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OF STUDENT RETENTION

A handbook for practitioners and administrators

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Introduction

A 1975 research article by Vincent Tinto,"Dropout from Higher Education: A Theoretical Synthesis of Recent Research," spurred more than twenty-five years of dialogue on student retention and persistence in higher education. Though it has been attacked by some and revised by Tinto himself, his work has remained the dominant sociological theory of how students navigate through our postsecondary system.

More than a quarter century later, the issues of student retention and persistence are as pertinent as they were when Tinto first published his student integration model. In the 1970s and 1980s, public policy was focused primarily on access, with federal and state legislation aimed at reducing barriers to higher education. By the mid-1990s, the discussion moved from access to issues of choice, affordability, and persistence. Although gaining entry to college is still a dramatic accomplishment for some, persisting to degree is what really matters in the postcollege world. Unfulfilled academic goals often result in unfulfilled career realities: lower pay, less security, fewer opportunities, and dreams deferred—if not abandoned.

The issue of retention is a persistent problem in higher education. For the past 100 years, the institutional graduation rate has stubbornly held at the 50 percent mark: half of all students entering higher education fail to realize their dreams and aspirations based on earning a certificate or degree. As Tinto remarks, "The consequences of this massive and continuing exodus from higher education are not trivial, either for the individuals who leave or for their institutions" (1993, p. 1).

For students of color in particular, the stakes have never been trivial. Access and completion rates for African American, Hispanic, and Native American students have always lagged behind those for white and Asian students. The same is true for low-income students and students with disabilities (Gladieux and Swail, 1998). But great strides have been made since the War on Poverty of the 1960s. Postsecondary enrollment rates for students of color are at levels similar to those for white and Asian students, although equal access to four-year colleges remains an area of concern, especially at our nation's most selective institutions. But even if access rates for minority students were on a level with majority white students, students of color have not been able to realize the degree production rates of other students.

In fact, they earn degrees at a ratio between 1:2 and 1:3 compared with white and Asian students.

Given that the United States will become significantly "less white" over the course of the next fifty years, issues of color cannot be ignored. California is already a "majority minority" state, but its flagship public institutions of higher education have embarrassing low participation rates among African American and Hispanic students. Texas, Florida, and several other states host similar problems. If such issues are not urgently addressed, today's retention and diversity problems will seem like child's play in a few, short decades.

In 2005, Congress will reauthorize the Higher Education Act of 1965. Surely they will tinker with Pell Grant authorizations, loan limits and rules, and other important issues such as teacher training and distance education, but they may also take the opportunity to pressure institutions to improve student retention and completion, in view of Congress's limited ability to force colleges to curb spiraling tuitions. Beyond such measures, concerted action will be required to spur U.S. colleges, on a large scale, to get more serious about retention and persistence and move faster to become more diversity friendly.

This handbook is intended as a reference for key stakeholders regarding the realities of, and strategies for, student retention. It is our hope that it will serve as a compass for those charged with the complex task of improving retention at their campus.

The Ongoing Retention Challenge

The Retention Problem
Student retention at U.S. postsecondary institutions is a costly and problematic issue. While postsecondary enrollment has increased ten-fold since the mid 1900s to approximately 14 million students each year, our ability to keep students in school remains a difficult challenge. Congress has clung on to this issue because the institutional graduation rate has held at a constant 50 percent for most of the past half century. Put another way, half of all students that enter the gates of higher education fail to realize the dreams and aspirations that led them there in the first place. These students may have found other successes and altered their goals during that time, but it is somewhat disturbing, from a business and personal sense, that we don't do a better job graduating students.

Part of the problem is that "going to college" has changed drastically over time. As the doors of higher education have been opened up to the masses, so has the nature of the student body and the pathways to and through postsecondary education. New data from the Beginning Postsecondary Student survey (BPS:96/01) give us insight into the challenges facing students, educators, and policymakers in the retention debate:

- One quarter of all students who enter postsecondary education for the first time end up at another institution before attaining a postsecondary degree.

- Almost half (46 percent) of first-time students who left their initial institution by the end of the first year never came back to postsecondary education.

- Students who attend full-time or whose attendance was continuous were much more likely to achieve their degree goals than other students. However, only about two-thirds of students were continuously enrolled.

- 50 percent of four-year students who did not delay entry into PSE earned their degree at their first institution, compared to only 27 percent of students who were delayed entrants.

- 42 percent of students whose first-year grade point average was 2.25 or less left postsecondary education permanently.
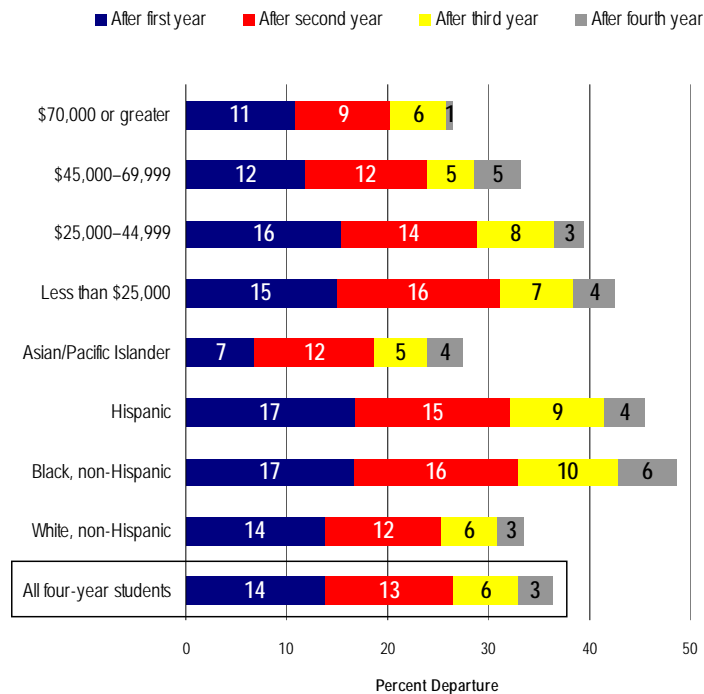
Thus, data convincingly suggest that continuous enrollment, remaining at the initial institution, full-time attendance, and prior academic preparation are important factors related to student persistence. But note that these factors are almost always inextricably linked to socio-economic conditions and student finances, and less related to the ability of the institution to change reality. The result, as verified by BPS data, is that students from higher-income backgrounds were significantly more likely to achieve a bachelor's degree than those from lower-income backgrounds.

Many institutions work hard to retain students, using strategies that generally hinge around the first-year experience. This is undoubtedly an important time for most students, especially considering the social issues related for resident students moving from home for the first time, but also related to the academic side of the equation where students are busy "finding" themselves and defining who they want to be when they grow up. However, we are only now learning that retention is a multi-year issue.

As illustrated in Exhibit 1, approximately 14 percent of four-year students, or 1 in 7, leave their initial institution after the first year. However, 13 percent will leave the following year, and a total of 24 percent of four-year students leave their initial institution during or after the sophomore year. Thus, only one-third of the retention problem occurs at the "traditional" time of departure.

Of course, these "averages" protect the most damaging information. Students of color and from low-income backgrounds do much worse than white, Asian, and affluent students. As illustrated, approximately 1 in 6 Black, Hispanic, and low-income four-year students left their initial institution after the first year; one-third left by the end of the second year. Comparatively, a more affluent, White, or Asian student was far less likely to leave after year one or year two. In fact, in each postsecondary year, Black, Hispanics, and low-income students left their first institution at higher rates than all other students.

Exhibit 1. Departure Rates of Students Who Begin at a Four-Year Institution

■ After first year ■ After second year ■ After third year ■ After fourth year

	After first year	After second year	After third year	After fourth year
$70,000 or greater	11	9	6	1
$45,000–69,999	12	12	5	5
$25,000–44,999	16	14	8	3
Less than $25,000	15	16	7	4
Asian/Pacific Islander	7	12	5	4
Hispanic	17	15	9	4
Black, non-Hispanic	17	16	10	6
White, non-Hispanic	14	12	6	3
All four-year students	14	13	6	3

Percent Departure

SOURCE: Berkner, Lutz, He, Shirley, and Cataldi, Emily Forrest (2002). Descriptive Summary of 1995 –96 Beginning Postsecondary Students: Six Years Later. U.S.Department of Education, Institute of Education Sciences, NCES 2003 –151.

Some of the students described through the BPS data did manage to transfer from their initial institution to succeed at other institutions. But not many. Of the 58 percent of four-year students that received BAs within 6 years, only 8 percent, or 1 in 7, earned their degree at an institution other than their institution of initial postsecondary entry. The first institution matters.

A Complex Problem

Of course, to be fair, the challenge of student retention and persistence is complex. Not all students are alike, nor are institutions. Resources play a huge part in the ability of a campus to provide the support services necessary to engage and save students. And students most certainly bring with them baggage from home and community. Many students come to college for the first time psychologically unprepared to navigate the murky waters of higher education. A quick flip through U.S. News and World Report's College Rankings finds that certain institutions, such as Harvard and MIT, graduate almost all of their students—an astonishing accomplishment given all the barriers, personal and otherwise, that get in the way of graduation. And while these institutions certainly get the best and the brightest the world has to offer, they also provide outstanding resources to ensure that students have all the tools to make their way through the labyrinth of higher education. These institutions assign tutors to students rather than force students to seek them out, they have smaller class sizes and labs, and provide extensive and often proactive supplementary support services. These types of services are considered "specialized" at most institutions. At the upper eche-

lon of higher education in America, these are standard practices made possible by a large pool of institutional resources and wealth.

At the other end of the educational spectrum are institutions with limited resources; those that don't have $7 billion endowment chests at their disposal. These are more often than not the open admission institutions, which, unlike Harvard and MIT, don't necessarily get the best and brightest the world has to offer. These institutions fight regionally and locally for students with combined SAT scores of 900 instead of 1450. The context is radically different.

While top schools tend to graduate 9 out of 10 of their entering students, these schools are more likely to see three quarters of their students leave before graduation, and as many as one quarter or even a half of their students leave by the end of the freshman year.

The logical question is whether these institutions are doing something inherently wrong or whether they are doing as well as expected under the circumstances?

A Study of Retention
In 2002, in a study conducted for the Lumina for Education Foundation, we looked at retention practices at 19 public and private institutions that serve low-income students; half had a high six-year graduation rate and half had a low six-year graduation rate. We met with presidents and CEOs, faculty, staff, and, most importantly, students. We visited special programs and tried to get a feel for the "climate" and atmosphere on campus.

Bias aside, we expected to find that schools with high graduation rates would have dedicated staff, were committed to retaining students, and utilized tried-and-true teaching and learning strategies that make a difference in the learning atmosphere and social climate of the institution. And we found what we expected.

However, we were astonished to find what we really didn't want to find: resources trumped all other factors. Regardless of the factors noted above, schools with money were able to secure additional resources as necessary, could implement almost any strategy they wanted to, and, perhaps more importantly in the retention debate, were able to attract more qualified and competitive students—students that were almost surely going to graduate from college, even if they were from low-income backgrounds.

Important to note is that these low-performing schools had staff as or more dedicated than those at better performing schools, and offered a quality education. It's just that other schools were able to pile on resource after resource to make the difference in who comes, who stays, and who completes.

Changing practice on a postsecondary campus is always challenging, and the bigger the campus, the larger the challenge. Changing the quantity of resources is an infinitely greater challenge. It is possible that Congress and the states could craft policy to alter the resource capital at institutions, but current conversations suggest that this is not the direction of policymakers. It is more possible that institutions could lose resources rather than gain them.

Why Students Leave

The literature regarding student dropout abounds with details of why and when students leave college. Many studies and literature reviews summarize similar sources and thus supply similar conclusions. Landmark studies by Tinto (1975), Pantages and Creedon (1978), Cope and Hannah (1975), Lenning, Beal, and Sauer (1980), and more recently, Tierney (1992) and Cabrera, Nora, and Castaneda (1993), have shaped how researchers and practitioners view the issue of student retention and departure. In particular, Tinto's attrition model has become a foundation for most research regarding student departure.

Tinto's Student Integration Model (1975), based in part on Durkheim's theory of suicide, theorizes that the social integration of students increases their institutional commitment, ultimately reducing the likelihood of student attrition. As Tinto wrote, "It is the interplay between the individual's commitment to the goal of college completion and his commitment to the institution that determines whether or not the individual decides to drop out." Tinto's model has been revised or enhanced by a number of researchers used important aspects of Tinto's academic and social integration theory in the development of a psychological, rather than sociological, model, to help others "visualize how individual psychological processes can be understood in the retention process."

A number of researchers have found shortcomings in persistence and integration models. However, the complexity of the human condition makes it difficult to definitely prove the validity of one psychological or sociological theoretical model over another.

Factors Related to Retention

There are a number of factors related to retention as found in the research literature. Here is a summation of major findings.

Academic Preparedness. Academic integration and preparation are primary features of many models of retention. Research shows that between 30 and 40 percent of all entering freshman are unprepared for college-level reading and writing and approximately 44 percent of all college students who complete a 2- or 4-year degree had enrolled in at least one remedial/developmental course in math, writing, or reading.

Campus Climate. While researchers agree that "institutional "fit" and campus integration are important to retaining college students to degree completion, campus climate mediates undergraduates' academic and social experiences in college. Minority and low-income students inadequately prepared for non-academic challenges can experience culture shock. Lack of diversity, with regard to income and race/ethnicity, in the student population, faculty, staff, and curriculum often restrict the nature and quality of minority students' interactions within and out of the classroom, threatening their academic performance and social experiences.

Commitment to Educational Goals and the Institution. Tinto (1993) hypothesized that commitment to occupational and educational goals and commitment to the institution in which one enrolls significantly influence college performance and persistence. The stronger the goal and institutional commitment the more likely the student will graduate. Research shows that congruence between student goals and institutional mission is mediated by academic and

social components, and that increased integration into academic and social campus communities causes greater institutional commitment and student persistence.

Social and Academic Integration. The process of becoming socially integrated into the fabric of the university has also been found to be both a cumulative and compounding process, and the level of social integration within a given year of study is part of a cumulative experience that continues to build throughout one's college experience. The establishment of peer relations and the development of role models and mentors have been defined in the literature as important factors in student integration, both academically and socially.

Financial Aid. Attending college and persisting to degree completion is most often rewarded with higher annual and lifetime earnings. But for many low-income and minority students, enrollment and persistence decisions are driven by the availability of financial aid. In 1999-2000, 77 percent of financially dependent students from families with less than $20,000 in family income received some financial aid, with an average award of $6,727. In contrast, 44 percent of those from families with income of $100,000 or more received aid, with an average award of $7,838.

Low-income and minority students who receive grants generally are more likely to persist than those who receive loans. However, given the rising costs of attending college, it is unlikely that low-income students will be able to receive bachelor's degrees without *any* loan aid. At the same time, the research also suggests that the shifts in aid from grants to loans and from need-based to merit-based programs adversely affects both enrollment and persistence for minority students. Reversing these shifts may be needed to increase college access and success for low-income and minority students.

The Cost of Student Attrition

As in any venture, there is a cost related to loss. But this cost is rather complex and is manifested in a variety of ways. First, we will discuss the "cost" of student attrition with respect to the institution, the individual, and to society. These are each different and are perceived differently within each category. Second, we will discuss of student attrition/retention on an institutional basis, or as a system wide issue (e.g., if the student leaves institution A but enrolls and persists at institution B, is that really a bad thing?). And third, we will discuss student retention in more precise terms of efficiency, which begs identification of direct, indirect, and opportunity costs.

The bottom line—which we hope to achieve in this workshop—is that the cost of prevention attrition (when it can be prevented) easily outweighs the costs of status quo (or doing nothing). This is an important statement that is lost on many administrators. And secondly, an institution must be willing to spend money (or redirect) to save or earn money. If we can get past these two statements, we're half the way to success.

We begin with a brief discussion of institutional costs.

Institutional Costs

We can consider the costs associated with student attrition in a number of ways with regard to the institution. However, we must make an assumption before we do this, based on the ability of an institution to vary its number of seats or students. These institutions play in a market where supply and demand has an effect that can be measured in financial terms. If an institution has market flexibility, then the impact of attrition/retention is much greater than on institutions that have a fixed number of seats and tend to fill all seats regardless of what they do. Still, all institutions in all situations can become more efficient and save money through better programming for students.

The Market-Sensitive Institution

Let us consider the market-sensitive institution. The common logic regarding the cost of losing students is simply stated that an institution reduces its income when a student leaves. This can be considered on a given year or a degree-basis. For instance, if a student leaves after the freshman year, the institution can calculate the loss of that student by multiplying the lost tuition charges for subsequent years to degree. If tuition is $5,000 per year, a freshman dropout would relate to a net loss of $15,000 for a four-year degree program (without inflationary considerations). This is a gross characterization, but almost all retention cost calculations are somewhat limited in nature. Also, please note that this not consider the issue of general subsidies to students or institutions from state or federal agencies.

It is also argued that an institution loses on ancillary revenues—those that come from students living on or relating to the campus. These would include bookstore revenues, on-campus restaurants and entertainment, residence hall fees, and even lost financial aid revenue. There is also a loss to local establishments that benefit from students. We will talk later of additional losses in potential revenue.

Remember, this discussion is based on institutions that have flexible enrolment targets. If an institution can increase their enrolment, then they have a more direct interest in serving as many students as possible. Thus, a "loss" in the system is a loss in net revenue. This mostly occurs at the private university, but it is becoming more common at publicly-funded institutions.

The Restricted-Enrolment Institution

For institutions with limits on the number of seats or students they can serve, the calculation of cost is somewhat different than that just presented. For these institutions, supply isn't an issue because demand often far outpaces supply, usually due to either a financial or governmental issue. There are more than enough students who want to get in to Institution A, so the loss of a student in out years (those after the student leaves) is a non-starter because there will be a replacement to fill that seat[1].

While institutions in our first profile—those that have flexible enrolments—have out-year costs to consider, restricted-enrolment institutions lose their revenues in the year that the student

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[1] Note that most retention organizations and researchers don't discuss this issue, but the efforts of institutions with enrolment ceilings covers most institutions in the US and Canada.

drops out. For consideration, if a freshman student leaves after completion of the first semester, the institution often loses out on (a) the revenues of that student in the second semester; and (b) the revenues of an additional student to fill that student in the second semester. POINT: the institution loses. If the student leaves six weeks into the first semester, the cost is even larger (also remember those ancillary revenues).

General Costs

Another way of calculating net cost of attrition, for either market-based institutions or restricted enrolment institution, is by conducting an analysis of the money spent on recruitment and enrolment services. Given that Institution A spends X dollars on recruitment and enrolment services during the year (which include staffing, outreach, and overhead expenses), the institution loses a percentage of those funds when a student leaves due to inefficiency. For example, if Institution A spends $500,000 a year on staffing and other expenses in the recruitment and enrolment area of the institution, and 30 percent of the freshman students fail to return for the sophomore year, then the institution loses $150,000 each year on inefficiency. Of course, this is a theoretical argument that assumes an institution could retain 100 percent of students (NOTE: some of our Ivy League institutions retain 98 percent of their students). But, for arguments sake, let's assume that public institutions could retain, at most, 90 percent of their students. Then, a 30 year attrition rate would actually connote to a 20 percent lose, not a 30 percent loss. Still, 20 percent of $500,000 is still $100,000—enough funds for one or two FTE staff members.

If your institution is even larger, let's say, such that the recruitment and enrolment budgets averages $2 million each year, this 20 percent net attrition rate costs the institution $400,000 each year. A lot of money in any terms.

Other Costs

Previously we discussed the loss of revenue from bookstore, on-campus restaurants and services, etc. In addition, institutions potentially lose future revenue from students who don't earn a degree from the institution. Alumni giving is an important financial stream for institution, but typically only those who receive a degree give back to their institution. For some reason, dropouts aren't quite as enamored with their alma mater as completers. Go figure.

Other researchers (Robbins, 2003) also describe costs of attrition in terms of bad PR about the institution (which can effect the supply side of the argument) and internal morale issues (students understand that high-attrition institutions aren't upper tier, and begin to view themselves that way).

Individual Cost

Students who enroll in an institution and choose to leave before graduation fall into several categories. First are those that transfer to other institutions, either due to financial issues or the awaking of their "true goals" in life. This begs of the discussion of institutional versus systemic loss. For the institution, this is clearly a loss in revenue. However, systemically, it becomes a zero-sum game, because that student may pay the same amount at another institution. True, there is a loss of systemic revenue if that student enrolls at a community college

after attending a four-year institution, but that argument can be negated if we also discuss subsidy.

For other students, we can begin to credit individual cost with other, more tangible issues, such as the obvious costs associated with time spent on activities that do not necessarily move them forward in terms of career development. If a partial education fails to get students further in life, both socially and economically, then the time spent in these activities can be calculated in lost investment in terms of tuition, fees, plus the opportunity costs of lost wages. These are real costs that are justifiable.

Societal Cost

The cost to society can be calculated in several ways. First is the cost in terms of postsecondary investment. Every student in a public institution is subsidized by taxpayers. In fact, the tuition and fee charges to students/families represent only 27 percent (approximate) of the total cost of education. The reminder comes primarily from state governments. Additional support comes from the federal government in the form of subsidized grants and loans.

Societal cost may also be measured in other public subsidies, such as social services. For example, students who do not complete a college education are more likely to require social services—welfare, incarceration—than other students. This is not to say that individuals who leave postsecondary education face these challenges, but on average, the data support the conclusion that public funding is used to support those who either never go to college or fail to complete college.
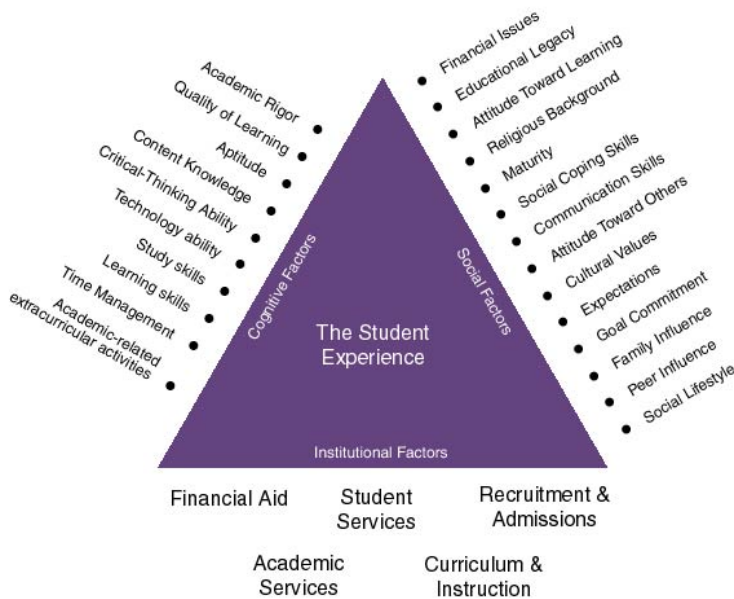
Of course, the cost to society can be discussed in a larger perspective. For every student that dropouts of college, society-at-large loses an opportunity to excel or contribute at the higher echelon of business and trade. Global markets demand higher skills and education, and students that dropout of college leave a gap that is not necessarily filled by domestic students.

A Framework for Student Retention

While student persistence models remain useful in illustrating the problems and processes relating to student persistence, the relationship between college and student is lost between the simplicity and complexity of the various models. Without a clear explanation of what the model represents, it is difficult for administrators and practitioners to fully comprehend the significance of the model and how it relates to campus policy.

The Geometric Model of Student Persistence and Achievement provides a user-friendly method for discussion and focus on (a) the cognitive and social attributes that the student brings to campus; and (b) the institutional role in the student experience. The geometric model differs from others by placing the student at the center of the model, rather than an indifferent element to a flow chart or structural equation model.

The Geometric Model of Student Persistence and Achievement

The model also allows us to discuss the dynamics between cognitive, social, and institutional factors, all of which take place within the student. These three forces must combine to provide a solid foundation for student growth, development, and persistence. When stability is lost, students risk reducing their academic and social integration with the institution, and therefore risk dropping or stopping out. This model works to help describe the persistence process, and the delicate balance between student resources (what the student brings to campus) and institutional resources (what the institution provides for the student).

The strength in the model and the following conceptual framework is in their ability to help institutions work proactively to support student persistence and achievement. Diagnostic and supplementary knowledge of the student is a vital component of the geometric model, because without knowledge, the institution is incapable of making prudent decisions on whom to admit.

Three Forces Affecting Student Persistence and Achievement

In terms of college persistence and achievement, three particular forces account for the entire spectrum of student outcomes: cognitive, social, and institutional factors. Briefly stated, the cognitive factors form the academic ability—the strengths and weaknesses—of the student, such as the level of proficiency in reading, writing, and mathematics. Social factors, such as the ability to interact effectively with others persons, personal attitudes, and cultural history, form a second set of external factors that characterize the individual. The third set of factors, institutional, refers to the practices, strategies, and culture of the college or university that, in either an intended or unintended way, impact student persistence and achievement. Examples include faculty teaching ability, academic support programming, financial aid, student services, recruitment and admissions, academic services, and curriculum and instruction.

Cognitive Factors

The cognitive factors relate to the intelligence, knowledge, and academic ability a student brings with him or her to the college environment. These factors may be measured by such variables as course selection and completion in high school, aptitude, or extracurricular involvement in academic-related areas. Cognitive factors are important because they directly relate to the student's ability to comprehend and complete the academic portion of the college curriculum.

An important element of the cognitive factors relating to student persistence and achievement is the student's decision-making and problem-solving ability. The decision-making process is an important part of the models described earlier. Tinto (1975, 1993) describes the decision-making process regarding goal commitment and dropout, Bean (1982) describes an intent to leave, and Anderson (1985) identifies value conflicts and career indecision among the important variables that a student controls through the set of social and cultural values instilled in him or her. The student's decision-making process occurs within the confines of the geometric shape represented in the model presented above. It is here that the social and cognitive factors interconnect to form the decision-making process.

Social Factors

The second factor related to student persistence and performance is the set of social factors impacting on students. Such factors include parental and peer support, the development or existence of career goals, educational legacy, and the ability to cope in social situations. The social issues facing college students are of ever-increasing interest to higher education personnel. The research field generally agrees about the importance of social integration with regard to student retention and the fact that students have a difficult time persisting when they are not socially integrated into campus life. Thus, the factors identified on the social side of the geometric model are uniquely important to students' stability.

A student's social underpinning and opportunities have obviously crossover impact on his or her cognitive development. A student who is brought up in a culturally and educationally rich environment will develop skills critical to postsecondary, career, and personal success. Students hailing from less supportive environments may bring with them deficiencies in their self-esteem and efficacy, especially as they relate to academics when compared with students from more advantaged backgrounds.

Institutional Factors

College is undoubtedly the biggest social change a traditional-age student has ever undertaken. College presents stresses, at some level, to all students. Substantial research exists on the stresses of freshman year, especially on minority and low-income students. Regardless of one's subscription to either Gennep's social anthropology theory (Tinto, 1988) or to Valentine's biculturation theory (Rendon, Jalomo, and Nora, 2000; Valentine, 1971), how the institution reacts to students is of primary importance to retention, persistence, and completion.

The institutional side of the triangle relates to the ability of the institution to provide appropriate support to students during the college years, both academically and socially. Issues related to course availability, content, and instruction affect a student's ability to persist, as do support mechanisms such as tutoring, mentoring, and career counseling. Although this axis has a direct effect on a student's stability during college, it also can be seen as a flexible set of programs or conditions that the college can mold to meet the diverse needs and attributes of individual students.

The significance of setting institutional factors on equal ground with cognitive and social factors is to illustrate the importance of campus participation and knowledge in students' social and academic development. The geometric model places this set of factors at the base of the triangle because it is the college that forms the foundation for college success. It is here that the institution can identify and match the needs of individual students, a student cohort group, or the student body as a whole.

The Model in Practice

The strength of the geometric model is that it allows users to move from a theoretical conversation to a study of practice in the present and over time. On the theoretical level, using the geometric nature of this model helps us understand persistence, how various factors may interact, and how the institution is involved in the persistence process. Only through the collection of data to further understand the cognitive and social experiences of students can the institution know how to act on these theoretical structures. Thus, we begin with the theoretical and move toward the practical, starting with a discussion of equilibrium.

Achieving Equilibrium

The geometric model allows us to discuss the dynamics between cognitive, social, and institutional factors, all of which take place within the student. We use the word equilibruim to define the status of a student when he or she is in a mode to persist in college. That is, the forces of cognitive, social, and institutional factors must combine from some type of equilibrium, or balance, to provide a solid foundation for student growth, development, and persistence. When equilibrium is lost, students risk reducing their academic and social integration with the institution and therefore risk dropping or stopping out (Spady, 1970; Tinto, 1975). This process is described in the following paragraphs.

Stage One. Each side of the geometric model represents a series of variables that define the cognitive, social, and institutional structure of the student experience. Each variable, in its own right, has an impact on the persistence process. In fact, each variable has one of three consequences for the student: it can positively, negatively, or neutrally impact student persistence and growth. As illustrated below, the net result is a series of plus and minus experiences that mold the behavior and characteristics of the student. It is important to note that each force or impact on the student is distinct and different. Thus, one should not infer that the effect of one variable can be equally neutralized by another. It is reasonable to assume, however, that certain variables can alter the effect of other variables. Thus, the individual impact of variables can combine and work with or against other variables, known as reciprocity. If we could algebraically calculate the impact of these variables, we would end

up with a beta value to describe the cognitive, social, and institutional value. Although theoretically possible, it would be a massively challenging practice to equate all inputs to a singular coefficient.

An example of reciprocity is the combination of academic motivation, appropriate learning environments, and academic support. The net effect of these three variables (and surely dozens of others) could have a dramatic effect on student achievement and ultimately persistence in college. This combination of forces—the reciprocity of variables effect—gives us a net effect for each of the three planes of the geometric model.

Stage Two. The second stage refers to the continuation of our reciprocity theory to the entire spectrum of variable interaction, that is, between cognitive, social, and institutional variables. The force generated by all variables—either individually or across axes—accounts for the stability or instability of student persistence and achievement and ultimately the achievement of equilibrium.

Although balance may be achieved on each axis of the triangle (as shown in the prior figures), it is naive to suggest that an equal balance exists among the three sides of the model, even if we could define what that balance would look like. In other words, rarely would the triangle be truly equilateral. The complexity of human behavior and learning theory suggests that there is an infinite combination of variables from each of the three axes that can result in an outcome measurable through student persistence and achievement. As previously stated, however, we use the word equilibrium to define the status when the cognitive, social, and institutional forces combine in a manner that supports student persistence and achievement—that is, the model is stable and supports persistence and achievement.

Moreover, a seemingly perfect, equilateral polygon (that is, equal effect from each resource) does not necessarily constitute the best model of stability for a student. Not only is this effect seemingly impossible, but it is illogical to assume that an equilateral model is a reasonable description of human ability and behavior. Rather, the individuality of the student necessitates that the model must shift and sway and evolve in a variety of ways and still provide a model of stability. The human condition is very much an ebb-and-flow, far-from-static situation, where shifts in one social or cognitive area prompt a protective response to counterbalance that shift. To illustrate this point, the illustrations below introduce four variations of model stability, all of which are in a state of equilibrium, therefore supporting student

persistence. **Illustration A** represents the so-called "perfect" situation where the student has relatively equivalent levels of cognitive and social resources and requires a similar level of institutional commitment to aid his or her persistence and performance. The bar chart to the side of the illustration helps to define the relative force of each axis apart from the illustration. In this case, the three levels, cognitive, social, and institutional, are similar.
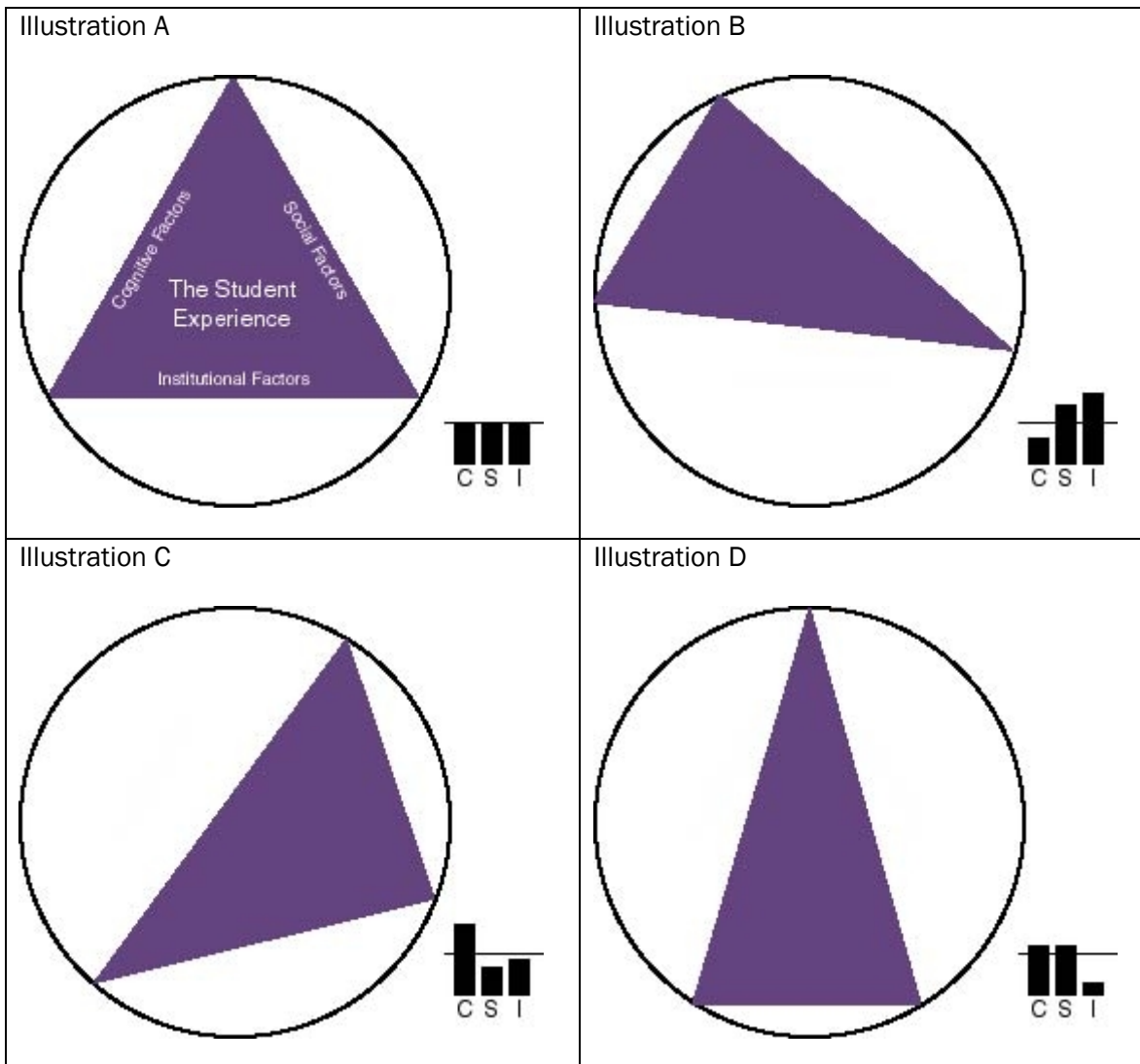

Illustration B represents a student with low academic resources but excellent social skills, with the requisite institutional intervention and support. Through social networks, strong will, and the appropriate assistance from the institution, the student may be able to apply the necessary cognitive skills while also developing new skills to succeed in college. An example is a good-natured student who lacks the academic fortitude, perhaps because of a below-average education during middle and high school. With diagnosis from the institution and the implementation of appropriate support programs, the student could persist in college and build up his or her cognitive resources.

Illustration C represents a student with high cognitive resources and low social resources. The cognitive ability of the student is so strong that even the institutional forces are below average level. A person who may fit this model could be the stereotypical brilliant thinker whose social skills leave something to be desired. In most cases, we would think that this type of student will persist to graduation, but because the college experience is about more than completion and about developing the individual to his or her full social and academic potential, it is important for the institution to consider interventions to help that student develop social skills that will be beneficial throughout his or her life.

The last example, **Illustration D**, illustrates a student with extremely high cognitive and social ability, therefore negating much of the need for institutional support beyond those related to basic instruction. In fact, it is likely that the institution acts more as a barrier than a conduit to goal attainment for students fitting this mold. With such strong academic and social skills plus related resources, these students probably tear through the curriculum (the classic distance education student).

As described, the graphic representations illustrate four different student models; all are considered in equilibrium because of the ability of the institution to deliver the appropriate level of support services to counter the strengths and weaknesses of the student. If one component of the model is forced to overcompensate for too many negative factors attributed to the other two sides of the triangle, then the student is likely to run into problems. Thus, a student with low net cognitive resources and low net social resources is unlikely to persist in college, regardless of what the institution may provide in terms of support services.

A Chronological Metric

The model can also be used to represent the cognitive and social growth of students over time. The figure below illustrates the time element, where the triangle represents the present and the area beyond the triangle represents all prior influences and experiences, as recent as yesterday, as far back as preschool, if necessary. This concept is especially important at the time of college matriculation, for it can provide college administrators, faculty, and staff a snapshot of a student's cognitive and social attributes at the entry point into college. Given that the triangle sides represent the present, the institution must have a process for identifying the impacts and abilities of the student beyond the triangle, that is, measuring their capabilities based on their progress during the K–12 years. Colleges typically use standardized test scores, GPAs, course transcripts, and even support letters and interviews to gauge a student's past.

For the institution, the ability to learn about a student's history is more than about testing and analysis. It is an opportunity to connect with the student and become cognizant of his or her goals and aspirations. With this information, the institution can modify individual programs to meet specific needs of the student. The entire admissions process allows an institution the opportunity to match its goals with those of the student.

Of course, time does not hold still during the college years. In fact, the college experience represents the coming of age and entrance into adulthood for most traditional-age students. Therefore, it is important for the institution to note that the student's goals, aspirations, and abilities change during his or her time on campus and that strategies identified by the student must be matched by subsequent changes on the part of the institution.
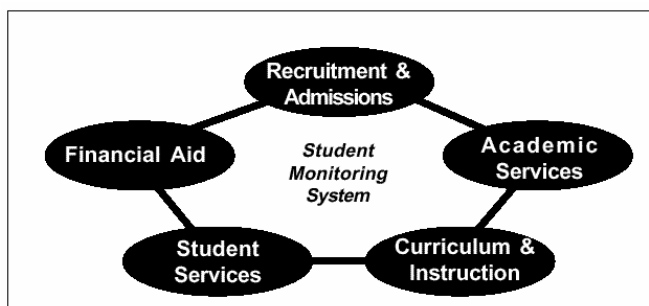
As can be seen in the figure, the geometric model can be used to conceptually track a student's progression through graduation. Remembering that the innermost triangle represents the here and now and that every piece of time that passes moves farther outward from the center we can thus layer each progressive period of time as it occurs. From a theoretical point of view, the model has the ability to consider all prior history, including high school and beyond. From a practical point of view, it can help us gather and use information chronologically to chart or track students' progress before matriculation and during college. This observation is significant, because it gives us a philosophical picture of how students progress and change over time. For an institution, it can provide the necessary knowledge and information to gauge institutional practices and alter the individual learning plans associated with each student. For example, on the social side of the model, an institution can and should track the student's social development, as measured through appropriate inventories administered biannually or annually. Likewise, the academic progression of the student can be measured through credits earned, course grades, and course examinations.

A Conceptual Framework for Student Retention

This campus-wide retention model was designed to provide administrators with a strategy and framework to build a student retention plan that incorporates the individual needs of their students and institution. It was designed with the hope that this model will allow administrators and planners to devote more of their time to planning and management rather than to the uncovering of research to support their actions.

Studies and issues regarding minority student persistence are not new, and many of the practices identified and outlined in this research-based framework have been presented before. Two main differences between this framework and previous efforts include the broad scope of coverage across a variety of campus issues and the specific recommendations for institutional practice. The framework provides administrators and practitioners with a menu of activities, policies, and practices to consider during the planning and implementation of a comprehensive campus-based retention program. It should be noted that nothing here is completely prescriptive. Readers should remember that it is indeed a "framework" and that the following ideas and strategies are guidelines to begin the design and implementation process on your college campus. In the end, each institution must develop its own strategy to be successful, as no one-size-fits-all approach exists. What lies beyond are strategies from the research literature to help in planning and development.

Five Components of the Student Retention Framework (Swail, 1995)

The retention framework is classified into five components based on an extensive review of current literature. Four of the five components—financial aid, recruitment and admissions, academic services, and student services—are generally major departments in most four-year institutions. The fifth component, curriculum and instruction, is receiving more attention and consideration at colleges and was added to this study because of the direct impact it has on student retention. The framework components are further broken down into categories based on areas of specialization and subsequently into specific objectives.

It is important that practitioners understand the relationship between the framework's components. Most notable is the ability of campus departments to work together toward common goals and focus on students' needs (Noel, Levitze, and Saluri, 1985; Smith, Lippitt, and Sprandel, 1985). From an organizational perspective, it is difficult to imagine how any of the components could work effectively without links to other areas. For instance, financial aid offices work closely with recruitment and admissions offices, while academic services must work in tandem with departmental efforts in curriculum and instruction. The framework at-

tempts to develop additional links, such as those between student services and academic services, where the notion of Tinto's theory of academic and social integration (1975, 1993) is most relevant. The link of recruitment practices with precollege academic support programs is a good example of how a campus-wide support network can help students persist toward graduation. Thus, interrelation of the five components within the framework should be a major consideration for practitioners and developers.

As shown in the figure above, the research-based framework is supported by a student monitoring system. The system, identified from literature and panel discussion as an important component of a campus-wide retention program, is a resource that supports the linkage of campus components or services. Such a system, when developed to capture data that reflect the true nature of student and faculty life, provides institutions with a snapshot of student experience in terms of academic and social development (Tinto, 1993). It is with this knowledge that campus offices and personnel can generate more appropriate methods of supporting students' needs. To make this system useful, institutions must ask the appropriate questions and be willing to enact systems to collect data that can answer those questions. It can be a huge amount of work, but it is undoubtedly the only way of answering the difficult but important questions that relate to student persistence.

From an administrative perspective, the strategies introduced in the model are not prescriptive. They are alternatives and institutional practices that are consistent with both current thinking within the various communities and what we have been able to ascertain through the research literature. As well, this framework will be particularly significant in providing an understanding of the various roles that will be expected and required of administrators, faculty members, and staff members on campus if a program is to be successful.

Component One: Financial Aid

Financial aid is a critical part of the persistence puzzle. For students from low-income backgrounds, many of whom are students of color, finances are a make-it or break-it issue. A strong financial aid office is often the sign of a well-oiled campus, where latitude is given to students who have special financial needs.

Four categories were used to describe financial aid. Grants and scholarships, student loans, financial counseling, and assistantships/work-study programs were all identified in the literature and supported by the panel to be important factors in student retention.

Although research has shown that grants are a much better predictor of students' persistence than loans (Astin, 1982; U.S. General Accounting Office, 1995), the finite limitations on the availability of grants and scholarships suggest that loans and work-study options must remain open avenues for students to gain access to the nation's postsecondary institutions. Princeton, Stanford, and a host of other Ivy League campuses have made news in recent years by making large commitments to need-based aid, but the reality outside of a handful of institutions in our entire postsecondary system suggests that colleges must develop increasingly creative and alternative ways to increase institutional aid for needy students, especially at moderately priced private institutions.

Although some ethnic groups historically are averse to financial debt (Thomas, 1986), loans are nonetheless a standard component of most financial aid packages. Institutions must consistently review their packaging procedures and ensure that students and families are educated about the loan process and that the loan represents a long-term investment against future returns. The delivery of accurate and easy-to-follow information regarding loan availability and regulations is an important factor for families.

A major barrier to access and persistence is the lack of information for parents and students regarding grants, loans, and scholarship opportunities. Colleges must be proactive in advising families of the price of college, selection criteria, and availability of financial aid opportunities. The application process must also be designed such that it does not deter families from applying for financial aid (Astin, 1982; Collison, 1988). In the late 1990s, the U.S. Department of Education conducted focus groups and video profiles of parents and families completing the Free Application for Federal Student Aid (FAFSA) form, which must be completed by all students applying for federal aid in the United States. The department found that most families, from all income levels, had trouble completing the form. Although the Student Financial Aid office within the U.S. Department of Education has made strides in this area, the financial aid process is still a maze and deterrent for many families.

One other area for consideration is the availability of emergency loans and grants for students who occasionally require additional financial support midway through a semester as a result of unanticipated costs associated with books, health care, and travel. The availability of quick turnaround funds for students can help students focus on their studies and persist through the semester.

Assistantships and work-study programs can be an important part of a student's college education, especially for science majors. Astin (1975), for example, found that work-study programs could increase student persistence by 15 percent. These opportunities provide students with money, experience in the field, and, perhaps most important, networking capabilities for future employment and research possibilities. Recent research by NCES (Horn, 1998), however, supports Astin's finding a threshold exists where the amount of work per week distracts students from their studies and lowers the chances of a student's persisting.

Financial counseling is the foundation for grants, loans, and work-study programs. Counseling allows campuses to reach out to families and students and offer a variety of avenues to finance college attendance. College financing is arguably one of the most important and costly endeavors a family may make, and financial aid staff must be cognizant of the burden these decisions place on families and provide excellent support for them during the decision-making process. Additionally, families need information early. Colleges can work with school systems to develop financial aid nights.

The financial aid portion of the framework has three major objectives:

Disseminate information. To make informed decisions, appropriate information must get to students and families regarding student financial aid. The use of new technologies to deliver this information, such as computer networks and computer-interactive systems, can help families plan for college and learn more about the college environment and requirements. A

number of college cost calculators are on the Web, and institutions can link into them. They are useful, however, only if the targeted constituencies use them. Institutions must devise efficient and coherent communication paths to interested families in a method that is both informative and supportive. Yet access to these new technologies, especially computers and the Internet, is heavily influenced by family income. Thus, traditional information or access to computer-aided information must also be made available.

Increase availability of need-based aid. Colleges should attempt to revise current lending practices to increase the availability of grants, scholarships, work-study programs, and loans to needy families. Much of the availability is based on federal authority, but institutions still make key decisions on institutional and other aid. A case in point is the trend to move toward merit-based aid on campus. Colleges should consider the impact of those decisions and maximize aid to needy students. The revision of current national financial aid policies, although beyond the control of individual colleges, must be watched carefully by college administrators and national collegiate association representatives.

Reconsider aid packaging. Steady increases of tuition and fees require creative packaging, especially for students from low-income backgrounds but also for all students. The packaging of federal aid is legislatively controlled, and some private aid, such as the "last dollar" programs, has certain restrictions on how they are packaged with other aid components. Institutions have more flexibility with their institutional aid, however, and can use it in a variety of ways (for example, merit, supplementary need-based grants). Some research shows that front-loading student aid packages (that is, coordinating financial disbursement so that students receive more money during the freshman year and diminished amounts in subsequent years) results in a more efficient use of loan money (U.S. Government Accounting Office, 1995) and can help students get over the hump of their college experience. Many financial aid practitioners are wary of that practice, however, and would rather use it in other ways.

1 Financial Aid				
1.1	**Financial Aid Counseling/Training**		**1.3**	**Loans**
1.1.1	Inform students and families of college financing options, resources for locating new financing options, and application strategies as early as middle school.		1.3.1	Educate students and family members about student loan obligations.
1.1.2	Collaborate with financial management professionals to offer students and families financial management seminars.		1.3.2	Streamline bureaucracy and forms to simplify loan application process (within federal guidelines).
1.1.3	Provide financial aid counselors with cultural diversity/sensitivity training.		1.3.3	Integrate mandatory career development seminars with student borrowing.
			1.3.4	Ensure the availability of emergency loans to students in need.
1.2	**Grants and Scholarships**		**1.4**	**Assistantships and Work-study**
1.2.1	Develop alternative sources of grant and scholarship aid through community sources.		1.4.1	Expand assistantships and work-study programs for undergraduates.
1.2.2	Maximize availability of grant and scholarship aid compared with student loans.		1.4.2	Restrict assistantships and work-study to 15-25 hours per week for full-time undergraduates.
1.2.3	Consider frontloading institutional grants and scholarships for more support in the early college years.		1.4.3	Partner with area businesses in close proximity to campus to forge assistantships and research opportunities for undergraduates.
			1.4.4	Create opportunities with public and private businesses that lead to employment after graduation with "loan forgiveness" compensation plans.

Component Two: Recruitment and Admissions

The development of enrollment management programs in recent years has empowered the recruitment and admissions staff on many campuses. From an institutional perspective, how an institution "chooses" its prospective students and what financial aid it offers is the crux of institutional business. Institutions must be cognizant of the issue of institution-student fit, and at some point the business side must regress to allow for the personal side of the college connection. Ultimately, college is a service industry, and the student is the client.

The three categories under the classification of recruitment and admissions include student identification, admissions, and orientation.

Tinto (1993) and other researchers (Astin, 1975; Cope and Hannah, 1975) discuss the importance of matching students' goals and expectations to a college's mission. The role of the recruitment and admissions offices must be clarified, first, to identify students whose career and educational goals are closely matched to the institutional mission and, second, to admit only those students to college.

Focus areas under this category include the recruitment of students who have been involved in precollege preparatory programs, promotional visits to local secondary schools, the development of outreach programs in the institution's target area, and the use and promotion of alumni clubs to recruit students.

Although traditional admissions practice incorporates some level of student assessment to verify institutional fit, the process is not as sophisticated as it could be. Colleges should use a number of assessment and evaluation practices in the admissions office to determine the extent of student-institution congruence. Although the majority of four-year colleges widely use SATs and other norm-referenced tests for gatekeeping, they are by no means the only measures of students' ability or aptitude. Even the College Board strongly advises that the SAT should be used only in conjunction with other measures, such as GPA, class rank, and other noncognitive measures, including essays and interviews. Additionally, colleges should consider that the admissions process is also an opportunity to accept the reciprocal responsibility of ensuring that the institution fits the student. The admissions process is primarily about service to students, not gatekeeping, even though gatekeeping is a definitive role in the admissions process.

Finally, the campus orientation aspect of this component is an important part of student integration on campus, both socially and academically. Orientation should look beyond the student and offer opportunities to families and significant others, as the college experience is truly an experience for the entire family and not just the person in attendance. The Lubin House experience at Syracuse University (Elam, 1989) remains an exemplary model of satellite orientation practice that other colleges should study carefully. Additionally, on-site orientation and extensive communications with families should become standard practice for any college.

The recruitment and admissions segment of the framework has five major objectives:

Precollege programs. To ensure the efficiency of campus offices related to student recruitment, coordinators should capitalize on student data and involvement in precollege programs offered by the institution. Students in these programs generally have already shown college aspirations and academic potential, and have been oriented to the college. Therefore, precollege programs offer institutions an opportunity to recruit and assess student ability based on previous contact with students and schools.

Alternative assessment methods. Colleges can revise current selection criteria to include a variety of assessment techniques, including portfolios, interviews, and perhaps other nontraditional methods of pre-testing. Although there is concern over the cultural bias of SAT testing (Kalechstein et al., 1981; Dreisbach et al., 1982; Steele, 1999; Jencks and Phillips, 1998; Guinier, 2001), most empirical research finds SATs and the academic rigor and selection of high school courses to be the best predictors of student persistence and success (Sedlacek and Prieto, 1990; Adelman, 1999).

School visitations. The use of work-study students, graduate assistants, and other student personnel to make visits to local high schools (especially their alma maters) in the capacity of recruiter is a cost-effective way of reaching out to the community. This practice is appealing because of the close connection between college students and high school students as opposed to trying to bridge the gap with recruitment personnel. These interactions also help generate a peer relationship between the college and high school that may be an important part of a student's decision to attend college or a particular campus.

On-campus living orientation. Providing high school students enrolled in precollege programs with on-campus experiences, especially living opportunities, can have long-term positive impacts on their aspiration for postsecondary studies. This practice has practical applications for both students and colleges: it gives students opportunities to test the college environment and become more familiar and comfortable with the college, and it allows colleges a much better chance of recruiting students who have had extended visits to the campus.

Freshman orientation. Linking freshman orientation programs with course credit generally increases students' interest and attention and justifies their importance to students in relation to their academic pursuits. Some universities have designed one–, two–, or three–credit hour programs for first-semester students. Although the establishment of mandatory orientation without credit is a standard practice on many campuses, students often resent this use of their time, particularly when orientations are poorly planned and offer students little in terms of increased knowledge regarding university services and regulations or useful skills.

2 Recruitment and Admissions

2.1	**Student Identification**		**2.2**	**Admissions**
2.1.1	Support and collaborate with pre-college programs and high school counselors to identify prospective recruits.		2.2.1	Establish admissions criteria using a holistic approach for a more comprehensive assessment of students' commitment to college and compatibility with the institution (e.g., portfolios, interviews).
2.1.2	Implement on-campus orientation activities for local secondary school students, pre-college counselors, and teachers.		2.2.2	Distribute the weight of college admissions tests scores evenly among other admissions criteria.
2.1.3	Monitor the participation of students enrolled in institutionally-sponsored pre-college programs.			
2.1.4	Attempt to identify and match students' academic and career goals with the institutional mission.		**2.3**	**Orientation**
2.1.5	Include work-study students, education majors, and other college students on recruitment teams to inform middle and high school students and parents of the academic, social, and financial requirements for college participation.		2.3.1	Provide opportunities for pre-college secondary school students to visit/live on campus.
			2.3.2	Provide strong new student orientation programs with early activities for students and families.
			2.3.3	Ensure that new and prospective student orientation activities are cross-campus, involving all departments.
2.1.6	Develop outreach programs that target the student demographics of interest to the institution.		2.3.4	Provide orientations at satellite locations for non-local students.
2.1.7	Coordinate recruitment with alumni associations to identify prospective students.		2.3.5	Ensure personal communications with students and families via telephone and visitations on a regular basis.
2.1.8	Aggressively recruit minority students to create larger communities of certain student subgroups.		2.3.6	Institute freshmen orientations as credited course requirements (e.g., Freshman 101).

Component Three: Academic Services

The academic services component is the most diversified and expansive component in the framework. The focus of academic services in terms of student retention and persistence is on providing supplementary support to students in addition to practice with classroom lectures. This component is divided into six categories: academic advising, supplementary instruction, tutoring and mentoring, research opportunities, precollege programming, and bridging programs.

Effective academic advising is important to laying out an appropriate course map for students (Forrest, 1982; Beal and Noel, 1980). To be effective, it is important that students receive guidance that reflects their needs and incorporates the knowledge of campus programming and bureaucratic practices. Prospective advisers need to be trained accordingly to handle a variety of issues during advising sessions.

Many campuses have initiated computer-based advising systems. Although these systems are cost-effective, they do not allow for the development of relationships or the interaction between adviser and student, an important opportunity to talk with the student about his or her progress.

Beal and Noel (1980) also noted the importance of using faculty as student advisers. This practice has many potential benefits in addition to the academic guidance that may be offered, including role modeling and mentoring. Faculty members must be appropriately

briefed and trained on the institution's various issues and policies, however. This practice is not often followed at institutions.

Supplementary instruction programs are prominent on many colleges and university campuses. The supplementary instruction program developed at the University of Missouri–Kansas City is perhaps the most widespread program in use. In addition to providing remedial activities and supplementary support, however, departments must also continue to develop better strategies that increase knowledge acquisition and improve the learning process for all students.

Tutoring and mentoring practices form another support network for students. Colleges must make tutoring support available and affordable to students with such need. Faculty members should also make themselves available for academic assistance. Many researchers have substantiated this out-of-classroom contact between students and faculty members as an important factor in student persistence (Ugbah and Williams, 1989; Griffen, 1992), with ramifications for the student's personal, social, and intellectual development (Griffen, 1992).

Students in science-based disciplines (social and physical) can benefit greatly from research opportunities. The link between classroom theory and real-world practice has positive implications for a student's retention of knowledge while also making him or her more marketable after graduation. The development of local business partnerships and encouragement of on-campus research can create excellent opportunities for students.

Precollege programs provide an opportunity for the campus to work actively with elementary and secondary students (Swail and Perna, 2002). The federally funded TRIO programs have provided support to low-income and other students for more than thirty years. As well, partnerships through the federal GEARUP (Gaining Early Awareness and Readiness for Undergraduate Programs) initiative have heightened awareness and interest among many colleges. Other regional programs such as MESA (Mathematics, Engineering, and Science Achievement) and MSEN (Mathematics and Science Education Network) are examples of how precollege programs can help motivate students toward those areas. Colleges can benefit greatly from the establishment of these and other programs and the ensuing partnerships with K–12 schools and community organizations.

Bridging programs are an offshoot of precollege programs but are more specific. Colleges can effectively use a high school student's senior year or summer before matriculation to help further develop and orient the student's knowledge and ability to meet freshman program requirements. Study skills, time management, and course-related study are popular content offerings.

The academic services portion of the framework has five major objectives:

Academic advising. Colleges should implement a regular and standard practice of academic advising for students. Students' attitudes are also directly related to persistence, and a proactive advising system of checks –and balances would require scheduled meetings to catch problems before they occur. Such meetings should be face –to face, not moderated by computer.

3 Academic Services

3.1	Academic Advising	3.4	Research Opportunities
3.1.1	Provide professional development opportunities for counseling staff on a frequent and regular basis.	3.4.1	Support and develop faculty-student research projects.
3.1.2	Provide regular and structured academic advising and counseling to students.	3.4.2	Integrate regular research activities into curricula.
3.1.3	If using faculty as academic advisors, provide professional development opportunities so they understand the rules and regulations of the campus.	3.4.3	Develop partnerships with industry for research opportunities.
3.1.4	Record student-faculty advising interactions digitally for the record.	3.4.4	Collaborate with business and industry on in-class presentations and experiments.

3.2	Supplementary Instruction	3.5	Pre-College Programs
3.2.1	Encourage peer study groups to foster learning.	3.5.1	Develop pre-college programs at elementary and secondary education levels.
3.2.2	Incorporate more practical application exercises with class assignments.	3.5.2	Monitor students' progress in pre-college programs.
3.2.3	Integrate a variety of instructional methods to support student learning.	3.5.3	Offer pre-college programs on and off campus.
3.2.4	Employ peer instructors for supplementary instruction, when possible.	3.5.4	Encourage secondary education students to take rigorous college preparatory curriculum.

		3.6	Bridging Programs
		3.6.1	Provide summer academic and social support for students before the commencement of their first year.
		3.6.2	Provide on-campus residency to students during their participation in bridging programs.
		3.6.3	Monitor all students' progress in bridging programs.

3.3	Assessment/Tutoring/ Mentoring
3.3.1	Conduct pre-enrollment assessment so students can be placed, advised, and counseled appropriately.
3.3.2	Provide regularly scheduled, readily accessible tutoring to students for all courses.
3.3.3	Use Teaching Assistants (TAs,) Research Assistants (RAs) and Learning Assistant (LAs) as tutors.
3.3.4	Develop and support academic learning centers on the campus.
3.3.5	Encourage peer tutoring and group studying within class population.
3.3.6	Require faculty to support the academic needs of students outside of class time.
3.3.7	Create formal mentoring programs.
3.3.8	Create incentives for faculty participation in mentoring programs.
3.3.9	Recruit minority students, faculty, and staff as mentors for all students.

Diverse instruction. Supplementary instruction programs should use a combination of successful instructional techniques that support learning preferences of the entire student audience. Online and distance education has helped raise the bar for teaching and learning on campus, and faculty need to be more aware of the interaction of teaching styles and pedagogy with student learning styles (Whimbey and others, 1977[[AUTHOR: no Whimbey and others 1977 in bib]]; Hyman, 1988).

Bridging programs. Colleges should focus on developing academic bridge programs between senior year in high school and the freshman year in college. On-campus intervention programs afford students a number of potential benefits, including opportunities to become acclimated to the campus, work through some freshman problems before the fall semester begins, receive academic support in areas of weakness, and become accustomed to the pace associated with college-level academic learning.

Precollege programs. To help develop the pipeline of students interested in attending college, institutions should place considerable resources into the development of precollege programs wherever possible and practical. These programs, provided at levels as early as elementary school, help motivate students, get them thinking about the possibility of college, and provide important academic support and college knowledge to students and their families (Swail, 2000).

Informal faculty-student contact. Colleges should try to promote informal contact between faculty members and students to build trust, support, and motivation during the college experience. Out-of-class contact with a student can create a bond and a sense of self-worth that can positively affect a student's locus of control and impact future decisions regarding college. Extra assistance on projects, informal discussions on academic subjects, and special social gatherings can encourage this type of interaction.

Component Four: Curriculum and Instruction

The continued development of curricula and pedagogical practice is perhaps the most important and fundamental need that colleges must address in terms of student retention. The need to revise current practices, especially in gatekeeper courses, stems from what Tobias (1990) acknowledges as the practice of designing courses that are "unapologetically competitive, selective and intimidating, [and] designed to winnow out all but the 'top tier'" (p. 9).

Of primary importance to academic offices should be the continuous process of curriculum review and revision. This process should in fact become a mainstream component of curriculum development. Especially in terms of science, engineering, and mathematics, academic content must reflect the current dynamics of industry practice to be worthwhile and effective. Therefore, to prepare students for employment in science, engineering, and mathematics in the near future, it follows that science, engineering, and mathematics curricula must relate not only to current industry trends and practices but also to anticipated practices and procedures (for example, cutting-edge technology and research). Colleges should attempt to gain access to new equipment and provide instruction that uses state-of-the-art instructional technologies to ensure that materials are presented in a fashion that is commensurate with students' learning preferences. The communication age has radically altered traditional learning and teaching styles, especially for students currently in elementary and secondary classrooms. Computers are second nature to new students matriculating to college or attending precollege programs. Within a few years, virtual reality, a technology embodied as the ultimate in applied scientific and medical training, may also be second nature to undergraduates. Thus, colleges must allocate resources to the development of new teaching strategies that incorporate the latest in educational and industrial technology. Without these considerations, students may find upon graduation that their knowledge is not aligned with the needs of society, when they should be on the cutting edge.

With the revision of curricular and instructional approaches comes the need for a revision of assessment practices on campus. If new curricular practices focus on a higher level of knowledge and understanding for learners, assessment practices must be able to document this higher learning. Thus, traditional methods of student evaluation are not appropriate to meet the needs of emerging teaching practice. The incorporation of instruments that measure students' comprehension rather than memorization and use a variety of assessment methods may offer a more accurate picture of student development and comprehension.

Faculty members' ability to deliver materials in an exciting, interesting, and motivating manner is also essential to the quality of education delivered by an institution. Research has shown that student achievement is higher when smaller classes and groups are used. The

hands-on and group collaborative approach made popular by the Emerging Scholars Program at Berkeley (Fullilove and Treisman, 1990) has shown that students, with specific reference to African Americans, are more likely to increase their academic performance than students not involved in these programs. In effect, instructors must begin to employ practices more popularly related to K–12 education to reach students effectively.

If these areas are to become standard practice, faculty must receive appropriate training and support. Faculty development activities, with specific focus on teaching and assessment strategies, must become a basic foundation for instructional practice at colleges. The possible implementation or restructuring of faculty reward systems could provide incentives for teaching on campus.

The curriculum and instruction portion of the framework has four major objectives:

Instructional practices. Colleges should attempt to use various methods of delivering content to students, focusing on comprehension rather than rote memorization. The use of hands-on, exploratory, and peer learning groups are a few methods of motivating students to learn. A good balance is the use of a variety of instructional methods rather than one dominant method.

Curricular review. Colleges should develop an integrated process of curriculum review to ensure that all pieces of the curriculum are up –to date and relevant to society's needs. At many universities, individual faculty members are left in isolation to decide what to include in a course syllabus, leaving much to be desired in terms of quality control. This issue is of great relevance, considering that most faculty have little or no background in learning theory or educational practice. Therefore, a systemic and cyclical review process that allows for faculty to review all curricula on a rotating basis helps control the content delivered in classes. It also serves to keep curricula current.

Professional development. Colleges need to provide extensive and ongoing professional development to faculty and staff to incorporate new teaching strategies and assessment techniques. Faculty cannot be expected to teach specific, if not more standard, courses without opportunities to share and learn from others with different experiences. If colleges and universities are serious about teaching as a focus of their mission, then it is incumbent upon them to provide support for their instructional staff.

Assessment. Campuses should design and implement new multifaceted assessment techniques that regard the integrity of human learning and understanding. Teaching and learning practices that require students to evaluate, synthesize, analyze, and create also require new methods of assessing students' progress (Ryan and Kuh, 1993; Bird, 1990).

4 Curriculum and Instruction	
4.1 Curriculum Review and Revision 4.1.1 Design curricula with interdisciplinary and real-world emphasis to stimulate interest and profound understanding on behalf of students. 4.1.2 Develop a continuous review process of curricula utilizing faculty, student and outside consultation. 4.1.3 Develop core curriculum, which includes contributions of minority groups. 4.1.4 Make teaching and learning a relationship process. 4.1.5 Incorporate current and innovative technologies into the curriculum.	**4.3 Assessment Strategies** 4.3.1 Develop assessment instruments that require students to develop and utilize diverse cognitive skills. 4.3.2 Perform regular student testing and assessment to monitor student progress (e.g., standard question/answer tests, lab assignments, out-of-class assignments, observation, portfolios, etc.). 4.3.3 Provide students with regular academic performance feedback within a reasonable contextual framework. 4.3.4 Employ early intervention programs to identify and assist students experiencing academic difficulty. 4.3.5 Develop digital monitoring system for instant trend analyses of student's achievement as determined by assessment tools.
4.2 Instructional Strategies 4.2.1 Incorporate interactive, relevant, hands on, exploratory, instructional practices. 4.2.2 Establish learning communities. 4.2.3 Integrate Supplemental Instruction into the curriculum. 4.2.4 Provide students with short- and long-term research and application assignments. 4.2.5 Utilize educational technologies to complement instruction. 4.2.6 Establish undergraduate student-assisted teaching partnerships. 4.2.7 Provide out-of-class experiences that influence learning.	**4.4 Faculty Development/Resources** 4.4.1 Provide professional development opportunities for teaching faculty. 4.4.2 Establish teaching faculty reward system. 4.4.3 Create a center for teaching excellence to support faculty development. 4.4.4 Identify and/or provide grant opportunities for classroom research.

Component Five: Student Services

As Tinto (1993) and others have suggested, students' "social integration" with the institution is an important factor in their ability to persist. The role of the student services office has evolved to deal with many of the issues facing students on campus. The atmosphere and climate of the university, reflected by how the institution treats and supports students and by the positive nature of peer relations on campus, is important to the self-esteem and confidence a student generates. Neisler (1992) concluded that personal, emotional, and family problems, in addition to feelings of isolation and adjustment to college life, are strong barriers to retention for African American students. Therefore, the campus must focus on developing an atmosphere that is supportive, safe, and pluralistic. The outcomes of this study found that campus climate, accessibility to campus, campus housing, and career and personal counseling are areas that should be considered in terms of their effect on student retention.

Campus climate is not some intangible, abstract concept that just happens. More accurately stated, campus climate is the development of the beliefs and practices of the administration, faculty, staff, and students belonging to that institution. Therefore, it can be created and, to some degree, controlled. To develop a positive campus climate supportive of learning and human development, campuses should promote diversity on campus and extol the virtues of shared culture (Justiz, 1994). This practice allows colleges and universities to better reflect the changes in society and promote pluralism. Ensuring safety for students and providing social opportunities for students to forge new friendships and build trust with their fellow classmates are examples. The existence of student groups and organizations can also support a positive climate by integrating students into the campus environment.

Accessibility to campus is also an important concept for institutions to consider. Administrators must consider the use of flexible scheduling to allow students with different schedules to

be able to enroll in classes required for graduation. Classes on weekends and evenings and online courses are alternatives. An additional consideration is the access of public transportation systems to campus. Students who have difficulty reaching the campus are less likely to persist, although the use of distance learning technologies may help alleviate these problems.

On-campus housing that integrates students with the campus is an important element directly related to students' persistence (Pascarella, 1984; Chickering, 1974; Astin, 1977; Pantages and Creedon, 1978). Colleges must ensure, however, that housing is accessible and affordable for students and offer choices in types of housing. Poor housing options can be a major deterrent to persistence.

Studies of the effects of counseling for at-risk (Steinmiller and Steinmiller, 1991), African American (Trippi and Cheatham, 1989), and first-generation students (Richardson and Skinner, 1992) confirm that counseling services are important components of student retention programs. Colleges must deal with the added stress and burden that today's students bring with them to campus. Counseling services must provide support for students in terms of social needs and career counseling and be accessible to students.

The student services portion of the framework has five major objectives:

Diversity and multiculturalism. Colleges can build a pluralistic environment by promoting diversity and multiculturalism through special programming and activities. Studies by Astin (1993a) and Justiz (1994) found that campuses embracing diversity and multiculturalism attracted student populations that were very positive, capable of change, and academically skilled.

Flexible scheduling. Allowing the scheduling of classes in a variety of time slots allows a broader constituency of students to attend classes. Many universities have fixed schedules that allow little flexibility in course selection. Although inflexibility is mostly because of budgetary reasons, there are instances when it occurs because faculty are too inflexible to try different schedules. Adding Saturday courses or moving courses around the schedule may allow students to enroll in more of the classes they need during a semester rather than wait for a rotation when they have no conflict. The targeted use of distance education can also provide flexibility in scheduling.

Career counseling. Colleges must ensure that students are sent on an academic track that will direct them toward their career destination. Occasionally, students are advised to take certain courses that in reality are poor choices and may extend their attendance. Career and academic counselors must be well versed in the requirements, schedules, and policies regarding graduation and have a keen knowledge of what business and industry are looking for. This aim can be accomplished only through qualified counselors' expansive knowledge of individual students.

Faculty-student interaction. Informal contact between faculty members and students is part of a rich atmosphere of sharing and caring at college campuses. Students feel much more relaxed and cared for when faculty are committed to their success. As stated, the social inte-

gration of students is paramount to their persistence, enjoyment, and achievement in college. The willingness and acceptance of staff to rub shoulders with students beyond the confines of the classroom can have long-lasting effects.

Room and board. Comfortable housing and affordable meals are important considerations for students. Campuses should look at numerous plans allowing students to choose the type of housing that best meets their financial ability and living requirements. This decision impacts mature students with families, economically disadvantaged students, and students living far from home.

5 Student Services		
5.1 Campus Climate 5.1.1 Build a supportive pluralist environment for students by embracing diversity through campus leadership, faculty, staff, student enrollments, curricula, programming, and campus artifacts. 5.1.2 Foster validating and therapeutic campus community. 5.1.3 Provide a safe campus for all students, faculty, staff, and visitors. 5.1.4 Support campus student organizations. 5.1.5 Provide non-classroom opportunities for student-faculty interaction. 5.1.6 Plan social activities that build community among all campus constituencies (e.g., intramural sports and academics, convocations, homecoming, entertainment, etc.).	**5.3 Housing** 5.3.1 Ensure affordable housing and meal plans. 5.3.2 Encourage on campus residency for undergraduates. 5.3.3 Provide the appropriate number of housing slots to meet the needs of the student body. 5.3.4 If college suffers a campus housing shortage, ensure on campus housing for underclassmen. 5.3.5 Provide campus residents housed off site with additional services to support campus integration. 5.3.6 Develop special living-learning housing options.	
5.4 Accessibility/Transportation 5.4.1 Ensure transportation link with local area transit system for increased access to campus. 5.4.2 Offer classes in a variety of timeslots to permit flexible scheduling by students, including weekends and Friday-Saturday course combinations. 5.4.3 Offer concurrent semester of courses with same course identification to allow for student flexibility in scheduling. 5.4.4 Utilize distance-learning technologies and practices to broaden and support student participation with the option of off-campus classes.	**5.5 Counseling** 5.5.1 Provide counseling, psychological, and other health services to students to enhance coping strategies. 5.5.2 Provide career counseling that conforms to academic and financial advising to ensure students are following the proper path to reach their goals. 5.5.3 Offer counseling services that are cognizant of the cultural and racial issues facing minority students. 5.5.4 Offer a variety of counseling resources (e.g.. legal services and family counseling) and techniques, including individual, group, peer, computer, and video sessions.	

Important Organizational Considerations in Developing an Institution-Wide Retention Program

The development of any program at any university requires a multifaceted process incorporating all individuals involved. In terms of an institution-wide project, the advice of Flannery and others (1973) must be remembered: the entire institution must take part. From an institutional point of view, many things must happen on campus to ensure that positive change can take place.

In an examination of effective institutional practices at four-year institutions, Clewell and Ficklen (1986) identified several characteristics of institutions employing effective practice: the presence of stated policy; a high level of institutional commitment; institutionalization of the program; comprehensive services, dedicated staff, and strong faculty support; an atmosphere that allows students to participate without feeling stigmatized; and collection of data to

monitor students' progress. Institutional focus is the key ingredient of this set of characteristics. Stated policy, institutional commitment, comprehensive service, supportive atmosphere, and the ability to assess progress all point to the importance of a collective vision and ownership on the part of the entire campus, including administration, faculty, staff, and especially students. Leadership and faculty ownership are key variables in a successful equation, and messages sent down from the top are critical to support from underneath.

Tinto (1993) offers a very useful set of action principles for implementation of a retention program:

1. Institutions should provide resources for program development and incentives for program participation that reach out to faculty and staff alike.

2. Institutions should commit themselves to a long-term process of program development.

3. Institutions should place ownership for institutional change in the hands of those across the campus who have to implement that change.

4. Institutional actions should be coordinated in a collaborative fashion to insure a systematic, campus-wide approach to student retention.

5. Institutions should act to insure that faculty and staff possess the skills needed to assist and educate their students.

6. Institutions should front-load their efforts on behalf of student retention.

7. Institutions and programs should continually assess their actions with an eye toward improvement.

As other models have established, the importance of assessment, ownership, collaboration, institution-wide coverage, and commitment are essential to Tinto's principles. In addition, the development of appropriate skills by the faculty and staff and the principle of front-loading the program for freshman students are acknowledged.

Implementing Campus-Wide Programs

Developing and implementing a comprehensive student retention program requires a commitment from leaders, faculty, and staff. Through our discussion with some of these individuals and our review of related research, we were able to come up with a short list of essential factors in establishing such a program. According to our research, a comprehensive student retention program must:

Rely on proven research. Given the resources and effort that must go into a campus-wide retention program, the final plan must be based on solid, proven evidence of success. It is a long way to travel with no idea of the outcome. If such an effort fails, the task of putting the

pieces back together would be daunting, to say the least. Spend time looking at what works, and borrow from the best.

Suit the particular needs of the campus. Not all campuses are equal. That said, no "boxed" retention program works the same on any two campuses. All efforts must be shaped to meet the specific needs of each campus.

Institutionalize and become a regular part of campus service. Any program at the beginning is usually a special project supported by outside funds. In the end, however, any successful effort must be institutionalized with respect to funding, policy, and practice. Outside funding does not last forever, and stated policy ensures that any interventions can become a mainstay in campus-based practices.

Involve all campus departments and all campus personnel. Everyone must be involved at some level. The most successful practices engage the entire campus, while the least successful strategies are very compartmentalized. We have seen "campus-wide" programs that individuals in certain parts of campus never knew about. Of course, they failed. But those institutions that had a broad outreach among faculty and staff, with clearly stated policy and practical objectives, tended to be successful.

Take into consideration the dynamics of the change process and provide extensive and appropriate retraining of staff. Change is difficult and uncomfortable. Do not underestimate the impact of change on one's ability to push through policy changes on campus. Team members must be brought along and be given all opportunities to learn about the interventions and develop appropriate skills as necessary.

Focus on students. Although this statement sounds like a given, many programs end up making the effort about themselves and not the clients. Everything should point to how it affects students and persistence on campus. This mind-set is a good one for all institutional practice that often gets lost in the "career" mind-set of board members, administrators, faculty members, and staff. Students are central to all operations on a campus.

Ensure that the program is fiscally responsible. Soft monies (grants, for example) provide a good foundation for start-up, but they are not a long-term solution to persistence at any institution. An important component of a strategic plan for retention is to build in a long-term fiscal plan to ensure that the program can operate without external support.

Support institutional research in the monitoring of programs and students. Data and analysis on all interventions, programs, and, ultimately, students are the saving grace of any campus change model. One must have the numbers to show whether movement has been made, either positive or negative.

Be patient. All change takes time, and change theory tells us that change usually takes a negative tack before the eventual positive change occurs. Understand that this trend is a normal mode and that some negative changes will happen before the positive yield will be seen. Therefore, leaders and other team members must be patient and understand that this long-term effort will have its rough spots.

Be sensitive to students' needs and target the most needy student populations. All students can benefit from a retention effort on campus, whether through improved tutoring programs or increased need-based aid. Any program should target the neediest students on campus, however, knowing that others will benefit from any changes made.

The development of a campus-wide retention program requires supportive leadership, the willingness to evoke change on campus, and careful planning. If any of these essential factors is missing, the chances for success are limited. Once institutions have ensured that the climate for change exists and that the support and guidance of campus leadership is present, several steps or stages must take place:preplanning, planning, implementation, and program monitoring. This strategic process can be developed in line with an institution's strategic planning schedule.

Stage One: Preplanning

The preplanning stage provides campus leadership with the information necessary to identify challenges and issues that the campus must face. During this initial stage, the institution must:

- Analyze the size and scope of retention issues on campus;

- Identify students' needs;

- Assess the status and effectiveness of current retention strategies and programs on campus;

- Identify institutional resources that could be used or redirected;

- Identify successful retention strategies at other campuses.

This information-collecting stage can be done internally, but it sometimes carries more weight when handled through an outside consultant in partnership with the leadership team. With a solid foundation of evidence, the project team stands a much better chance of other institutional partners' buying into the project. As well, this information will allow the committee to make prudent decisions about what direction to follow in Stage Two.

Stage Two: Planning

The planning stage is the longest stage of the developmental process, as special care must be taken to involve the entire campus in the creation of the program. This is where buy-in occurs across campus. The planning stage must carefully assess the research conducted in Stage One, develop a redefined sense of purpose and goals, and develop an appropriate retention plan that meets those goals. The main activities of Stage Two include:

- Refinement or enhancement of the college mission statement and goals;

- Development of organizational strategies;

- Identification of key stakeholders on or off campus and their roles in the retention process;

- Assessment, presentation, and discussion of preplanning data;

- Development of the retention program's components and operation strategies; and

- Development of an implementation plan.

Stage Three: Implementation

The implementation of the retention program should be according to the plan devised during Stage Two. It is critical for the administration to provide support, both political and financial, during the implementation stage for any unforeseen circumstances and difficulties encountered.

Stage Four: Program Monitoring

The monitoring of the retention program is an essential practice that must be entrenched in the design of the system. Without the careful planning of an assessment strategy, the true value and effect of the program components can never be measured. The monitoring system should provide ongoing data to all campus personnel involved in the operation of the retention effort. The main practices include:

- Collecting data and analyzing program components and student performance;

- Disseminating data to stakeholders; and

- Ensuring that conclusions based on program monitoring are incorporated in program revisions.

The Importance of Leadership on Student Retention

Many campuses have launched recruitment and retention programs geared toward improving the success rates of low-income and other disadvantaged students. These programs often use several strategies, such as faculty and student mentoring, peer advising, and academic and social counseling to encourage at-risk students to remain enrolled (Sallie Mae, 1999).

Less discussed, however, is the role of the president and other campus leaders in developing, designing, and implementing successful retention efforts. Yet prior research has demonstrated that senior leadership on campus is often the key ingredient needed to im-

plement these programs. For example, Redd and Scott (1997) used data from the AASCU/Sallie Mae National Retention Project to illustrate the effects of senior leadership on retention. On successful campus efforts, senior leadership plays two important roles. First, the president and his or her key cabinet officers regularly monitor their institution's progress toward clearly stated campus retention goals. Redd and Scott (1997) noted, "Nearly 90 percent of the high-rate colleges said that 'senior administrators regularly monitor information about progress in increasing retention and graduation rates of students' was descriptive or very descriptive of their institutions, compared [with] 69.3 percent of the low-rate colleges."

Second, the campus chief executive officer is usually the one person at the institution who can bring all the interested parties—students, parents, other campus administrators, faculty, and staff—together toward the goals of retention. Sallie Mae, in its Supporting the Historically Black College and University Mission: The Sallie Mae–HBCU Default Management Project (1999), noted that the president must coordinate "strategies [that] can be developed to help increase student success. . . . The president must remain fully informed of the [campus's] activities and help each of these units contribute to the goal of raising student achievement. Only leadership from the president or chancellor can bring [campus] units together" for the purposes of raising retention rates (Sallie Mae, 1999).

Presidents can play other roles as well in their institutions' efforts to improve retention. According to Earl S. Richardson, president of Morgan State University, an HBCU in Baltimore, the president should emphasize four areas on his or her campus to improve retention (Alliance for Equity in Higher Education, 2001):

- Increase need-based financial aid for low-income, at-risk students;

- Use the campus's social and cultural activities to keep students focused; and

- Encourage academic advising outside the classroom.

According to Richardson, however, presidents "need to deal with all four areas together. . . . Campuses must become a community for students" for retention efforts to succeed (Alliance for Equity in Higher Education, 2001). In many instances, the president is the one person on campus who can integrate all four areas and strategies to work cohesively and simultaneously for students (Alliance for Equity in Higher Education, 2001).

James Shanley, president of Fort Peck Community College, a tribal college in Poplar, Montana, adds that chief executives also "need to engage students and families. Students are driven by family issues. However, student services are often designed for working with students but not for working with families" (Alliance for Equity in Higher Education, 2001). Older, nontraditional students are particularly affected by "day care and other family issues that hinder retention" (Diversity and Multi-cultural Initiatives Committee, 2001). Senior administrators are best able to use their influence on campus to deal with these issues effectively.

Chief administrators' attitudes about retention can also influence its importance on campus (Diversity and Multi-cultural Initiatives Committee, 2001). For example, one institution reported that its senior administrators use retention goals as part of the staff evaluation

system. All faculty and other staff are evaluated on what efforts they have made to improve the recruitment and retention of minority students (Diversity and Multi-cultural Initiatives Committee, 2001).