	301	5.5	611	10.0	912	7.9
Change, 1987 to 1989						
On	77	1.9	297	5.5	374	3.9
Off	17	1.5	13	2.4	30	1.8
Both	4	2.6	3	2.2	7	2.4
Total	98	1.8	313	5.1	411	3.6

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Table 15

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Traditional vs. Non-Traditional Students

		Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
Non-Traditional	n =	4,493		3,698		8,191	
Traditional	n =	953		2,409		3,362	
Total	n =	5,446		6,107		11,553	
		n	%	n	%	n	%
Graduation							
Graduated by 1987							
Non-Traditional		32	0.7	229	6.2	261	3.2
Traditional		2	0.2	302	12.5	304	9.0
Total		34	0.6	531	8.7	565	4.9
Graduated by 1989							
Non-Traditional		53	1.2	395	13.1	448	5.5
Traditional		30	3.1	561	28.6	591	17.6
Total		83	1.5	956	15.7	1,039	9.0
Change, 1987 to 1989							
Non-Traditional		8	0.2	169	4.6	177	2.2
Traditional		41	4.3	256	10.6	297	8.8
Total		49	0.9	425	7.0	474	4.1

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
       Goal 2 = Developing Career Skills
       Goal 3 = Career Studies Mini-Certificate
       Goal 4 = One-Year Certificate
       Goal 5 = Two-Year Diploma
       Goal 6 = Transfer to Four-Year College (No Degree)
       Goal 7 = Two-Year Transfer Program (A.S. Degree)
       Goal 8 = A. A. S. degree

Table 15 (continued)

Comparison of Goal Attainment of Students Who Enrolled for the Purpose of Attaining a Credential and Those Who Enrolled For Other Purposes, Broken Down by Traditional vs. Non-Traditional Students

	Enrolled for Purposes Other Than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8)		Total	
Non-Traditional n =	4,493		3,698		8,191	
Traditional n =	953		2,409		3,362	
Total n =	5,446		6,107		11,553	
	n	%	n	%	n	%
Goal Attainment						
Ach. Goal Exactly - 87						
Non-Traditional	1,187	26.4	170	4.6	1,357	16.6
Traditional	477	50.1	114	4.7	591	17.6
Total	1,664	30.6	284	4.6	1,948	16.9
Ach. Goal Exactly - 89						
Non-Traditional	1,213	27.0	301	8.1	1,514	18.5
Traditional	535	56.1	214	8.9	749	22.3
Total	1,748	32.1	515	8.4	2,263	19.6
Change, 1987 to 1989						
Non-Traditional	32	0.7	132	3.6	164	2.0
Traditional	52	5.5	99	4.1	151	4.5
Total	84	1.5	231	3.8	315	2.7
Exceeded Goal - 87						
Non-Traditional	171	3.8	87	2.4	258	3.1
Traditional	32	3.4	211	8.8	243	7.2
Total	203	3.7	298	4.9	501	4.3
Exceeded Goal - 89						
Non-Traditional	255	5.7	210	5.7	465	5.7
Traditional	46	4.8	401	16.6	447	13.3
Total	301	5.5	611	10.0	912	7.9
Change, 1987 to 1989						
Non-Traditional	84	1.9	114	3.1	198	2.4
Traditional	14	1.4	199	8.3	213	6.3
Total	98	1.8	313	5.1	411	3.6

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Not surprisingly, most of these students were those who indicated that they intended to graduate when they enrolled (Goals 3-5, 7 and 8). By 1989, 15.7% of these students had actually earned a credential, compared to 1.5% of the students who enrolled for purposes other than credential attainment. A higher percentage of males than females attained credentials.

When goal attainment was considered, 27.2% of the males and 13.2% of the females had achieved their entry level educational goals by 1989. In addition, 10.0% of the males and 6.2% of the females had exceeded their stated educational goals by spring 1989, four years after they first enrolled in a community college. These figures indicate that a total of 37.2% of the males and 19.4% of the females achieved or exceeded their educational goals after four years (a "new" definition of success), compared to only 5.9% of the males and 4.1% of the females who had graduated after two years of enrollment (the traditional definition of success).

Similar patterns occurred when an examination by racial categories was conducted. As Table 11 indicates, after two years of enrollment, only 2.9% of Black students and 5.0% of White students had graduated. This compares to 7.1% and 9.2% respectively who had graduated after four years. Goal achievement figures indicate that 18.6% of Black students and 28.3% of White students had achieved or exceeded their educational goals by spring, 1989.

Table 12 indicates that when graduation is considered, day students are more successful in terms of graduation rates than either their evening student

counterparts or the students who took equal numbers of day and evening courses (the "Both" category). Not only did more day students graduate by the end of two years of study (7.1%), than their evening (1.9%) and "Both" (3.0%) counterparts, but after four years the differences were more pronounced. By 1989, 13.3% of the day students had graduated, compared to only 3.2% of the evening students, and 5% of the "Both" category. By 1987, 0.8% of the non-degree seeking evening students and 0.3% (one student) of the non-degree seeking "Both" students had graduated. Degree-seeking day students had the highest graduation rate, with 10.8% graduating by 1987 and 19.7% by 1989.

However, goal achievement figures are quite different. The most successful students, when goal achievement was considered, were non-degree-seeking students who took equal numbers of day and evening courses (those in the "Both" category). By 1989, 41.5% of such students had achieved their educational goals and an additional 5.2% exceeded their goals. This compares to 19.6% of the population as a whole, 25.6% of evening students, and 15.7% of day students who had exactly achieved their goals by 1989.

Students who did not find it necessary to take developmental courses when they enrolled in a community college outperformed their developmental counterparts by far. (See Table 13.) None of the developmental students had received a credential of any sort four years after they enrolled in a community college for the first time. This compares to 5.1% of non-developmental students who had graduated by 1987 and 9.4% by 1989.

Goal attainment provides essentially the same picture. By 1987, 8.3% of the developmental students whose goals fell into categories 1, 2 and 6 had exactly achieved their educational goals, a statistic which did not change during the subsequent two-year period. None of these students exceeded their goals.

It should be noted that developmental students represent a very small proportion (5%) of the population. Because the formula for funding community colleges provided fewer dollars for developmental credit hours than for non-developmental courses, it is possible that some colleges did not encourage their students to be classified as developmental. In such cases, only those students who were truly unprepared for college would be placed in this category, and the fact that even a few were able to complete courses is an indication that the colleges were successful.

Degree-seeking students who took the majority of their courses on campus outperformed other groups in terms of the number who graduated, according to Table 14. After two years of enrollment, 9.4% of these students had graduated, compared with less than 3% for all other groups. After four years, this gap had widened to 16.9% for on campus degree-seekers compared to 5.6% or less for all other students.

The tables seemed to turn, however, when goal achievement was considered. According to Table 14, by 1987, 26.0% of off campus non-degree-seeking students had achieved their educational goals exactly compared to 31.9% of on campus non-degree-seekers and 15.9% of those who enrolled for the purpose of attaining

a credential. By 1989, the group with the highest goal attainment rate was students who took an equal number of on campus and off campus courses (the "Both" category). On campus students had the greatest percentage of degree-seeking students attain their goals.

When age is considered, traditional college-age students outperform their non-traditional counterparts in terms of graduation rates by a margin of three to one percentage points. As Table 15 illustrates, after two years of study, 9.0% of traditional students had graduated, compared to only 3.2% of non-traditional students. This margin was 17.6% to 5.5% after an additional two years. The most successful group by far were credential-seeking traditional students, of whom 28.6% graduated when given four years to do so. This compares to only 1.2% of the non-traditional, non-credential-seeking students and 3.1% of the traditional aged non-degree-seekers.

Goal attainment figures reveal a similar pattern as 60.9% of traditional non-credential-seekers either exactly achieved or exceeded their educational goals, compared to 32.7% of non-traditional students who enrolled for purposes other than credential attainment. Figures for credential-seekers are similar, although smaller numbers of students were successful. As Table 15 indicates, 25.5% of traditional credential-seekers attained or exceeded their goals, compared to only 13.8% of non-credential-seekers.

Table 16 summarizes the previous six tables and clearly illustrates the difference between the traditional measure of success for community college

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students, on-time graduation, and a measure of institutional effectiveness tied to both students' aspirations and their protracted attendance patterns. Applying the traditional measure of success, on-time graduation, to students involved in this study paints a dismal picture of the effectiveness of participating community colleges. At the end of two years of study, only 4.9% of the students had earned a degree, certificate, or diploma. By looking at credential attainment as the criterion for success, but taking into account the protracted attendance patterns of community college students, the success rate changes dramatically. As Table 16 indicates, by 1989 (four years after initial enrollment), 9.0% of the students had attained a credential, nearly doubling the 4.9% who had done so by 1987.

It is reasonable to assume that credential attainment may not be an accurate measure of success for all students. By examining graduation rates of students who enrolled in the community college for the purpose of attaining a credential, a clearer picture emerges. While only 4.9% of the total population had graduated y 1987, of the students who stated up front that they intended to graduate, 8.7% had done so. By 1989, that figure increased to 15.7%, more than three times the number traditionally counted in measures of institutional effectiveness. Thus, by considering only those students who intended to graduate and allowing an additional two years in which to do so, the success rate more than triples.

As stated above, credential attainment is a reasonable success measure for some students but not for others. For students who enroll for purposes other than to acquire a degree, certificate or diploma, graduation may not be an accurate

Table 16

Graduation and Goal Attainment Rates for Students Who Enrolled for the Purpose of Degree Attainment Compared to Those Who Enrolled for Reasons Other Than to Attain a Degree

	Enrolled for Purposes Other than Attainment of a Degree, Certificate, or Diploma (Goals 1, 2 and 6) (n = 5446)		Enrolled to Attain a Degree, Certificate, or Diploma (Goals 3-5 and 7-8) (n = 6107)		Total (n = 11,553)	
	n	%	n	%	n	%
Graduation						
Graduated by 1987	34	0.6	531	8.7	565	4.9
Graduated by 1989	83	1.5	956	15.7	1039	9.0
Change, 1987 -> 89	49	0.9	425	7.0	474	4.1
Goal Achievement						
Achieved Goal Exactly by 1987	1664	30.6	284	4.7	1948	16.9
Achieved Goal Exactly by 1989	1748	32.2	515	8.5	2263	19.6
Change 1987 -> 1989	84	1.5	231	3.8	315	2.7
Exceeded Goal by 1987	203	3.7	298	4.9	501	4.3
Exceeded Goal by 1989	301	5.5	611	10.0	912	7.9
Change 1987 -> 1989	98	1.8	313	5.1	411	3.6

Note: Goal 1 = Auditing, Personal Satisfaction, or only planning to take one course
Goal 2 = Developing Career Skills
Goal 3 = Career Studies Mini-Certificate
Goal 4 = One-Year Certificate
Goal 5 = Two-Year Diploma
Goal 6 = Transfer to Four-Year College (No Degree)
Goal 7 = Two-Year Transfer Program (A.S. Degree)
Goal 8 = A. A. S. degree

way to measure their success. As Table 16 illustrates, 47.1% (5,446) of the students stated at the time of initial enrollment that they did not intend to earn a credential. Indeed, after two years, only 0.6% of these students had attained any sort of credential, and only 1.5% had done so after four years of study. The fact that even a small percentage of such students graduated would seem to be an indication of the holding power of community colleges, as these students obviously persisted in their studies far longer than they thought they would at the time of initial enrollment.

By 1987, 16.9% of the population had exactly attained their stated educational goals and an additional 4.3% had exceeded them. Therefore, simply changing the criterion for success from graduation to goal attainment the success rate increases from 4.9% to 21.2%. By providing an additional two years the number of goal attainers or exceeders increases to 19.6% and 7.9% respectively, a total increase of 6.3% over the two-year figure and 22.6% greater than the number who graduated by 1987.

Of the students who intended to attain a credential, 8.5% exactly achieved their goal by 1989, while 10.0% exceeded their goals. The latter group of students would include those who took additional courses after they had earned enough credits to receive the credential for which they initially enrolled.

Of the students who did not intend to attain a credential, 30.6% exactly achieved their goals and 3.7% exceeded them by 1987. This figure increased marginally by 1989, to 32.2% for achievers and 5.5% for exceeders.

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A comparison among the success measures under consideration reveals that the traditional measure of success, graduation after two years of study, yields a success rate of 4.9%. Extending the time allowed for graduation by two years results in a 4.1% increase in the number of graduates. Examining goal attainment rather than credential attainment reveals that by 1987, 21.2% of the students had achieved or exceeded their goals, and that by 1989 this figure had increased to 27.5%, nearly six times the rate of on-time graduates.

It should be noted that students who did not aspire to attain a credential appear to be far more successful than their degree-seeking counterparts. After two years of study, non-degree-seekers had a success rate of 34.3% (30.6% achieved and 3.7% exceeded) compared to a 9.6% rate for degree-seekers. By 1989, this figure had increased to 37.7% for non-degree-seekers and 18.5% for degree-seekers. An interesting finding is that while non-degree-seekers are more likely to achieve their goals exactly, degree-seekers appear to be more likely to exceed their goals when both the two-year and four-year periods are considered.

Rather than looking at on-time graduation as the measure of success for community college students, it seems reasonable to consider what they wanted to do when they enrolled and measure their accomplishments against that standard. To that end, a legitimate measure may be to consider degree-seekers successful only if their community college careers result in their being awarded a degree. Non-degree-seekers should be measured against the total number of courses they intended to complete, either for credit or as audits. Using these criteria, a success

rate could be calculated based upon the 15.5% of degree-seekers who graduated by 1989 and 37.7% of non-degree-seekers who attained their goals by 1989. These two groups represent 3006 students, or 26% of the population, a far greater number of "successes" than the 4.9% who graduated by 1987.

Effect of Changing Definition of Success

Table 17 summarizes the effect of changing the definition of success for community colleges from the attainment of a credential after two years of courses to goal attainment after four or more years. The most dramatic difference as a result of such a definitional change occurred for traditional students who stated that they were not seeking a degree when they enrolled. More than 60% of these students achieved their educational goals at the end of four years, compared to only 0.2% who had graduated at the end of two years. Similar results were attained for males who did not wish to earn a degree as well as non-degree-seekers in almost every category. These results would seem to indicate that, given the opportunity, students will persist to attainment of their educational goals, whether those goals are to attain a credential or some other goal. They also indicate that community colleges are not only meeting the educational needs of students, they are helping many to exceed their initial goals.

A consideration of credential-seekers also indicates that protracted attendance patterns of community college students may play a role in the determination of success or failure of colleges in meeting their needs. For instance, 14.2% more

Table 17

<u>Comparison of the Number of Students Who Graduated After Two Years of Study and Those Who Attained or Exceeded Their Educational Goals After Four Years</u>

	Graduated by 1987		Attained or Exceeded Goal by 1989	Difference
	n	%	%	%
Total				
Not seeking a credential	5,446	0.6	37.6	37.0
Seeking a credential	6,107	8.7	18.4	9.7
Gender				
Male				
Not seeking a credential	2,368	1.0	55.7	54.7
Seeking a credential	2,896	9.6	22.1	12.5
Female				
Not seeking a credential	3,078	0.3	23.8	23.5
Seeking a credential	3,211	7.8	15.1	7.3
Race				
Black				
Not seeking a credential	263	0.8	25.6	24.7
Seeking a credential	426	4.2	37.4	33.2
White				
Not seeking a credential	5,175	0.6	38.3	37.7
Seeking a credential	5,643	9.1	19.0	9.9
Time				
Day				
Not seeking a credential	2,331	0.4	31.0	30.6
Seeking a credential	4,192	10.8	22.0	11.2
Evening				
Not seeking a credential	2,784	0.8	40.0	39.2
Seeking a credential	1,399	3.9	10.9	7.0
Both				
Not seeking a credential	330	0.3	45.7	45.4
Seeking a credential	517	4.6	10.1	5.5

Table 17 (continued)

<u>Comparison of the Number of Students Who Graduated After Two Years of Study and Those Who Attained or Exceeded Their Educational Goals After Four Years</u>

	n	Graduated by 1987 %	Attained or Exceeded Goal by 1989 %	Difference %
Total				
Not seeking a credential	5,446	0.6	37.6	37.0
Seeking a credential	6,107	8.7	18.4	9.7
Developmental/Remedial				
Developmental				
Not seeking a credential	132	0.0	0.9	8.3
Seeking a credential	441	0.0	1.1	1.1
Non-Developmental				
Not seeking a credential	5.314	0.6	36.8	36.2
Seeking a credential	5,666	9.4	19.8	10.4
Location				
On Campus				
Not seeking a credential	4,122	0.6	38.8	38.2
Seeking a credential	5,438	9.4	18.9	9.5
Off Campus				
Not seeking a credential	1,170	0.7	33.0	32.3
Seeking a credential	532	2.6	16.8	14.2
Both				
Not seeking a credential	154	0.6	42.9	42.3
Seeking a credential	137	2.9	5.1	2.2
Age				
Non-Traditional				
Not seeking a credential	4,493	0.7	32.7	32.0
Seeking a credential	3,698	6.2	13.8	7.6
Traditional				
Not seeking a credential	953	0.2	60.9	60.7
Seeking a Credential	2,409	12.5	25.5	13.0

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off campus students who stated that they wished to earn a degree had graduated by 1989 than by 1987. Similar results were found for males, Black students, and non-developmental students, all of whom experienced increases in excess of 10% when the additional two years of study and their educational goals were taken into consideration before counting them successes or failures in terms of their community college experiences.

Chapter 5

CONCLUSIONS

With the changing demographics of American community colleges as well as increased emphasis on quality of education in the United States, it has become more important than ever for institutions of higher education to demonstrate that they are meeting the educational needs of their students. Accrediting agencies now focus on learner outcomes and results, concentrating specifically upon a documentation of institutional effectiveness, and focusing on quality of instructional programs rather than on ever-increasing enrollments. This focus implies that "institutional effectiveness is determined by examining how well an institution meets and fulfills the specific needs of the area that it serves." (Wilson, 1989, p. 5) Institutions can no longer measure their success in terms of the number of credentials bestowed upon graduates, but on how well they help students meet their varied educational needs.

This study identified a number of demographic and educational factors which appear to be associated with the success or failure of community college students. Administrators and other decision-makers would do well to consider such factors as they participate in planning and development activities.

The findings of this study indicated that while students who aspire to earn a community college degree, certificate, or diploma are more likely to graduate

than those who do not have such aspirations, they are less likely to attain their educational goals within a given time frame (of this study). This has far-reaching implications in terms of the ways in which community colleges have been judged. Institutional effectiveness criteria for accreditation now require a close inspection of the outcomes of higher education in terms of the college's mission and goals. The mission of community colleges is to meet the educational needs of the community in which it is located, whether or not those needs include the attainment of a four-year degree. If students' diverse educational needs are met, then the community college should be judged as being successful.

In this study, the extent to which educational goals were achieved was measured in terms of what the student set out to do when he or she enrolled in the community college. These diverse goals provided a base from which to measure student success. If students were able to do what they said they were going to do when they enrolled, then they were counted as successes. As the study indicated, 27.5% of community college students are successful in attaining their entry level educational goals, and many exceed those goals by a wide margin, even if they do not receive a credential prior to exiting the college setting.

While credential attainment may be a legitimate measure of success for students who aspire to attain a degree, certificate or diploma, it is not a reasonable measure for non-degree-seekers. This study proposes a clearer alignment between students' goals and their educational outcomes. As demonstrated in Chapter 4, at the end of two years of study, only 4.9% of the

students had attained a credential of any sort, an abominable success rate by any standard. Such a lack of success on the part of community colleges may not be so much a function of how well they meet students' needs as how they are measured.

For instance, the typical community college student does not attend school full-time, but takes a less than full course load at any one time (Table 8), and may occasionally drop out for a term only to re-enroll and continue pursuing an education. Such protracted attendance patterns make the two-year time period for credential attainment an unreasonable standard. When this time period is extended to four years, the number of students who attained a credential increased from 4.9% to 9.0%.

Beyond the obvious findings presented in Chapter 4, a fundamental issue is brought into question: the practice of evaluating community colleges by counting graduates and tracking them to determine their degree of success or failure, to the exclusion of other groups of students. With 47.1% of all students (Goals 1, 2, and 6) in this study indicating that they did not intend to attain a degree at the time of college entry, an examination of the success or failure of only potential graduates would ignore nearly half of the student body.

As Table 16 indicates, only 4.9% of the population as a whole earned a credential within the first two years of their community college careers (the traditional measure of success). This compares to 8.7% of the students who set out to earn a credential. However, when of protracted attendance patterns were considered, the success rate of credential-seekers increased to 15.7%.

The above method of examining institutional effectiveness does not take into account students who enroll in community colleges for purposes other than credential attainment, nearly half of the students involved in this study. For such students, it is appropriate to match their stated educational goals with a measure of the number of courses taken, for credit or audit. If they do indeed take the courses necessary to reach their goals, then the community college has met their needs, and could consider itself effective in terms of addressing the educational requirements of its service area.

According to Table 16, at the end of two years of study, only 0.6% of the students who did not wish to attain a degree had graduated, a figure that increased by less than one percent during the next two years. Using traditional effectiveness measures, these are the only non-degree-seeking students who would be considered successful. However, when educational goal attainment is used as the standard for success, 30.6% exactly achieved their educational goals, and an additional 3.7% had exceeded their goals. These figures increased to 32.2% and 5.5% respectively at the end of four years, for a success rate of 37.7% for non-degree-seeking students.

To determine the effectiveness of community colleges in meeting students' educational needs, it is appropriate to deem credential-seekers as successful if they attain a credential, and non-credential-seekers successful if they attain the amount of education they set out to acquire when they enroll. Applying this standard to the population of this study, 956 of the credential-seekers and 2,049 of

those not seeking credentials would be considered successful after four years of study, an success rate of 26%.

While the new definition of success results in an increase of 21.1% of the students being deemed successful, indicating that the picture of community college success is not as dismal as some have thought, the population success rate is still very low and causes one to question why 74% of the students do not meet their entry level educational goals. Why do such a large majority of students not reach their goals during the first four years of study? One reason may be protracted attendance patterns discussed above. Four years may not be long enough for some students who take light loads and occasionally drop out for a term. Some students may require five or more years to reach their goals. Other explanations may rest in the nature of students who attain their goals.

According to Table 17, the single most successful group of students are those who are recent high school graduates and do not plan to earn a credential at the community college. In almost every category, students who do not plan to earn a credential are more likely to attain or exceed their goals than their credential-seeking counterparts. Within the broad categories of gender, race, time of attendance, age, etc., certain conclusions may be drawn. Male non-credential-seekers, for example, are more successful than females, and white students attain their goals more frequently than minorities. It is interesting, however, that more Black degree-seekers attain or exceed their goals than do non-degree-seekers, a pattern directly opposite of that in evidence in all other categories except

developmental students.

An interesting finding related to both time of attendance and location is that non-credential-seeking students who take equal numbers of day and evening courses, or equal numbers of on campus and off campus courses tend to be more successful than students who take the majority of the courses in one location or during one time period. A possible explanation for such a trend may be that students who are willing to disrupt their personal schedules to take courses whenever and wherever they are offered are more focused and dedicated to reaching their goals than are those who establish a schedule and stick with it.

Developmental students are the least successful group of all, with only about 1% either attaining or exceeding their goals. While it is not surprising that these students are less successful than students who do not have to begin their college careers by taking courses to prepare for college-level work, it is discouraging that so few succeed. Such a low success rate brings into question the utility of developmental courses as well as the practice of admitting such high-risk students when their chances for success are so limited.

One of the reasons for the low success rate of developmental students included in this study is that while students receive college credit for these courses, the credit may not be applied to degree requirements. Therefore, the typical developmental studies classroom contains two basic types of students - those who are very conscientious and want to be absolutely sure they are prepared for college-level work and those whose basic skills are so very low that they have

been counselled to enroll in such courses.

A second reason for the low success rate of developmental students may be that funding for such courses is at a lower rate than non-developmental courses. Therefore, current practice is to counsel marginal students to enroll in courses that receive the higher funding rate. Only the very weakest students are encouraged to take developmental courses. In this study, only 5.0% of the population were enrolled in developmental courses, compared to a nationwide estimate that 65% of community college students would benefit from developmental coursework. (Personal Communication, Dan Vogler, July 6, 1992) The results presented here should give community college counselors and administrators cause to question current practice. If only the weakest students take developmental courses, and they are no more successful than those in this study, then the utility of developmental courses may be called into question.

Recommendations

While the picture of community college success is not as dismal as some people may have thought, it is certainly not as bright as it could be. Administrators need to determine whether, using the criteria for determining success outlined here, their institutions are as successful as they can be. In other words, this picture is better, but is it good enough? Standards for reasonable expectations of success need to be developed and institutional effectiveness measured against such pre-established standards.

Databases in use at the time these data were collected did not distinguish between stop-outs, dropouts, and students who transfer to another postsecondary institution. It is possible that some of the students who were counted here as non-graduates or non-goal attainers actually continued their education elsewhere after getting a start at the community college. While efforts are underway in many states to track students following departure from the community college, such information is not routinely collected by colleges involved in this study. Follow-up information should be used to guide decisions about needed program changes as well as to help counselors and career development officers anticipate which students may be in need of assistance before they prematurely leave the institution.

The results presented in this study paint the bleakest possible picture of community college success. Because the database did not contain information about students following their exit from the community college, those who stated that they wanted to earn credits to transfer to a four-year institution (Goal 6) and earned fewer than 90 credit hours prior to transferring were counted as "non-successes". Likewise, students who enrolled for the purpose of upgrading job skills (Goal 2) and who earned fewer than twelve credit hours were not counted as successes. Both of these groups of students could be counted as successful by the community colleges, but were not here because of the goal attainment criteria outlined in Table 5. The actual success rate of all groups of students may be even higher if goal attainment criteria take into account the unique circumstances of

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these groups of students or if databases more accurately reflect the extent to which these goals are attained, e.g., track students to determine whether they actually transfer.

Community college student personnel services should be closely aligned with the types of students they are serving and their staff trained to interpret research findings such as those presented here so they will know when and how to provide special assistance to students who may be in danger of withdrawing prior to goal attainment. Such training would also enable them to recognize students who are likely to change their educational goals in favor of attaining a higher level of education. They would be prepared to more accurately advise students early in their educational careers about courses which will meet their short term educational needs as well as provide necessary prerequisites should they decide to change their goals.

Suggestions for Further Study

This study tracked community college students from the time that they first enrolled for four years. Given the protracted attendance patterns of typical community college students - taking smaller course loads than their college or university counterparts as well as dropping out and re-enrolling - it seems reasonable to expect that the logical next step to this study would be to follow these same students for a more extended period of time to determine whether additional students eventually graduate or attain their goals. Course-taking habits,

such as the average number of courses taken each term by certain groups of students, should be monitored to determine at what point students either lose interest and drop out completely or decide to "go for it" and increase their course load as they pursue a more auspicious goal. Such information would be invaluable for counselors because it would guide them in advising students about course-taking strategies and determining at what point in students' educational careers they should intervene to help them overcome obstacles or make the decision to change their goals.

A second area needing study is the point at which students' educational goals change. It seems obvious from the findings of this study that at some point in time, certain students who initially enroll to take a single course actually decide to pursue a credential, and certain others who initially plan to pursue a credential eventually decide not to do so. The process involved in making such decisions should be studied to determine at what point college counselors may be most beneficial to students in terms of goal clarification and encouragement to stay in school.

Third, a match between community college missions and their success with students is essential if colleges are to meet the current criteria for institutional effectiveness of the Southern Association of Colleges and Schools (SACS), which defines institutional effectiveness as the ongoing documented comparison of performance to the institution's future mission or purpose. (Southern Association of Colleges and Schools, 1987) This definition implies that member institutions

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must focus on learner outcomes and results. What better result than to measure whether students are able to attain their educational goals, and then some, they desire when they enroll.

The number of crosstabulations included in this study was limited to broad categories such as race, gender, age, etc. Given recent research related to the interrelationship between race and gender and its effect on student success, further research should be conducted to determine whether the relationships described here hold true for all gender and racial groups. For instance, an area to be considered would be whether Black females tend to be as successful as their Black male or White female counterparts. Because of the low proportion of Black students in this sample, such analyses were not conducted, but follow-up studies should take such factors into consideration.

The sample used in this study is heavily weighted toward White students. While the racial balance of this population included only 6% Black students and less than 1% students of Asian, Pacific Island and other nationalities, according to the 1990 census the population of the service areas of community colleges included in the study is closer to 10% Black and 2% "Other". A more representative sample of the population should be examined to determine whether the same graduation and goal attainment patterns are consistent across all segments of the population.

Instruments used to collect information about students' educational goals provide a snapshot of the needs of entering students. As mentioned above, there

is some question as to the stability of these goals over time since some students change their minds about their goals. More detailed information should be collected routinely to provide a guide for college planners, counselors and researchers. Such information should include entry-level goals as well as measures of educational goals collected at several points in time, such as the end of the first term, after accumulating sufficient credit hours to transfer to a four-year institution, at the time of graduation, and after the student has exited the community college. By tracking student progress toward meeting goals over time, community colleges will be better able to determine whether the colleges are meeting educational needs of their clientele.

Community colleges would do well to encourage counselors and placement advisors to ensure that the entry-level goal statements are as accurate as possible at the time of admission. In some instances, students may not understand the importance of accurately reporting their educational aspirations, or they may not understand the differences among options contained on data collection instruments. Wherever possible, students should be apprised of the importance and meaning of these options. Follow-up counseling should focus on those groups of students who may be at-risk of leaving the institution prior to attainment of their goals as well as on helping students who are considering a goal shift.

Finally, this study examined two definitions of success for community college students - on-time graduation vs. goal attainment over time. It may be easier for some readers to think of these two definitions as a single concept:

completion of the student's educational goal which may or may not include graduation. This would really combine two views of institutional effectiveness, getting students to graduate on time and students' attaining their educational goals in their own time frame.

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Appendix A

Letters of Request and Permission
to Use Data Included On the
Western Regional Computer System
at Virginia Western Community College

MEMORANDUM

TO: *Max Wingett*

FROM: *Jean Williams*

DATE: *April 26, 1989*

SUBJECT: *Use of PHCC Student Information for Dissertation*

As you know I am working on my Ph.D. in Educational Research and Evaluation at Virginia Tech. I am ready to begin work on my dissertation and would like to use data from the Student Information System if possible.

I plan to look at students' educational goals when they apply and compare them to two different measures of success to determine which measure is more valid in discussions about institutional effectiveness. I expect to find that traditional measures of success (on-time graduation) are appropriate for transfer students who have recently graduated from high school. A more appropriate measure of success for nontraditional and occupational/technical students may be attainment of educational goals after a longer period of time. This is an area which community colleges across the country are just beginning to examine. I have not been able to find any empirical studies on this topic, and discussions with other institutional researchers and college administrators in the state lead me to believe that very few, if any, have conducted similar studies. This may be a chance for PHCC to break new ground in the area of assessment and institutional effectiveness.

With your permission, I would like to track a sample of PHCC students across several quarters/semesters to determine the validity of these two success measures for several groups of students. Information about PHCC students will be combined with that from other colleges in the western region of Virginia. In my report of this study I will not identify PHCC without prior permission from you nor, will I identify any students or provide information which would allow others to identify PHCC or its students. I will be happy to share my findings with you and your staff.

I appreciate you consideration of this request. As always, if you need more information or clarification about my plans, I will be happy to provide it.

pc: Dr. Joanne B. Whitley, Director of Institutional Advancement

Institutional Advancement
PATRICK HENRY COMMUNITY COLLEGE
P.O. Drawer 5311, Martinsville, Virginia 24115-5311, Phone: (703) 638-8777

MEMORANDUM

TO: *Dr. Max Wingett*

FROM: *Jean Williams*

DATE: *April 27, 1989*

SUBJECT: *Database Utilization for Dissertation*

Attached is a copy of a letter which I sent to the presidents of colleges in the western region of the state. You will note that I am asking them for permission to access information about their students for the purpose of conducting my dissertation study.

I have also attached a copy of the letter forwarded to Dr. Roesler requesting his permission to access the database.

MEMORANDUM

TO: *Dr. Elmo Roesler*
Assistant Vice Chancellor for Research and Planning
Virginia Community College System

FROM: *Jean Williams*

DATE: *April 27, 1989*

SUBJECT: *Utilization of VCCS Data for Dissertation*

Attached is a copy of the letter which I have sent to the presidents of community colleges in the western region of Virginia. These are the institutions which are serviced by the western regional computing center (WESA) in Roanoke. As I mentioned to you on the phone, I would like to take a sample of students from each of these schools and track them across several academic terms. The purpose of this study is to compare two definitions of success: on-time graduation and long-term goal attainment, and to determine which definition is valid for specific groups of community college students.

Since this is a regional study, no student- or institution-specific information will be published in the final report. However, I have assured the presidents that I will provide them with information about their schools in exchange for permission to access their data.

Harry Sellers at Virginia Western Community College has indicated that he needs written permission from you or Dr. Smith before he will allow me to access the files needed for this study. I have assured him that I would also contact each institution and access only those files for which I have explicit permission from the dean or president of that institution.

I appreciate your interest in my work here at PHCC as well as at Virginia Tech and welcome your suggestions for improvement. Please let me know if you need additional information before contacting Mr. Sellers.

pc: Dr. Marshall Smith, Vice Chancellor for Researach and Planning, VCCS, with attachment
       Dr. Max Wingett, President, PHCC, with attachment
       Dr. James Impara, School of Education, V.P.I & S.U., with attachment

Institutional Advancement
PATRICK HENRY COMMUNITY COLLEGE
P.O. Drawer 5311, Martinsville, Virginia 24115-5311, Phone: (703) 638-8777

April 27, 1989

Dr. Marilyn C. Beck, President
Lord Fairfax Community College
P. O. Box 47
Middletown, VA 22645

Dear Dr. Beck:

I am enrolled in the educational research and evaluation doctoral program at Virginia Tech. The area of study which I have selected for my dissertation deals with educational goal attainment as a measure of institutional effectiveness. Specifically, I plan to test the validity of two definitions of success: on-time graduation and long-term goal attainment.

To conduct this study I need to access information provided by community college students in the western region of Virginia when they apply for enrollment. Specifically, I will be looking at curriculum codes for a sample of students during their first term of enrollment. I will then track those students over several terms to determine what types of students are successful. My final product will be a set of prediction equations which may be used to identify students who are likely to leave school prior to goal attainment. Early interventions may be provided for such high-risk students.

Since data needed to conduct this study are contained on the computing system, with your permission it may be accessed locally and will not require work on the part of any person on your staff. If you allow me to utilize data about your students, it will be treated in a confidential manner, Lord Fairfax Community College will not be identified in the final report without prior written permission from you, and I will not provide information which will allow anyone to identify your institution or its students. I will provide you with institution-specific information which is collected during the course of this study.

In order to access this information I must have your written permission. I would appreciate your considering this request and providing such permission at your earliest convenience. If you need clarification about the specifics of this study, I will be happy to provide it. I look forward to hearing from you in the very near future.

Yours sincerely,

Jean M. Williams, Coordinator
Institutional Research, Planning and Evaluation

pc: Dr. Max F. Wingett, President, PHCC
    Dr. James Impara, School of Education, V.P.I. & S.U.
    Dr. Elmo Roesler, Assistant Vice Chancellor for Research and Planning, VCCS

Names and Addresses of College Presidents
Who Received Letters Requesting Permission
to Access Institutional Databases

Dr. Marilyn C. Beck, President
Lord Fairfax Community College
P.O. Box 47
Middletown, VA 22645

Dr. John F. Beckels, President
Dabney S. Lancaster Community College
P.O. Box 1000
Clifton Forge, VA 24422-1000

Dr. Charles Downs, President
Virginia Western Community College
P.O. Box 14005
Roanoke, VA 24038

Dr. Floyd Hogue, President
New River Community College
Route 100 North
Dublin, VA 24084

Dr. Charles R. King, President
Southwest Virginia Community College
P.O. Box SVCC
Richlands, VA 24641

Dr. N. DeWitt Moore, Jr., President
Virginia Highlands Community College
P.O. Box 838
Abingdon, VA 24210

Dr. Arnold R. Oliver, President
Danville Community College
1008 South Main Street
Danville, VA 24541

Dr. Ruth M. Smith, President
Mountain Empire Community College
Drawer 700
Big Stone Gap, VA 24219

Dr. William F. Snyder, President
Wytheville Community College
1000 East Main Street
Wytheville, VA 24382

Dr. Max Wingett, President
Patrick Henry Community College
P.O. Drawer 5311
Martinsville, VA 24112-5311

Lord Fairfax Community College

P.O. BOX 47, MIDDLETOWN, VA 22645   703-869-1120

May 24, 1989

Ms. Jean M. Williams, Coordinator
Institutional Research, Planning and Evaluation
Patrick Henry Community College
P. O. Drawer 5311
Martinsville, Virginia 24115-5311

Dear Ms. Williams:

Your request is approved to access computer information needed to
complete your Virginia Tech doctoral dissertation study as
explained by your letter of April 27.   I will look forward to
receiving results of your study.

Yours truly,

Marilyn C. Beck
President

MCB:ss

Danville Community College

1008 South Main Street
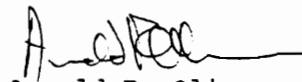Danville. Virginia 24541
(804) 797-3553

May 8, 1989

Ms. Jean M. Williams
Coordinator
Institutional Research, Planning and Evaluation
Patrick Henry Community College
P. O. Drawer 5311
Martinsville, VA 24115-5311

Dear Ms. Williams:

This is to advise that I am authorizing you to access Danville Community College data currently contained in the computing system for use in your doctoral research. My only concern is that the data be treated in a confidential manner as stated in your letter of April 27.

My best wishes to you as you undertake this project.

Sincerely,

Arnold R. Oliver
President

gb

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Wytheville Community College, 1000 East Main Street, Wytheville, Virginia 24382, Telephone 703/228-5541

May 12, 1989

Ms. Jean M. Williams, Coordinator
Institutional Research, Planning and Evaluation
Patrick Henry Community College
P. O. Drawer 5311
Martinsville, VA   24115-5311

Dear Ms. Williams:

As requested in your letter of April 27, 1989, I grant you permission to access the information on Wytheville Community College students required for your dissertation at Virginia Tech. This approval is provided under the conditions you outlined in your letter. Your contact at WCC will be Phyllis C. Ashworth, my Administrative Assistant. If you have questions or need additional information as you begin your research, please contact her.

I hope the information will be useful to you and wish you much success in your research study.

Sincerely,

William F. Snyder
President

rms

c Phyllis C. Ashworth,
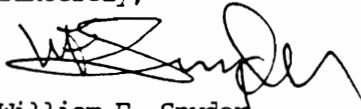   Administrative Assistant
      to the President

May 12, 1989

Ms. Jean M. Williams, Coordinator
Institutional Research, Planning & Evaluation
Patrick Henry Community College
P. O. Drawer 5311
Martinsville, VA 24115-5311

Dear Ms. Williams:

You have permission to access Mountain Empire Community College student
data contained on the computer system per your request and under the
conditions stipulated in your letter of request dated April 27, 1989.

Your effort in the area of identifying student goals and levels of
attainment is an extremely worthwhile endeavor. It is very timely as the
community colleges seek to better understand the behavior of "non-
returning" students.

We look forward to you sharing your findings with us.

Sincerely,

Ruth Mercedes Smith
President

jb

VIRGINIA WESTERN COMMUNITY COLLEGE

3095 Colonial Avenue, S.W., P.O. Box 14045, Roanoke, Virginia 24038, Phone: 703/857-7311

May 23, 1989

Mrs. Jean Williams
Coordinator
Research, Planning & Evaluation
Patrick Henry Community College
P.O. Drawer 5311
Martinsville, VA 24115

Dear Mrs. Williams:

You are welcome to include Virginia Western in your study of student goal attainment, with your assurance that our institution and student information will not be identified in any release of the results.

I would appreciate your sharing the results of your study with us, as the findings may be very helpful.

As you get into your study and need assistance accessing our student records, please contact Dr. David Hanson, Director of Instructional Support Services, at 857-7942.

Good luck with your research.

Sincerely,

Charles L. Downs,
President

c: Dr. David Hanson
    Mr. Harry Sellers

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VIRGINIA HIGHLANDS COMMUNITY COLLEGE

May 2, 1989

Ms. Jean M. Williams, Coordinator
Institutional Research, Planning
  and Evaluation
Patrick Henry Community College
P. O. Drawer 5311
Martinsville, VA 24115-5311

Dear Ms. Williams:

    Please consider this letter as your written authorization to
access information concerning Virginia Highlands Community College
students. Certainly I expect and appreciate your assurance that all
information will be treated in a confidential manner. We are not
interested in being identified in your final report, but would like
to receive institution-specific information which you collect.

    Best wishes to you in your study.

                              Sincerely,

                              N. DeWitt Moore, Jr.
                              President

lmc

cc: Dr. Max F. Wingett, President, PHCC
     Dr. James Impara, School of Education, V.P.I. & S.U.
     Dr. Elmo Roesler, Assistant Vice Chancellor for Research and
         Planning, VCCS

Southwest Virginia Community College

P. O. BOX SVCC, RICHLANDS, VIRGINIA 24641-1510, TELEPHONE (703) 964-2555
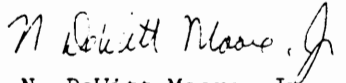
OFFICE OF THE PRESIDENT

June 5, 1989

Ms. Jean M. Williams, Coordinator
Institutional Research, Planning, and Evaluation
Patrick Henry Community College
P.O. Drawer 5311
Martinsville, VA 24115

Dear Ms. Williams:

Thank you for your letter of May 15. Your proposed dissertation study is of great interest to us at SVCC and we will look forward to hearing the results of your investigations. Please consider this letter my written permission for you to use Southwest Virginia Community College student data under the terms and conditions described in your letter.

I understand that you have contacted Dean Armand Opitz and discussed your plans directly with him. Please therefore consider Dean Opitz your official campus contact in any concerns pertaining to the study.

Best wishes for a successful project.

Sincerely,

Charles R. King

CRK/DDH/nh

cc: Mr. Armand Opitz, Dean of Student Services
Dr. Max F. Wingett, President, PHCC
Dr. James Impara, School of Education, VPI&SU
Dr. Elmo Roesler, Assistant Vice Chancellor for
   Research and Planning, VCCS

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New River
COMMUNITY COLLEGE

May 4, 1989

Mrs. Jean M. Williams, Coordinator
Institutional Research, Planning & Evaluation
Patrick Henry Community College
P. O. Drawer 5311
Martinsville, Virginia 24115-5311

Dear Mrs. Williams:

I am pleased to give you permission to utilize data dealing with New River Community College students for the purposes as you outlined in your letter of April 27, 1989.
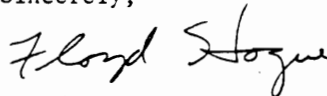
Your dissertation area of study of educational goal attainment as a measurement of institutional effectiveness is a most worthwhile and timely one. On-time graduation and long-term goal attainments are appropriate concerns for institutional effectiveness and assessment purposes. I see the results of your study as being beneficial in providing meaningful data to both SACS and SCHEV.

I do understand that New River will be provided with institutional-specific information which is collected during the course of your study, and that the data will be treated in a confidential manner.

Without any hesitation, again, I grant you permission to utilize data dealing with New River Community College students and I wish you success with your doctoral endeavor.

If further needs arise, please let me know.

Sincerely,

Floyd M. Hogue
President

FMH/drq

cc: Dr. Jack M. Lewis, NRCC
     Mr. J. Doyle Lyons, NRCC
     Dr. Elmo Roesler, VCCS

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Appendix B

Code Book

Appendix A: Code Book

VARIABLE	VARIABLE LABEL	VALUE	VALUE LABEL
SSNO	Social Security Number		
BIRTHYR	Year of Birth		
QTRENROLL	Quarter First Enrolled	854	Year (85) and Quarter (4 - Fall) that student first enrolled in a VCCS college
GRADQTR	Quarter Graduated	1 2 3 4	Winter Spring Summer Fall
GRADYR	Year of Graduation	85 - 89	Year student graduated from college
RACE	Race	0 1 2	Black White Other
GENDER	Student's Gender	0 1	Female Male
YRSHSGED	Years since high school or GED	.	Number of years between student's attainment of a high school diploma or GED and Fall, 1985
PREVDEG	Previous Degree	.	
CURRCODE	Curriculum - Student's report of curriculum in which enrollment is desired, reported before enrolling in first course	021 022 023 024 025 026 027 028 029 030 120 151 156 157 172 175 176	Upgrade Skills for Current Job Develop Skills for New Job Undecided About Career or Occupation Personal Satisfaction Enrolled at Another College Plan to Transfer Before Associate High School Student Haven't Met Requirements Not Enough Room in Program Auditing Dental Assisting (C) Medical Laboratory (AAS) Nursing (AAS) Practical Nursing (C) Radiology (AAS) Community and Social Services (C) Community and Social Services (AAS)

VARIABLE	VARIABLE LABEL	VALUE	VALUE LABEL
CURRCODE	Curriculum - Student's report of curriculum in which enrollment is desired, reported before enrolling in first course	182	Respiratory Therapy Technician (C)
		201	Records Management (C)
		202	Accounting (C)
		203	Accounting (AAS)
		204	Bookkeeping (C)
		205	Accounting Clerk (C)
		208	General Business (C)
		209	Data Processing (AAS)
		210	Computer/Machine Operations (C)
		211	Banking & Financial Mgmt. (C)
		212	Management (AAS)
		213	Business Administration (AS)
		216	Business Administration (AAS)
		217	Computer Programming (AAS)
		221	Continuing Career Studies (C)
		226	Banking (C)
		233	Computer Information Science (C)
		252	Merchandising (AAS)
		258	Management Assistant (C)
		275	Clerk Stenographer (C)
		276	Secretarial Science (AAS)
		284	Business Careers (C)
		285	Medical Office Clerk (C)
		293	Office Information Procedures (C)
		462	Corrections Science (AAS)
		463	Law Enforcement (C)
		464	Police Science (AAS)
		469	Human Services Careers (C)
		475	Forensic Science (C)
		480	Human Services (AAS)
		624	Education (AAS)
		625	Education(AS)
		634	Child Care (C)
		647	Communication Arts (AA)
		648	Liberal Arts (AA)
		650	Liberal Arts (AAS)
		697	General Studies (AAS)
		699	General Studies (AS)
		828	Environmental Science (AAS)
		836	Engineering (AAS)
		880	Science (AS)
		881	Science (AAS)
		900	Air Cond. & Refrigeration (D)
		901	Architecture (AAS)
		903	Air Cond. & Refrigeration (C)

VARIABLE	VARIABLE LABEL	VALUE	VALUE LABEL
CURRCODE	Curriculum - Student's report of curriculum in which enrollment is desired, reported before enrolling in first course	906	Appliance Servicing (C)
		907	Auto. Analysis & Repair (D)
		908	Auto. Body Mechanics (C)
		909	Automotive(AAS)
		915	Civil Engineering (AAS)
		917	Construction/Const. Mgmt. (AAS)
		921	Drafting and Design (AAS)
		922	Drafting (C)
		924	Drafting and Design (C)
		927	Drafting and Design (D)
		938	Instrumentation (AAS)
		940	Electrical Electronics (D)
		941	Electricity/Electronics (AAS)
		942	Electricity (C)
		943	Electrical Electronics (C)
		949	Electronics Servicing (D)
		950	Machine Engineering (AAS)
		951	Machine Operations (D)
		952	Machine Tool Operations (C)
		958	Machine Shop (D)
		963	Industrial Engineering (AAS)
		964	Printing (D)
		968	General Engineering (AAS)
		981	Electronics (AAS)
		985	Mining Technology & Superv. (C)
		991	Industrial Management (C)
		995	Welding (C)
		998	Mining (AAS)

NOTE: AAS = Associate in Applied Sciences Degree
AS = Associate in Science Degree
C = Certificate
D = Diploma

Source of Curriculum Codes: Curriculum Code Lists and Translation Tables: 1982-1983

AGE	Age at Entry		Age of Student When First Enrolled
GRADAGE	Age at Graduation		Age of Student Upon Graduation
NOTERMS	Length of College Career		Number of Terms Completed (Calculated by summing across all terms in which at least one credit hour was earned.)

VARIABLE	VARIABLE LABEL	VALUE	VALUE LABEL
˙ENROLLXX	Enrollment Status	0 1	Not Enrolled during current term Enrolled during current term
˙CREDHRXX	Credit Hours		Number of credit hours earned during current term
˙DEVELXX	Developmental Student	0 1	Not a Developmental Student during term Developmental Student during term
˙ACHGOLXX	Achieved Goal	0 1	Didn't Achieve Goal during term Achieved Goal during term
˙CRSLDXX	Courseload	0 1	Part-time (fewer than 12 credit hours) Full-time (12 or more credit hours)
˙TOTGPAXX	Overall GPA		Grade point average in all courses taken while enrolled in the Virginia Community College System

˙XX: At the end of a variable name, this indicates that a code will be inserted to show the academic term to which this information applies, i.e.,:

The first digit indicates the term:
    S = Summer
    F = Fall
    W = Winter
    P = Spring

The second digit indicates the year:
    5 = 1985
    6 = 1986
    7 = 1987
    8 = 1988
    9 = 1989

VARIABLE	VARIABLE LABEL	VALUE	VALUE LABEL
TOTCRHRS	Total Number of Credit Hours completed		Calculated by summing across all academic terms between fall, 1985 and spring, 1987 or spring, 1989. (Semester hours were converted to quarter hours: Each semester hour received 1.5 quarter hour credits.)
DIVISION	College Division	0 1 2	Unclassified Occupational/Technical Arts and Sciences
COLLEGE	College Attended	1 2 3 4 5 6 7 8 9	(To maintain anonymity, colleges are not listed)

Appendix C

Sample Community College Application

Patrick Henry

APPLICATION FOR ADMISSION TO:
PATRICK HENRY COMMUNITY COLLEGE
P.O. DRAWER 5311
MARTINSVILLE, VA. 24115

FOR OFFICE USE ONLY 1

Campus Location _____

Please Complete All Items in the Application and Return to the Above Address

1. I wish to begin classes in:

   a. Year 19 _____   b. Semester (Please Check) __ Fall __ Spring __ Summer

   Data Entry _____ / _____

2. Social Security Number (Optional) _____

3. Last Name _____   First Name _____   MI or 3rd _____

4. Mailing Address: Number and Street _____   City _____   State, ZIP Code _____

5. Former Name _____

6. Birthdate Mo. | Day | Year 19 _____

7. Telephone Area Code _____ Home   Business Area Code _____

Check those applicable and fill in all requested information

8. Education

   I received __ high school diploma __ GED from _____ Name of School, Testing or Adult Education Center   located in _____ City and State _____ in 19 ____

   __ I have not received a high school diploma or GED   Last grade attended: _____ grade

   __ I am currently enrolled in high school _____ Name of School and _____ Date of Expected Graduation

   __ I have not attended a college.   __ I last attended _____ Name of College   located in _____ City and State _____ in 19 ____

   __ I DID   __ DID NOT receive a degree (if you DID, what was the degree?) _____

   Other colleges and universities attended: _____

9. Present County or City of Residence _____

10. How long have you lived in Virginia? _____

11. Where have you lived for the past two years? List current address first.

From (mo/yr)	To (mo/yr)	Street Address	City	State	ZIP

__ YES __ NO 12. Do your parents or legal guardian provide over half of your financial support or claim you as a tax dependent? If yes, Section B must also be completed by parent or legal guardian. **(SEE REVERSE)**

__ YES __ NO 13. Will you have filed a tax return or paid income taxes to any other state other than Virginia during the past year?

14. For at least one year prior to the term in which you will enroll, will you have

__ YES __ NO a. filed a tax return or paid income taxes to Virginia on all earned income?

__ YES __ NO b. been a registered voter in Virginia?

__ YES __ NO c. held a valid Virginia driver's license?

__ YES __ NO 15. Do you own or operate a motor vehicle?

__ YES __ NO If yes, has it been registered in any state other than Virginia during the past year?

__ YES __ NO 16. Are you or any member of your immediate family presently in the military?

IF NO GO TO QUESTION 17

If yes check __ self __ spouse __ parent/legal guardian

__ YES __ NO A. Will Virginia income taxes have been paid on all military income for one year prior to the term in which you will enroll?

__ YES __ NO B. If your spouse is in the military, will you have resided in Virginia, been employed, earned at least $6,700, and paid income taxes to Virginia for at least one year prior to the term in which you will enroll?

17. Answer this question only if you live outside Virginia but work in Virginia:

__ YES __ NO Will you have lived outside Virginia, earned at least $6,700, and paid Virginia income taxes on all taxable income earned in this Commonwealth for at least one year prior to the term in which you enroll?

18. Sex: __ Male __ Female

19. Race: __ White __ Black __ American Indian or Alaskan Native __ Asian or Pacific Islander __ Hispanic __ Other _____

20. Citizen of U.S.A.? _____   Other Country? _____
VISA Type _____ Date issued _____
VISA Number _____

21. I intend to pursue degree, diploma, or certificate.
   __ YES. Curriculum/Program of Interest _____
   __ NO. Non-Curricular

   __ Full-time __ Part-time
   __ Day __ Night

22. Type of Student
   __ New __ Readmit __ Have attended other college(s)

23. Active duty military, veteran or dependent eligible for and planning to use V.A. benefits.
   __ YES __ NO

24. Date of Discharge (if applicable) Mo | Day | Year 19

25. Senior Citizen Benefits
   __ YES __ NO

26. Do you want Student Financial Aid Information?
   __ YES __ NO

27. Person(s) to be contacted in emergency: Name _____ Area Code _____ Phone _____

I certify that the above statements are true and correct to the best of my knowledge. I will abide by the rules and regulations of this college.

_____ Signature of Applicant   _____ Signature of Parent (if applicant is not 18 years old)   _____ Date

THIS INSTITUTION MAINTAINS AND PROMOTES EQUAL EMPLOYMENT AND EDUCATION OPPORTUNITY WITHOUT REGARD TO RACE, COLOR, SEX, AGE (EXCEPT WHERE SEX OR AGE IS A BONA FIDE OCCUPATIONAL QUALIFICATION), RELIGION, HANDICAP, NATIONAL ORIGIN, OR OTHER NON-MERIT FACTORS.

DO NOT WRITE ON THIS LINE
H S _____ Code _____ Coll Last _____ Curr _____ Coll Code _____ Campus Code _____ _____

JCCS 8 REV 6/87

(GO TO SIDE TWO)

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SECTION B—Complete this section if you answered YES to question 12 on the reverse of this form.

1. Name of parent or legal guardian_____ 2. Relationship to applicant _____
3. Citizenship ( ) U.S. ( )Non-U.S. If Non-U.S., Give Visa Type_____
4. How long have you lived in Virginia?_____
5. Where have you lived for the past two years? List current address first:

From (mo/yr)   To (mo/yr)   Street Address   City   State   Zip

6. Will you have filed a tax return or paid income taxes to any state other than Virginia during the past year? YES( )   NO( )
7. Will you have claimed the applicant as a dependent on your federal and Virginia income tax returns for the tax year prior to the term in which the applicant will enroll? YES( )   NO( )
8. Will you have provided over half of the applicant's financial support for at least one year prior to the term in which the applicant will enroll? YES( )   NO( )
9. For at least one year prior to the term in which the applicant will enroll, will you have:
   a. filed a tax return or paid income taxes to Virginia on all earned income? YES( )   NO( )
   b. been a registered voter in Virginia? YES( )   NO( )
   c. held a valid Virginia driver's license?   YES( )   NO( )
10. Do you own or operate a motor vehicle? YES( )   NO( )
    If yes, has it been registered in any state other than Virginia during the past year? YES( )   NO( )
11. Are you or your spouse in the military? YES( )   NO( )   IF **NO**, GO TO QUESTION 12. IF YES, CHECK: ( )Self   ( )Spouse
    a. Will Virginia income taxes have been paid on all military income for one year prior to the term in which the applicant will enroll? YES( )   NO( )
    b. If the answer to (a) is NO, will the applicant's non-military parent have resided in Virginia, been employed and earned at least $6,700, paid Virginia income taxes and claimed the applicant as a dependent for federal and Virginia income tax purposes for a least one year prior to the term in which the applicant will enroll? YES( )   NO( )
12. Answer this question only if you or your spouse live outside Virginia but work in Virginia:
    a. Will you or your spouse have lived outside Virginia, been employed in Virginia, earned at least $6,700, and paid Virginia income taxes on all taxable income earned in this Commonwealth for at least one year prior to the term in which the applicant will enroll? YES( )   NO( )
    b. If the answer to (a) is YES, will the parent employed in Virginia have claimed the applicant as a dependent for federal and Virginia income tax purposes for at least one year prior to the term in which the applicant will enroll? YES( )   NO( )

I certify that all the information provided is true.

_____   _____
Signature of Parent or Legal Guardian   DATE

CURRICULUM SELECTION--All Applicants Must Complete This Section

PART I. To complete your application, you must select one of the interest areas offered. Mark "X" next to the area that seems to fit your educational goals at this time. If you decide to change programs, go to the counseling office and complete a change form.

TWO-YEAR PROGRAMS—COLLEGE TRANSFER

___BUSINESS ADMINISTRATION (1216)   ___GENERAL STUDIES (1697)   ___SCIENCE (1881)   ___EDUCATION (1624)   ___LIBERAL ARTS (1650)

TWO-YEAR PROGRAMS—ASSOCIATE IN APPLIED SCIENCE DEGREES

___ACCOUNTING (6203)   ___OFFICE SYSTEMS TECHNOLOGY (6294)   ___MANAGEMENT (6212)
___COMPUTER PROGRAMMING (6234)   ___INDUSTRIAL ELECTRONICS TECHNOLOGY (6981)   ___NURSING (5156)
___OFFICE COMPUTER TECHNOLOGY (6234)

TWO-YEAR DIPLOMA

___AUTOMOTIVE ANALYSIS AND REPAIR (3907)   ___CRIMINAL JUSTICE (pending approval)

ONE-YEAR PROGRAMS—CERTIFICATE

___BOOKKEEPING (4204)   ___INDUSTRIAL WELDING (4995)   ___GENERAL BUSINESS (4208)
___CLERICAL STUDIES (4218)   ___DRAFTING & DESIGN (4922)   ___INDUSTRIAL ELECTRICITY/ELECTRONICS (4943)

LESS THAN ONE YEAR OF FULL-TIME STUDY—CAREER STUDIES CERTIFICATE (4221)

( )ADULT HOME ADMINISTRATION   ( )ART STUDIES   ( )AUTOMOTIVE SYSTEMS MANAGEMENT   ( )AVIATION   ( )CHILD CARE
    ( )ENGINE OVERHAUL & TROUBLESHOOTING   ( )FOOD SERVICES MANAGEMENT   ( )FURNITURE PRODUCTION SPECIALIST
( )GERIATRIC AIDE   ( )GRAPHIC COMMUNICATIONS   ( )HEATING, VENTILATION & AIR CONDITIONING
    ( )HEAVY EQUIPMENT OPERATIONS & MAINTENANCE   ( )INDUSTRIAL MAINTENANCE ELECTRONICS   ( )INDUSTRIAL MAINT. MECHANICS
    ( )JOURNALISM   ( )LIGHT CONSTRUCTION   ( )MEDIA COMMUNICATION   ( )MICROCOMPUTER APPLICATIONS
( )PHOTOGRAPHY   ( )REAL ESTATE BROKERAGE   ( )REAL ESTATE SALES   ( )RESIDENTIAL/COMMERCIAL/INDUSTRIAL ELECTRICIAN
    ( )SALES MANAGEMENT   ( )SERVICE SPECIALTIES   ( )SUPERVISION   ( )THEATER ARTS   ( )WELDING

PART II. If you cannot select a specific program, mark the category which best fits your current educational goals.

___ You are employed and are seeking to upgrade your skills in your present position. (5021)
___ You are seeking to develop new skills for a new job. (5022)
___ You are undecided about a career goal or an occupational choice. (5023)
___ You are enrolled to gain general knowledge and for your own personal satisfaction. (5024)
___ You are enrolled in another college, but are attending Patrick Henry to earn additional credits. (5025)
___ You are planning to transfer to another college without completing the requirements for an associate degree. (5026)
___ You are a high school student and have permission from your principal to enroll in college. (5027)
___ You have not met all the general or specific admission requirements as stated in the college catalog. (5028)
___ You have met the admission requirements for a curriculum but enrollment is restricted. (5029)
___ You are auditing a course; that is, you are enrolled, but do not plan to take examinations or receive credit. (5030)

Vita

Jean Williams, born November 2, 1948, in McDowell County, West Virginia, has been concerned with the needs of students of all ages for the past thirty years. As a teenager, she worked with "underpriviledged youth" at city parks in High Point, North Carolina, and developed her interest in children with a Bachelors Degree in early childhood education and a masters in educational research and evaluation from the University of North Carolina at Greensboro. Her work with public and private education agencies has taken her to several states where she has held teaching and administrative positions for students from two years old through college. Her abiding interest in making a difference for children who are at risk of failing or dropping out of school has been expressed as a technical assistance provider for Chapter 1 programs throughout the southeastern and midwestern states.

Williams works for Indianapolis Public Schools as a research and evaluation specialist and a facilitator of positive change through the development and implementation of the system's five-year strategic plan. She continues her work with Chapter 1 and locally-developed programs for at-risk students, branching out to include parent involvement, family literacy, and adult education, as they impact so significantly on the education of children.

Jean M. Williams