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The author gives an overview of the main research findings concerning minority retention and graduation.

Minority Student Retention: Resources for Practitioners

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The U.S. population is becoming more ethnically diverse at a rapidly increasing rate. In 1990, according to the U.S. Bureau of the Census (2003), the population consisted of 248,709,873 people; of this population, 80.2 percent were white, 12 percent black, 9 percent Hispanic, 2.7 percent Asian, and .8 percent American Indian. As of 2003, there were estimated to be approximately 288,368,698 people, with whites now only 75.1 percent of the population. The largest minority group is now Hispanic (12.5 percent), followed by blacks (12.3 percent), with Asians making up 3.6 percent and American Indians .9 percent of the population (*Chronicle of Higher Education*, 2003–2004).

College enrollments are also becoming more ethnically diverse as a result of these changing patterns. According to the U.S. Department of Education (1998), in 1990 there were 13,621,000 students enrolled in higher education in the United States; of that number, 77.5 percent were white and 19.5 percent were minority (numbers do not add to 100 percent due to international student enrollment). Of the 19.5 percent minority students enrolled in higher education in 1990, 9 percent were black, 5.6 percent Hispanic, 4 percent Asian, and .7 percent American Indian.

Now, according to the U.S. Department of Education (2000), as of the 2000 academic year whites made up only 68 percent of the students enrolled in higher education, and minorities made up 32 percent of college enrollments. Of the 32 percent of minority enrollments in 2000, blacks made up 13 percent, Hispanics 12 percent, Asians 6 percent, and American Indians 1 percent. Clearly, greater diversity is becoming a major feature of American

life, and higher education can only avoid coming to grips with these shifting patterns at its own peril.

Although minority students are entering college at a higher rate than in previous years, they continue to leave at a higher rate than nonminorities. The data are revealing. The Consortium for Student Retention Data Exchange (CSRDE) is sponsored by the Center for Institutional Data Exchange and Analysis at The University of Oklahoma, which consists of over five hundred four-year colleges. The CSRDE (2002) data for first-year retention rates of students entering four-year colleges in 1999 reveal the following: for all types of institutions, regardless of selectivity, whites were retained from the first year to the second year at an 80.3 percent rate; blacks were retained at a 74.7 percent rate, Hispanic students at a 75.7 percent rate, and American Indians at a 67.2 percent rate. Asian students were retained at an 86.9 percent rate—the highest persistence rate of any ethnic group.

When looking at the CSRDE (2003) six-year graduation rates for students who began college in the Fall 1994 semester, we find that 56.9 percent of whites graduated within six years, compared with 41.7 percent of black students, 41.7 percent of Hispanics, and 35.8 percent of American Indians. Again, Asian students not only persisted at the highest rate but graduated at the highest rate (61.1 percent). The correlation between first-year retention rates and six-year graduation rates of ethnic groups is also obvious.

Consequences of the Leaking Pipeline

Attrition results in a severe loss of resources by society, by students, and by colleges that spend to provide programs and services to help retain and graduate students. When a student leaves college prematurely, any debt incurred must be repaid, despite the failure to graduate, and the college loses future funding in the form of tuition and fees and auxiliary services (bookstore, food service, and so forth) generated over time. The surrounding college community that supports the college, restaurants, movie theaters, and so on, also suffers an adverse economic impact when students leave. In addition, students may be turned off to the educational system in general, never returning to benefit from educational opportunities that may have helped with job attainment, enhancement, or advancement. College graduates also earn more money over a lifetime, incur fewer health problems, suffer less penal involvement, and live longer than non-college graduates.

Governmental Involvement

With the escalating cost of higher education tuition and fees and the federal and state government's increased expenditures to higher education through financial aid programs, retention has become an important issue. Governmental agencies want to be sure that the money they are investing in higher

education is producing results, that is, that those receiving the aid were receiving an education that would help them get jobs and put money back into governmental coffers through taxes. College graduates earn \$1.2 million more in a lifetime than high school graduates. Thus college graduates pay back to the federal and state government many times more in taxes, savings, and spending than nongraduates over their lifetimes.

Governments are demanding to know what is being done with the dollars they give to colleges and universities. They are beginning to assert greater control through legislation to make sure that these dollars are being spent wisely. At both the federal and state level, for example, accountability laws or programs are rapidly coming into effect. Colleges are being asked for data demonstrating that students are completing degrees in specific time periods. In addition, government agencies are asking colleges to demonstrate that students are learning what is being taught. The age of accountability is upon colleges; it was always there, but it appears to be more strident in the current environment of tuition deregulation and fiscal shortfalls.

Retention Literature

Retention literature in the United States goes back to at least the beginning of the twentieth century. From the beginning, researchers were interested in retention and attrition and its effects on students and colleges. However, it wasn't until the emergence of mass higher education following World War II, with its burgeoning enrollments and diverse populations, that retention and attrition studies resulted in models that offered transferable solutions to individual problems. In 1971, Spady developed a useful model, which concluded that personal attributes interact with environmental influences. The interaction of these personal attributes and environmental influences, and their introduction or removal, gives the student opportunities for successful assimilation into the social and academic systems of an institution. A student's decision to either remain or withdraw is influenced by the rewards found within these systems (Spady, 1971; Terenzini and Pascarella, 1977; Bean, 1985).

But it was not until 1975, with the publication by Vincent Tinto of his seminal article "Dropouts from Higher Education: A Theoretical Synthesis of the Recent Literature" in *A Review of Educational Research*, that a theoretical framework was finally articulated to explain student leaving behavior from higher education. The Tinto model took a sociological approach to the issue and posited that it was the interaction between the two variables—the college and student—that influenced staying or leaving behavior. Since its initial publication, the Tinto model has become the most widely accepted and emulated theoretical model concerning student attrition from higher education. It should be noted that one flaw of the Tinto model was that it was designed for the traditional-age, largely white students right out

of high school—the student who is still most likely to be recruited by four-year colleges and universities.

The Tinto (1975, 1987, 1993) retention model posits that individual pre-entry college attributes (family background, skill and ability, prior schooling) form individual goals and commitments; the individual's goals and commitments then interact over time with institutional experiences (the formal and informal academic and social systems of an institution). The extent to which the individual becomes academically and socially *integrated* into the academic and social systems of an institution determines the individual's departure decision. Or in other words, the extent to which a student is integrated into the formal and informal academic and social systems of a college determines leaving behavior.

Positive experiences and interventions will reinforce persistence through the heightening of individual intentions and commitments, whereas negative experiences will weaken intentions and commitments. *Intentions* can include wanting to earn a degree in a particular field of study, while *commitment* is the student's desire to complete that degree and willingness to spend the time and energy necessary to obtain it. Thus the greater the student's level of integration into the social and academic systems of the college, the greater is his or her subsequent commitment to the college and the more positive the retention rate (Baumgart and Johnston, 1977; Terenzini, Lorang, and Pascarella, 1981; Pascarella, Smart, and Ethington, 1986).

Pascarella, Duby, and Iverson (1983) further tested the Tinto model in a nonresidential university setting. These authors also found a positive influence concerning the central concept of the model, in particular, as it related to academic integration. Regardless of the type of postsecondary institution attended, then, it seems evident that persistence is predicated to a significant extent on the individual's attaining sufficient levels of structural integration (the extrinsic reward of grades) and normative integration (the intrinsic reward of intellectual development) in the institution's academic system (p. 96). The key retention component, then, appears to be the introduction of positive influences and the succinct removal of negative influences.

Tinto (1987), in his explanation of the model, states the following:

Persistence requires that individuals make the transition to college and become incorporated into the ongoing social and intellectual life of the college. A sizable proportion of very early institutional departures mirror the inability of new students to make the adjustment to the new world of the college. Beyond the transition to college, persistence entails the incorporation, which is integration, of the individual as a competent member in the social and intellectual communities of the college (p. 126).

He continues:

Student institutional departure is as much a reflection of the attributes of those communities, and therefore of the institution, as it is of the attributes

of the students who enter that institution. It is the daily interaction of the person with other members of the college in both the formal and informal academic and social domains of the college and the person's perception or evaluation of the character of those interactions that in large measure determine decisions as to staying or leaving (p. 127).

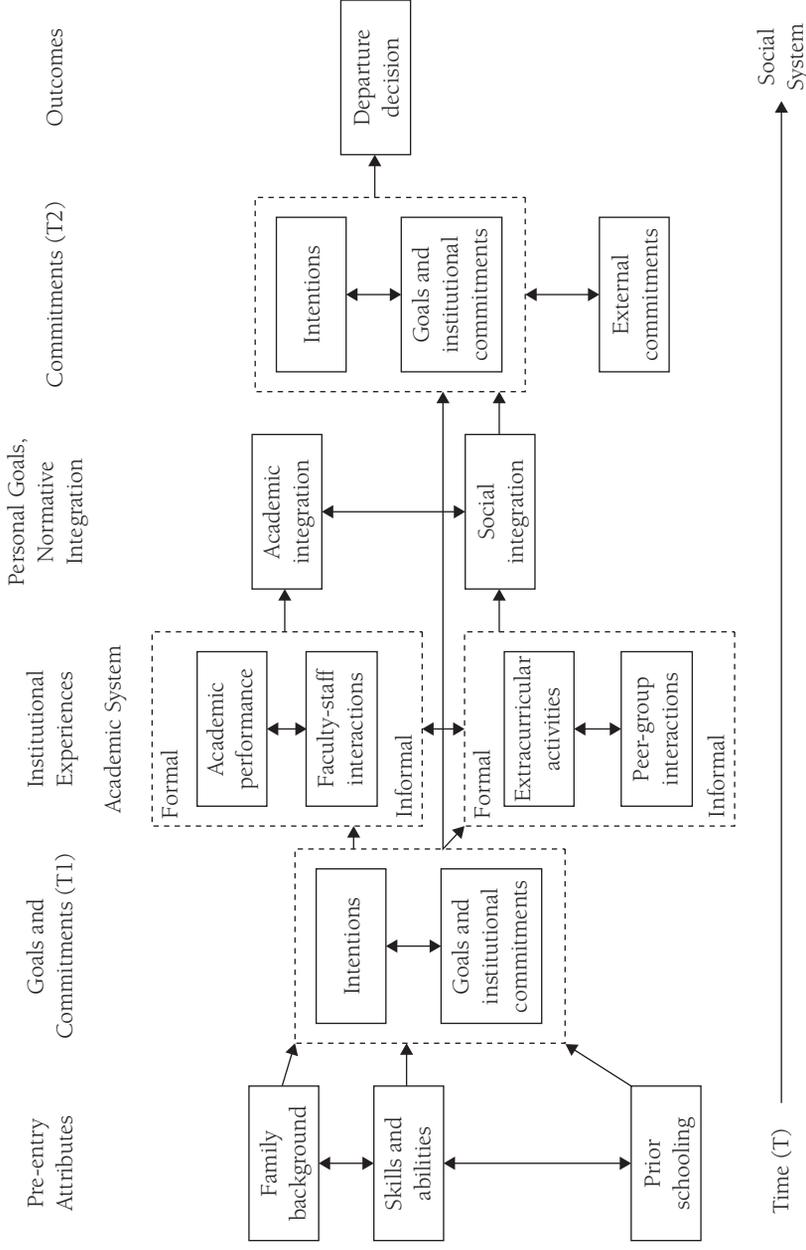
According to Terenzini and Wright (1987), building on the Tinto findings states began asking colleges to examine the influences they exert on students and to document the validity of their claims about student learning and development. The study they conducted focused on the influence of students' academic and social integration levels on *reported* academic skills development over a four-year period. This study was conducted at a large public research university in the Northeast. The findings showed that "the results of this study offer reasonably strong support for the construct validity of the main components of Tinto's (1975) model of college student attrition and for its utility in the study of other student outcomes. . . . The results obtained in this study were consistent with theoretical expectations" (p. 175)(see Figure 1.1).

The findings of the study relating to academic and social integration indicate that academic integration in one year was consistently, positively, and reliably related to academic integration in succeeding years, and social integration levels in one year were similarly and consistently related to subsequent levels of social integration.

The notion of "student involvement," as expressed by Astin (1985), also supports the works of Terenzini and Wright concerning the importance of early, strong integration. "Student involvement" refers to the amount of physical and psychological energy that a student devotes to the academic experience. Astin believes that the highly involved student who devotes considerable energy to studying, participates in student organizations, and interacts frequently with faculty members is more committed to the institution. Thus *the more committed to the institution, the higher likelihood of success*. Therefore, anything positive that is done to enhance a student's commitment to a goal and to the institution should further enhance his or her social and academic integration and therefore promote retention. It follows that strong student integration early, with energetic student involvement and commitment, leads to greater success of students being retained and should be promoted.

The ACE-UCLA (American Council on Education–University of California Los Angeles) Cooperative Institutional Research Program (CIRP) has collected data on a national scale on first-year college students since 1965. The purpose of these longitudinal studies is to assess the students' experiences during the undergraduate years and to determine how different kinds of college environments influence student development (Astin, Korn, and Green, 1987). A wealth of data is collected on students each year that goes beyond retention and attrition information. Student attitudes and other data are collected and should be of interest to colleges and universities. The

Figure 1.1. Tinto Model of Institution Departure



Source: Tinto, V. *Leaving College: Rethinking the Causes and Cures of Student Attrition*. (2nd ed.) Chicago: The University of Chicago Press, 1993, p. 114.

data are now available to colleges and universities that participate in the study. Data can also be obtained showing the responses of a particular campus and comparisons with peer institutions.

The CIRP data include measures of student satisfaction with their college experience. Some of the data are revealing: after two years in college, undergraduates appear to be least satisfied with personal services such as career counseling and advising and academic advising, among others. Astin, Korn, and Green (1987) conclude:

The low rating given to academic advising is of special concern, given that advising is probably the principal tool for helping students get involved in their studies. Involvement, in turn, is probably one of the key elements in student achievement and retention (p. 41).

They continue:

They [students] are least satisfied with personal services. . . . Considering the key role that academic advising can play in student involvement and retention, the low rating given to this important activity by students should be a cause for concern (p. 42).

Involvement and advising, then, are crucial components for developing and sustaining a successful retention program. It can be inferred from the CIRP data that the more highly satisfied the student is with the overall college experience, the better the chance for the student's success academically. Thus satisfaction with one's environment leads to increased academic success. And some items make a greater contribution to retention than others; these items can be pinpointed using the individual campus CIRP data and improved where needed.

The National Survey of Student Engagement (NSSE) is another instrument available to annually collect information from undergraduate students. The information can be used by colleges and universities to help improve student learning. The survey results provide comparative benchmarks to colleges and universities for determining how effectively they are contributing to student learning in five areas: (1) level of academic challenge, (2) active and collaborative learning, (3) student-faculty interaction, (4) educational experiences that are enriching, and (5) supportive campus environment (National Survey of Student Engagement, 2001).

Results of the first two years of the NSSE study show promising findings, which included the following:

Almost all students (98%) at least "occasionally" ask questions in class or contribute to class discussions. Most students (90%) worked at least "occasionally" with other students on projects during class. Many institutions provide first-year seminars, service learning, research opportunities, capstone

experiences, and other activities to increase the frequency of student-faculty interaction. Two-thirds of all seniors are involved in community service and volunteer work and 72% participate in internships. Half of all first-year students and seniors frequently have serious conversations with students from different racial and ethnic backgrounds. Most students say their academic advising is either “good” (43%) or “excellent” (27%) (p. 3).

In addition to these positive findings, the summary of the first two years of the survey results reveals the following disappointing results (National Survey of Student Engagement, 2001):

About one-fifth of both first-year students and seniors say their institution gives little emphasis to studying and spending time on academic work. Almost half (45%) of the first-year students surveyed never discussed ideas from their classes or readings with a faculty member outside of class. Commuter students and part-time students view their campus environments as less supportive. African-American and Asian-American students are less positive about their relationships with other students and with faculty members (p. 3).

The study conducted by Umbach and Kuh (2003) of liberal arts colleges suggests that although these types of colleges enroll less diverse student populations than other types of colleges, diversity experiences enhance the educational experience for all students. In addition, numerous studies are summarized that show experiences with diversity appearing positively associated with retention rates and degree aspirations of students. The authors (Umbach and Kuh, 2003) state:

Rather, institutions must intentionally create opportunities for interaction, present diverse perspectives in the classroom, and find other ways to communicate the value of diversity and support the academic and social needs of students from different backgrounds. In the context of liberal arts colleges, most of which tend to be relatively small, apparently the magnitude of the number of students from different backgrounds does not matter as much to deriving the benefits of diversity experiences as does the quality of interactions across differences that the campus environment encourages and nurtures (p. 16).

Diversity, then, provided benefits to the retention of all students, but some groups more than others, and most of the colleges in the study *promote* the interaction among all ethnic and racial groups through learning communities and the active participation in activities such as intergroup dialogues. Here then is a variable that can provide positive benefits, can be introduced, and can provide a worthy social benefit.

Blustein and others (1986) added another variable suggesting that students who have unfocused career goals feel less involved with their

education and their institution. Also they tend to have greater difficulty performing effectively in academic settings. Their study of community college students concluded:

Enhancement of the academic integration of commuter students and other non-traditional students whose actual contact with the institution is minimal . . . may be achieved by improving study skill, focusing on educational goals as a means of personal and vocational fulfillment, and helping students to gain the skills needed to interact in an academic setting (p. 248).

Thus in environments such as distance education, where academic integration is less possible, the introduction of activities that help produce clear educational goals can enhance retention. Blustein's findings appear consistent with the CIRP data showing that students were dissatisfied with career counseling and advising, and with academic advising; those students who do not clearly focus on a career goal will be more likely to leave a college. So a clear connection between poor career and academic counseling, no defined career goal, and student attrition can be established. Colleges should take the early clarification of student educational goals seriously. If a student applies and is accepted into the college but is undeclared or undecided as to a career goal, the evidence is clear that strenuous efforts should be made early on to help this student explore and decide on career options. Such an activity can be regarded as preventative maintenance to high attrition.

Person-environment fit theory reinforces this finding, predicting that congruence between the person and the social environment results in satisfaction. Witt and Handal (1984) investigated whether person-environmental congruence has a stronger relationship than either personality or the environment alone to satisfaction. Their findings indicate the following:

Environmental perceptions had the strongest relationship to each component of satisfaction, with personality and congruency significant but weaker in their relationship to satisfaction (p. 507).

College programs, then, that promote student institutional fit from the beginning and programs that promote student development and involvement in the institution are more likely to produce satisfied students. And recruiting types of students that best "fit" a certain environment will likely increase retention. These more satisfied students, in turn, should achieve their academic and personal goals more fully than those who are not satisfied with the institution or its environment. This simple commonsense theory also seems consistent with and a companion to the Tinto theory, where student integration into the formal and informal academic and social systems of a college or university will determine leaving behavior. In view of these overarching findings about minority student retention and what has been useful in helping minorities complete their education, these variables can be

introduced, strengthened where needed, and expected to produce positive results. Listed next are a few of the more significant examples of barriers and of programs to help minority students overcome them and persist.

African American Retention

A number of environmental issues can affect African American retention, both positively and negatively. Peltier, Laden, and Matranga (1999) report that having other African American roommates positively affected the grade point averages of African American men, whereas academic performance was enhanced for African American women when they were rooming with academically successful students. Schwartz and Washington (1999) note that African American women in particular face many hurdles to their success in college. Some of these hurdles are low levels of parental support, limited resources to pay for college, low self-esteem, and low social expectations for going to college and completing a college degree. For both male and female African American students, lack of parental support and limited resources negatively affect college-going rates and retention. Many African American college students are first-generation and from single-parent homes, and do not have a positive parental role model. The economic condition for African Americans coming from lower-income groups is highly correlated with the ability to pay for and to stay in college. This finding suggests the strong role that financial aid can play in recruiting, retaining, and graduating minority students.

Landry (2002–2003) observes that administrators at historically black colleges and universities (HBCUs) list finances as a main reason for student departure from such institutions. Such families do not possess high income; many are first-generation, without the experience of college-graduate parents, and such students are often unable to successfully navigate the cumbersome and complicated financial aid system. Without targeted assistance and services that such students need to be able to surmount the challenge of college, their survival rate may be adversely affected. Therefore, such students may drop out to work full-time and return to college later on a part-time basis; both features accelerate minority retention.

For African American women enrolled in HBCUs, Schwartz and Washington (1999) conclude the following:

Issues of social adjustment, personal emotional adjustment, and the identification of a strong support person along with demonstrated academic success in high school, as measured by grades and rank in class, are critical for first-year African-American women (p. 187).

Landry (2002–2003) found that, to overcome these problems, mentoring programs have been developed and successfully introduced whereby a faculty member meets with small groups of such students to help overcome

institutional barriers. Big sister and brother programs are also helpful for first-time students of all ethnic backgrounds; ethnic-oriented clubs can also be helpful in the acculturation of students into the college community. Mentoring activities need to be introduced to reinforce more positive results, particularly for female students.

Financial considerations, as well as academic preparation and being the first in the family to attend college, are commonalities among most minority groups. And these variables, in turn, disproportionately affect these students. It is incumbent on the institution to know their “customers” and provide the necessary services to help them become successful.

American Indian Retention

Peltier, Laden, and Matranga (1999) showed that the persistence of American Indian students at a southwestern university was affected by academic preparation, aspirations, performance, and interactions with faculty and staff. To help American Indian students persist, the university should be proactive in providing such services to these students, particularly providing help in academic preparation. In addition, early and continuous interaction with faculty and staff should be facilitated. As noted earlier, studies emanating from the NSSE found that greater “engagement” by students with the institution and its faculty and staff enhance persistence. This study reinforces those findings.

Landry (2002–2003) points out that for American Indian students, formal education in an institutional sense can result in loss of language, family, and culture due to the forced assimilation and acculturation process that occurs. She notes that previous research concludes that Native American students who enter college and are well grounded in their cultural traditions have a greater chance of persisting to graduation than those who do not bring this foundation. Some colleges are successfully providing American Indian groups with precollege summer programs in an attempt to have students form lasting bonds with each other. Chapter Six in this volume points out some of the same type of benefits of summer programs to African American students. Culturally orientated groups and programs, then, can be helpful for Native Americans, as well as other ethnic groups, to persist better in college by providing a celebration of their cultural heritage, not a diminution of it.

Hispanic Student Retention

Walker and Schultz (2000–2001), citing a study by Solberg, found three significant contributing factors to Hispanic student attrition: (1) being unprepared academically, (2) being away from families and lack of community, and (3) inadequate financial aid information and knowledge of how to apply for aid. In addition, the inability of Hispanic students to perceive

the long-term benefits of higher education was a deterrent to retention. The authors recommend a cultural values-based retention model for Hispanic students that uses their cultural values to assist in the acculturation of Hispanic students into college. Landry (2002–2003) also reinforces the notion that many Hispanic students come from rural areas and possess a strong sense of place and locality; being away from home and familiar surroundings can heighten attrition. A strong sense of place can be either a deterrent or a benefit to Hispanic students, and institutions need to compensate for its negative impact.

Lack of academic preparation is also a strong hindrance to most minorities, particularly so for Hispanics. Schmidt (2003) reports this:

By the age of 17, Hispanic high-school students, on average, have the same reading and mathematics skills as white 13-year-olds. More than a third of the states recently surveyed by the National Center for Education Statistics said that their Hispanic students were significantly more likely than others to drop out of school. And those who earned their diplomas were less likely than their white peers to have taken rigorous college-preparatory courses such as Algebra II and chemistry (p. A9).

The failure to connect the completion of a college degree to greater value or the fear of incurring debt to complete an education is also an inhibitor for Hispanics, as well as other groups.

Raymund A. Paredes, vice president for programs at the Hispanic Scholarship Fund, the nation's largest private provider of scholarships to Hispanic students, says the shift from grants to loans "is having a very serious impact on the Latino community," which is relatively poor and leery of taking on debt (p. A9).

As noted earlier, the failure to see the value of higher education inhibits these students from assuming increasing debt, as loans become a more common means of financing education. The U.S. Bureau of the Census indicates that a college graduate will earn an average of \$1.2 million over his or her lifetime, as compared to the earnings of a high school graduate. Such knowledge needs to be shared with these students and their parents, along with other benefits of college, as a vehicle to enhance recruitment.

Commonalities

There appear to be certain commonalities in the inability of American Indian, African American, and Hispanic students to become successfully integrated into the academic and social life of colleges. These include a lack of academic preparation, lack of a critical mass of students with similar ethnic characteristics, and financial need. If such problems can be pinpointed, the institution can focus on solutions and disseminate them to potential target populations.

In some instances, for example, students with a different ethnicity than the majority on campus are sometimes seen and assumed to represent all members of their particular culture and race. The comments or observations of a few members of an ethnic group are generalized to the total population. Members are asked questions relative to their particular culture, and their answers are held as broadly representative of their race or culture. Minorities, in general, find this pattern burdensome and onerous and do not want to be considered their race-culture representative to the college community. Such individuals generally want to receive an education and not be judged as a broad representative of their cultural heritage. This added burden on minority students interferes with their institutional acculturation and academic purpose. Fitting into the ethos of the college, then, seems to be a problem facing many minority students. Academic and social fit has been shown to affect college student retention.

Consider the findings of Watson and others (2002) regarding the campus culture:

Many students expressed their enthusiasm concerning their institution's initial display of diversity and multiculturalism in the recruitment process, but then their subsequent disappointment with the reality of the monocultural campuses they found after enrolling at the institution (p. 53).

In addition, Schwartz and Washington (1999) point out that high school grades and rank remain one of the long-term significant predictors of academic performance, regardless of race. The lack of sufficient financial aid presents a barrier to minority, as well as majority, students attending college. Also high school grades remain a better predictor of success in college for minority students than do standardized test scores. This finding suggests some de-emphasis of standardized test scores over high school grades in recruiting minorities may be in order.

There are other commonalities in the approaches to helping these students succeed. Because most colleges are populated by a majority of white students, the cultures of the colleges are, understandably, geared more for those students. Mentoring has been tried successfully by many colleges; also the formation of student groups and clubs for specific minority groups offers critical mass whereby ethnic students can sustain their cultural heritage and share it with like-minded students—all features that some literature findings suggest will help with the retention of such groups.

In addition, colleges are holding summer precollege programs for specific groups of minority students or minority groups together, so they can try to form positive habits and lasting bonds throughout their college and after-college careers. Raab and Adam, in Chapter Six, describe the founding of and successful results from one such program that was designed primarily for minorities. Multicultural centers are another technique being employed to provide a safety net for minority students by providing a specific office—a

point of contact—to go to in time of need, where a plethora of services are collected and provided to needy students. The key concept, it seems, is to have a place where students can go to find solace for their problems, of whatever nature. It is important, of course, that *all* students are aware that such a place exists and know where it is located.

A more inclusive and meaningful curriculum to which students can relate can be helpful for enhancing retention, as current or traditional curriculums often do not lend themselves to dealing with a diverse culture or population (Landry, 2002–2003). Making available more institutional financial aid, grants, and scholarships in preference to loans is helpful, as is assisting minority students, many of whom are first-generation, in the financial aid application process. For first-generation college students, many of them unsophisticated in dealing with the “bureaucracy,” the financial aid process becomes a burden too overwhelming to surmount.

In his book *What Makes Racial Diversity Work in Higher Education?* (2004), Hale concludes this way:

Institutions need to free themselves from worn out forms of engagement. Commitments should be made which stretch beyond the overall educational mission and focus on programs and activities that meet the needs of particular campus populations. Such an approach requires time, creativity, and commitment. The university can ill afford to overlook the strengths and potential of those in whom they have wisely invested; the university must give students of color the support that a traditional student would receive as a matter of course. As a matter of course, such students may require *more* assistance than other students who have more mainstream experiences and clearer goals (pp. 19–20) [emphasis added].

Such students often bring significant baggage to college with them, and the need to provide more services than usual makes the student services component of any successful minority recruiting and retention program a priority.

Looking Ahead

Numerous programs can help recruit, retain, and graduate minority students. Even though there are a plethora of programs and services to help minority students succeed, a disparity in minority and majority retention rates remains. For that matter, retention rates for all students have not improved appreciably over time, despite vast sums of money colleges have invested to try to help all students succeed. What, specifically, can be done to help retain students until they achieve their academic and personal goals? A review of the literature reveals a positive answer to this question. The commonalities can be concentrated into a succinct but cogent formula.

In his forthcoming book, Seidman presents a retention formula using the Tinto theory as a basis. He states succinctly: “For retention programs to be successful, they must be powerful enough to effect change.” Simply put, then, $RET = E_{ID} + (E + In + C)_{IV}$. That is, $RETention = Early_{IDentification} + (Early + Intensive + Continuous)_{Intervention}$.

“Retention” is defined as student attainment of academic and personal goals, regardless how many terms a student is at the college. “Early identification” is identification at the earliest possible time a student is potentially at risk of not being successful academically or personally at the college. This process can also take place at the time of application (precollege) by a thorough examination of academic records and recommendations, if collected. An examination of types of courses taken (or not taken) in high school, the difficulty of the courses, and the grades received would be helpful, as would the scores on standardized assessments such as the SAT or ACT. Also the success rate (retention, graduation) of students from specific high schools offers some insight into the individual’s potential for success. The number of times a student took the SAT or ACT and the scores achieved may also be predictive. But to reiterate, high school grades and courses are more fruitful for predicting success with minorities than are standardized test scores. Reviewing written recommendations may reveal any academic or personal issues that may need to be addressed early on in providing needed intervention strategies for such students. Personal interviews with provisional students can provide insight into motivation, as can letters of recommendation. All of these features suggest a labor-intensive process at the outset to provide for the needs of such students before failure intervenes.

Colleges have amassed a vast amount of information to help identify a student who may be at risk of not completing his or her program. Using existing student data, colleges can develop a profile of groupings of students who were unsuccessful or successful at the college. When a student applies and is accepted and matched with a similar profile, logic dictates that that student will encounter comparable difficulties, and intervention strategies should be programmed into the student’s program and experience at the *front end* of enrollment.

“Early intervention” is starting an intervention process at the earliest time possible upon identification of a problem. Successful efforts to work with students and parents in high school—even as early as the seventh grade—in terms of courses and parental commitment (“My child can go to college!”) have proved to be very productive with minority students. Intervention programs and services need to be available as early in such students’ college career as possible, preferably before they even consider college. Early and intensive intervention is providing an intervention strong enough to effect change. This feature also means developing intervention programs that closely monitor the student and have them demonstrate that he or she has mastered the skill or social factor or has developed positive habits. Specific deficiencies in skill-sets may be identified early, and the student

must master each skill-set to continue at the college or before moving to the next level. Again, the intervention must provide the student with a powerful enough experience that it is effective enough to produce the desired change in behavior—the earlier the better. “Continuous intervention” is an intervention that continues until the change is effected. Such an intervention can continue throughout the student’s college career and beyond.

This formula means that for a college to retain a student, he or she must be identified as early as possible as a student in need of help; what kinds of help needed must be determined as well, whether academic or social, or both. This can mean starting an intervention program even before enrollment, as early as high school, having acceptance contingent on the student successfully completing certain preparatory interventions that would enhance the likelihood of success. A written contract between the student and the institution, although not legally binding, provides some sense of legitimacy and validity to the demands on such students. The intervention program needs to be started as early as possible in the student’s educational career and be intensive enough and continue until a change is effected, whether that takes one or eight terms, or more. The U.S. government’s GEAR UP program rightfully focuses on starting with such students in the seventh grade, gearing (preparing) them for college.

Providing this type of early identification and intervention throughout a student’s precollege and college career enhances the chances of student success in meeting academic and personal goals. And that is what the educational process is all about—enabling a student to accomplish individual goals, to compete in the global economy, and to seek out continuing education as necessary without the fear of failure. The patterns for success are clearly delineated in a body of literature that can be adapted to creating a successful program.

References

- Astin, A. “Involvement: The Cornerstone of Excellence.” *Change*, 1985, July–Aug., 35–39.
- Astin, A., Korn, W., and Green, K. “Retaining and Satisfying Students.” *Educational Record*, 1987, 68, 36–42.
- Baumgart, N., and Johnston, J. N. “Attrition at an Australian University: A Case Study.” *Journal of Higher Education*, 1977, 48(5), 553–570.
- Bean, J. P. “Interaction Effects Based on Class Level in an Explanatory Model of College Student Dropout Syndrome.” *American Educational Research Journal*, 1985, 22(1), 35–64.
- Blustein, D. L., Judd, T. P., Krom, J., Viniar, B., Padilla, E., Wedemeyer, R., and Williams, D. “Identifying Predictors of Academic Performance of Community College Students.” *Journal of College Student Personnel*, 1986, 27, 242–249.
- Chronicle of Higher Education* “Almanac,” 2003–2004, 50(1), p. A2.
- Consortium for Student Retention Data Exchange (CSRDE). Executive summary 2000–01 CSRDE report. Norman, Okla.: Center for Institutional Data Exchange and Analysis, The University of Oklahoma, 2002.

- Consortium for Student Retention Data Exchange (CSRDE). Executive summary 2001–02 CSRDE report. Norman, Okla.: Center for Institutional Data Exchange and Analysis, The University of Oklahoma, 2003.
- Hale, F. W. *What Makes Racial Diversity Work in Higher Education?* Sterling, Va.: Stylus Publishing, 2004.
- Landry, C. C. "Retention of Women and People of Color: Unique Challenges and Institutional Responses." *Journal of College Student Retention: Research, Theory & Practice*, 2002–2003, 4(1), 1–14.
- National Survey of Student Engagement (NSSE). "2001 NSSE Viewpoint: Improving the College Experience: Using Effective Educational Practices." Bloomington, Ind.: Indiana University Center for Postsecondary Research, 2001.
- Pascarella, E. T., Duby, P. B., and Iverson, B. K. "A Test and Reconceptualization of a Theoretical Model of College Withdrawal in a Commuter Institution Setting." *Sociology of Education*, 1983, 56(2), 88–100.
- Pascarella, E. T., Smart, J. C., and Ethington, C. A. "Long-Term Persistence of Two-Year College Students." *Research in Higher Education*, 1986, 24(1), 47–71.
- Peltier, G. L., Laden, R., and Matranga, M. "Student Persistence in College: A Review of Research." *Journal of College Student Retention: Research, Theory & Practice*, 1999, 1(4), 357–376.
- Schmidt, P. "Academe's Hispanic Future." *Chronicle of Higher Education*, Nov. 28, 2003, p. A9.
- Schwartz, R. A., and Washington, C. M. "Predicting Academic Success and Retention for African-American Women in College." *Journal of College Student Retention: Research, Theory & Practice*, 1999, 1(2), 177–191.
- Seidman, A. "College Student Retention: A Formula for Student Success." ACE/Prager, forthcoming.
- Spady, W. "Dropouts from Higher Education: Towards an Empirical Model." *Interchange*, 1971, 2, 38–62.
- Terenzini, P. T., and Pascarella, E. T. "Voluntary Freshman Attrition and Patterns of Social and Academic Integration in a University: A Test of a Conceptual Model." *Research in Higher Education*, 1977, 6, 25–43.
- Terenzini, P. T., and Wright, T. M. "Influences on Students' Academic Growth During Four Years of College." *Research in Higher Education*, 1987, 26(2), 161–179.
- Terenzini, P. T., Lorang, W. G., and Pascarella, E. T. "Predicting Freshman Persistence and Voluntary Dropout Decisions: A Replication." *Research in Higher Education*, 1981, 15(2), 109–127.
- Tinto, V. "Dropouts from Higher Education: A Theoretical Synthesis of the Recent Literature." *A Review of Educational Research*, 1975, 45, 89–125.
- Tinto, V. *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Chicago: The University of Chicago Press, 1987.
- Tinto, V. *Leaving College: Rethinking the Causes and Cures of Student Attrition*. (2nd ed.) Chicago: The University of Chicago Press, 1993.
- Umbach, P. D., and Kuh, G. D. "Student Experiences with Diversity at Liberal Arts Colleges: Another Claim for Distinctiveness." Paper presented at the meeting of the Association for Institutional Research, Tampa, Fla., May 2003.
- U.S. Bureau of the Census. "USA Statistics in Brief." [www.census.gov/statab/www/popart.html]. 2003.
- U.S. Department of Education, National Center for Education Statistics. Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) "Fall Enrollment" surveys. May 1998.
- U.S. Department of Education, National Center for Education Statistics. "1999–2000 National Postsecondary Student Aid Study." 2000.

- Walker, D. A., and Schultz, A. M. "Reaching for Diversity: Recruiting and Retaining Mexican-American Students." *Journal of College Student Retention: Research, Theory & Practice*, 2000–2001, 2(4), 313–326.
- Watson, L. W., Terrell, M. C., Wright, D. J., and Associates. *How Minority Students Experience College*. Sterling, Va.: Stylus Publishing: 2002.
- Witt, P. H., and Handal, P. J. "Person-Environment Fit: Is Satisfaction Predicted by Congruency, Environment, or Personality?" *Journal of College Student Personnel*, 1984, 25, 503–508.

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While underrepresented minority students aspire to STEM majors in college at roughly the same rate as their non-minority peers (and have done so since the late 1980s), historically they have lower completion rates, according to a 2011 report by the National Academy of Sciences. Retention for underrepresented minorities in higher degrees in STEM is even lower than for baccalaureate degrees. Much attention thus far has focused on undergraduate training, but fewer resources are allocated to support underrepresented minorities with PhDs during the research and postdoctoral phases of their careers. This particular place in the STEM pipeline has not received as much attention, but is also where critical losses occur. Resources for community college, four-year college and graduate students such as the Diversity Project 2000 and Beyond (DP2K), Psi Beta, APA/NIGMS Project, PsiChi, Psi Alpha Omega, Undergraduate and Graduate Students Psychology Internship Program, APAGS, APA Science Student Council, APA Student Membership Information, Student Biosketch Form, publications and more. Explore news, information and resources for students of color in psychology: APA and OEMA programs, projects and publications; local and national conferences; and, scholarship and research opportunities. Community College Students. Financial Aid Resources for Student Minorities. Minority students seeking higher education have more options and support than they might think. According to a 2011 report by the American Council on Education, overall college enrollment grew 10 percent over 20 years, and minority enrollment grew 56 percent over 10 years; however, the percentage of white students in higher education still heavily outweighs all other minority groups combined. Another AANAPISI school, the university runs a Diversity program directed toward retention and success of multicultural staff and students to better serve the population. Spelman College. Spelman is a historically black college for African-American women.