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*This chapter explores the relationships between indicators of student success such as persistence and student engagement in effective educational practices focusing on historically underrepresented populations.*

## Promoting Persistence and Success of Underrepresented Students: Lessons for Teaching and Learning

*Jillian Kinzie, Robert Gonyea, Rick Shoup, George D. Kuh*

Significant progress has been made over the past four decades in enrolling more students from historically underrepresented groups in U.S. colleges and universities. While total enrollment increased by about 40 percent overall, minority student enrollment increased by 146 percent, with Hispanic undergraduate enrollment greatly outpacing other racial/ethnic groups (Li, 2007). In addition, more students from all types of backgrounds, about a third being first-generation college goers, and students with a wider range of talents and abilities are coming to college.

Although these higher participation rates are encouraging, about half of high school graduates are unprepared to succeed academically in college (ACT, 2004a). Large numbers of students do not complete the academically challenging course work in high school necessary to do well in college, which contributes to low retention and graduation rates. According to the National Center for Educational Statistics (NCES), about 29 percent of all first-year students at four-year colleges and universities and about 41 percent of entering students at community colleges required remedial education (Parsad and Lewis, 2003). Furthermore, the six-year graduation rate for African American students and Latinos at baccalaureate institutions is only about 46 percent, far below the 60 percent rate for white students (Berkner, He, and Cataldi, 2002; Carey, 2004).

Low retention and college completion rates for all students and the racial/ethnic gap in graduation rates mean that too many students do not acquire the desired knowledge, skills, and competencies they need for the twenty-first century. Projected growth in minority student participation in postsecondary education (Hussar and Bailey, 2006), combined with the relatively low overall graduation rates of these students and external pressures for institutional accountability for student learning (Bok, 2006; Commission on the Future of Higher Education, 2006), have intensified the need to better understand the factors that influence student success in college and to be more intentional about creating effective teaching and learning environments.

In this chapter, we explore the relationships between indicators of student success such as persistence and student engagement in effective educational practices as measured by the National Survey of Student Engagement (NSSE), and such other factors as remedial course taking and course withdrawal rates, review the research, and propose data-based ways to address these issues.

### **Overview: Historically Underrepresented Student Retention**

Students leave college for a variety of individual and institutional reasons (Bean, 1990; Cabrera, Casteneda, Nora, and Hengstler, 1992; Peltier, Laden, and Matranga, 1999; Tinto, 1993). Among the most common factors are student background characteristics; precollege academic experiences; structural characteristics of institutions such as mission, size, and selectivity; and interactions with faculty, staff, and peers. Some studies also show that race is a significant predictor of persistence (Astin, 1997; Murtaugh, Burns, and Schuster, 1999; Peltier, Laden, and Matranga, 1999).

Because the undergraduate experience of historically underrepresented students may differ from that of the white majority, the factors linked to student retention must be examined for different groups of students (Allen, 1999; Gaither, 2005; Gonzalez, 2000–2001; Gloria, Robinson Kurpius, Hamilton, and Wilson, 1999; Person and Christensen, 1996). Allen (1999) found that different variables predicted persistence of students of color compared with white students. For example, a student's high school rank, first-year college grade point average (GPA), and a self-reported measure of desire to complete college explained more of the variance in the retention of minority students from the first to second year of college, while high school rank, first-year college GPA, and parental education accounted for the retention of nonminority students. Some research indicates that in contrast to their white peers, students of color perceive the college environment to be less supportive and are thus less likely to persist to graduation (Carey, 2004; Pascarella and others, 1996).

Other factors linked with the persistence of underrepresented students are racially conscious retention constructs, including a “sense of belonging”

(Hurtado and Carter, 1996), “validation” (Nora, Barlow, and Crisp, 2005; Rendón, 1994), and stereotype threat (Murphy, Steele, and Gross, 2007; Steele, 1997). Given that student background characteristics and precollege academic experiences cannot be directly altered by college or university faculty or staff, we must better understand the factors that can be influenced. Indeed, as Bensimon (2007) suggested, faculty and staff behavior are key variables in helping underrepresented students succeed in college.

## Student Engagement and Retention

One line of inquiry that promises to increase our understanding and ability to improve student success in college is the research showing the positive links between student engagement in educationally purposeful activities and such desired outcomes as good grades, educational gains, and higher first-to-second year persistence and graduation rates (Astin, 1993; Kuh and others, 2005; Pascarella and Terenzini, 1991, 2005). Student engagement represents two critical features: the extent to which students take part in educationally effective practices and the degree to which the institution organizes productive activities for student learning. Among engaging educational practices are those summarized by Chickering and Gamson (1987): student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. Notably, most of these practices are within the purview of the classroom and represent activities that can be shaped to varying degrees through teaching practices and by creating environmental conditions that foster engagement.

The NSSE annually obtains information from four-year colleges and universities nationwide about student participation in empirically confirmed good practices in undergraduate education. Although NSSE was not designed as a tool to study retention at the institutional level, colleges and universities have used their results to gain insight into student persistence and suggest institutional action (Kuh, 2001, 2003). For example, at the institutional level of analysis, strong positive correlations exist between graduation rates and scores on the five NSSE clusters of effective educational practice: academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment (Kuh and others, 2007).

**Engagement and Underrepresented Students in Higher Education.** Students from all racial/ethnic backgrounds benefit from participating in educationally effective activities. However, some researchers have found that historically underrepresented students are not able to take full advantage of learning opportunities, especially at predominantly white institutions (PWIs) (Feagin, Vera, and Imani, 1996; Swail, Cabrera, Lee, and Williams, 2005; Turner, 1994). The limiting factors are attributed to substandard

precollege educational preparation, students' family socioeconomic and educational backgrounds, racial discrimination and—for Latino students in particular—tensions between familial obligations, and educational aspirations (Bridges, Kinzie, Nelson Laird, and Kuh, 2008; Dayton, Gonzalez-Vasquez, Martinez, and Plum, 2004; Ortiz, 2004).

Increasing evidence suggests that a small number of programs and activities engage students at high levels and increase educational gains and student persistence. These activities include first-year seminars, learning communities, service-learning, undergraduate research, study abroad and other experiences with diversity, internships, and capstone courses and projects. The Association of American Colleges and Universities identified these promising high-impact practices in its 2007 report, *College Learning for the New Global Century*. Although these practices are growing in popularity, NSSE results and other national data indicate that participation in these activities varies among historically underrepresented students. For example, first-generation students and transfer students were less likely than other students to participate in a learning community, a research project with a faculty member, study abroad, or a culminating senior experience (National Survey of Student Engagement, 2007). African American, Latino, and Asian American/Pacific Islanders participated in senior culminating experiences (senior project, internship, practicum, co-op) at lower levels, and fewer African American and Asian Pacific Islanders studied abroad than did white students. The racial/ethnic participation gaps in high-impact practices illustrate lingering inequities in the undergraduate experience.

**Academic Policies and Practice: Remedial Course Taking and Course Withdrawals.** Remedial course work in postsecondary education has proliferated to respond to what ACT (2004b) declared as the “college readiness crisis.” According to Bettinger and Long (2005), about one-third of entering college students take developmental courses to bring their academic skills up to a level that will allow them to perform adequately in college. More than a quarter of four-year college students who have to take three or more remedial classes leave college after the first year (National Research Council, 2004). However, relatively little is known about the role of completion rates for individual courses and student persistence (Adelman, 1995; Dunwoody and Frank, 1995).

According to Adelman (1995, 2006), students who accumulated excessive withdrawals, incompletes, and no-credit repeats greatly increased their time to degree and cut in half their chances of earning a degree. As time-to-degree increases, so does the overall cost of college. Combined, these factors reduce the likelihood of persistence. Academic policies such as remediation and course withdrawal represent aspects of the educational program that faculty members control and can monitor and influence in their departments and at the course level. Yet we have a limited understanding of the extent to which these practices have a differential impact on underrepresented students.

## Analyzing the Relationship Between Student Engagement and Success

Considerable scholarly research has been directed at understanding student success. The Connecting the Dots (CTD) project (Kuh and others, 2006) analyzed the relationship between educational practices and the success of students historically underrepresented in higher education. In that study, we examined academic transcript data—such as first-year GPA, persistence to the second year of study, and senior grades, combined with NSSE results from 6,200 first-year students and 5,227 seniors at eighteen diverse colleges and universities, which included four historically black colleges and universities (HBCUs) and three HSIs (Hispanic-serving institutions). Briefly, the methods of analysis employed in the CTD study included ordinary least squares and logistic regression to estimate models for the general effects of engagement in educationally purposeful activities (see the list in the chapter appendix) on GPA and persistence to the second year of college and tests for the presence of conditional or interaction effects. Table 2.1 shows the net effects of engagement on the success indicators from the CTD study after controlling for student background characteristics, precollege ability, college enrollment characteristics, and other time on task behaviors.

**Engagement and Persistence to the Second Year.** Returning for a second year of college is an important measure because it has a significant impact on graduation rates (Gardner, Upcraft, and Barefoot, 2005). Four findings from the CTD study are instructive for teaching and learning.

**Table 2.1. Effects of Engagement on Success Indicators from the Connecting the Dots Project**

	<i>Persistence to the Second Year</i>	<i>First-Year GPA</i>	<i>Senior GPA</i>
Engagement measures	Unstandardized B	Unstandardized B	Unstandardized B
Six to twenty hours per week studying <sup>a</sup>	-.02	.04*	.02
Twenty-one or more hours per week studying <sup>a</sup>	-.12	.12***	.08***
Educationally purposeful activities (standardized) <sup>b</sup>	.15***	.04***	.07***

*Note:* Model covariates included gender, race, first-generation status, parental income, graduate degree expectations, high school honors course work, high school cocurricular activities, high school GPA, precollege achievement score, merit grants, credit hours earned, commuter status, transfer status, and time spent working, relaxing/socializing, and cocurricular activities. The persistence model also included first-year GPA and unmet financial need. The persistence model used logistic regression, and GPA models used ordinary least squares regression. B values are unstandardized coefficients.

<sup>a</sup>Compared with students who studied five hours or fewer per week.

<sup>b</sup>See the appendix at the end of the chapter.

First, student engagement had a positive, statistically significant effect on persistence, even after controlling for background characteristics, other college experiences during the first college year, academic achievement, and financial aid. To put this in perspective, students who are engaged at a level that is one standard deviation below the average have a probability of returning of .85, whereas students who are engaged at a level that is one standard deviation above the average have a probability of returning of .91.

Second, whether students spent their time on academic tasks such as studying or on nonacademic tasks such as relaxing and socializing or working off-campus did not affect the probability of their returning to the same institution for the second year. This finding is not surprising given the offsetting effects of these experiences (positive for studying, negative for working off campus) on first-year GPA, which was also included in the model. Being involved in cocurricular activities, however, had a strong positive impact on students' probability of returning for the second year of college (Kuh and others, 2006). The link between extracurricular involvements and persistence is well documented empirically (Astin, 1993; Pascarella and Terenzini, 1983, 2005) and theoretically (Astin, 1984; Tinto, 1993).

Third, students with high school grades of mostly Bs had a higher probability of returning for the second year of college than students who earned either mostly A grades or C grades. Similarly, students with average high school achievement scores had the greatest odds of returning, while students with the lowest and highest achievement scores were less likely to return. These findings regarding achievement levels and persistence tend to be related to student satisfaction and if the student is attending the first-choice institution. Fourth, the effects of engagement on persistence to the second year vary for students from different racial or ethnic backgrounds. In terms of persistence, African American students benefit more than white students do from increasing their engagement in educationally effective activities. Although African American students at the lowest levels of engagement are less likely to persist than their white counterparts, African Americans become more likely than white students to return for a second year as their engagement increases. There are no differences for other racial and ethnic groups in terms of the effects of engagement on persistence. This finding is important since it indicates that engagement has a compensatory effect on persistence to the second year of college at the same institution for African American students.

**Academic Policies and Practice: Remedial Course Taking and Course Withdrawals.** For the purposes of this chapter, we conducted additional descriptive analyses on the CTD data to study the relationship of remedial, or basic skills, course work (courses addressing subjects such as numeracy and computational skills, literacy and communication skills, general skills, and second-language skills) and course withdrawals to engagement and persistence. We were limited by the fact that only five of the eighteen institutions had a substantial number (at least 20 percent) of students who took basic skills courses. Thus, the analysis used a subset of the

CTD data: 1,336 full-time first-year students. Students were grouped into three categories: (1) those who attempted no basic skills course hours ( $n = 790$ ); (2) those who attempted up to three basic skills course hours, presumably one course ( $n = 398$ ); and (3) those who attempted more than three basic skills course hours, presumably more than one course ( $n = 148$ ). Three scales were used for this analysis:

- *Engagement in active learning.* A scale compiling twenty-five academic and classroom-focused engagement items, including various interactions with faculty; course work emphasizing higher-order mental activities; spending time in academic preparation; participating in class discussions, group work, and presentations; and writing papers.
- *Perception of social and academic support.* Seven items captured students' perceptions of the campus environment in terms of support for academics, nonacademic responsibilities, and social development; emphasis on diverse experiences; and relationships among students, administrative personnel, and faculty.
- *Self-reported academic gains.* Eight items collected students' self-reported progress in general education learning, specifically in writing, speaking, thinking critically, analyzing quantitative problems, using information technology, learning effectively on their own, and general education. The students' ratings of the extent to which the institution emphasizes spending significant amounts of time studying and on academic work are also included.

The effects of remedial course taking on student persistence and success are complex and mixed. Table 2.2 shows that persistence rates were 16 percent lower for students who attempted more than three hours of basic courses, ranging from 91 percent among students in the first two groups to 75 percent for the third group. Moreover, precollege test scores did not explain this pattern. That is, when only students with lower ACT scores (or SAT equivalent) were included, the persistence rate was still 15 percent lower for students taking more than three hours of basic skills course work.

Although the persistence rate drops for students who complete more remedial courses, students who took more than three basic skills course hours were more engaged in active learning than their peers on average (Table 2.2). It may be that remedial course curricula require these students to put more effort into their studies and devote more time on task to learning basic academic skills. It may also be that students taking remedial courses were less likely to enroll in large lecture courses, math and science courses, and other classroom settings that less frequently employ active and collaborative learning approaches. The same pattern emerged for student perceptions of the social and academic environment and their self-reported gains. This is understandable since students who start college with academic deficiencies may perceive more support from the institution and also believe they have made

**Table 2.2. Mean Comparisons by Attempted Basic Skills Course Hours, Overall and for Subpopulations by Race and First-Generation Status**

	Number of Students	Number of Attempted Basic Skills Course Hours			Significance <sup>a</sup>
		None (n = 790)	Up to Three (n = 398)	More than Three (n = 148)	
Persistence to the second year					
Overall	1,336	.91	.91	.75	***
African American	221	.88	.91	.74	+
Latino	280	.89	.89	.77	*
White	725	.91	.91	.70	**
First generation	593	.89	.87	.70	***
Overall	1,336	2.94	2.89	2.51	***
African American	221	2.71	2.52	2.29	**
Latino	280	2.84	2.76	2.61	
White	725	3.01	3.04	2.41	***
First generation	593	2.86	2.74	2.41	***
Overall	1,336	50.1	48.9	52.2	***
African American	221	51.2	51.5	53.2	***
Latino	280	52.4	49.0	52.1	+
White	725	49.4	48.6	50.2	
First generation	593	50.3	49.6	51.1	
Overall	1,336	49.7	50.0	51.8	+
African American	221	48.5	49.2	52.4	
Latino	280	51.1	49.1	52.6	
White	725	49.7	50.9	48.3	
First generation	593	50.0	50.1	52.7	+
Overall	1,336	49.7	49.8	52.2	**
African American	221	50.9	50.8	52.7	
Latino	280	53.0	51.4	53.5	
White	725	48.4	49.0	46.5	
First generation	593	50.4	50.7	52.6	

Note: One-way ANOVA results for mean comparisons.

<sup>a</sup>Significance levels of F-tests for between-group differences: \* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

considerable academic progress given their basic academic skills and competencies prior to college.

Finally, black and Latino students took substantially more basic skills course hours than white students did. Although the results indicated that white students in general are less engaged in active learning activities and report less academic progress in their learning, black students tend to perceive their campus academic and social environments to be less supportive. At the same time, these relationships were generally consistent regardless of how many basic skills course hours were attempted. First-generation students were somewhat more likely than their peers with college-educated parents to take remedial course work. However, first-generation students who took more basic skills course hours were less likely to persist and were less engaged than their peers with college-educated parents who took the same number of remedial course hours.

According to Adelman (1999, 2006), course completion patterns (drops, withdrawals, incomplete grades, or repeats) are a drag on bachelor degree completion rates of students at four-year colleges. The first-year student CTD data reveal that 63 percent of students completed all of their attempted hours (Table 2.3). The remaining students were distributed fairly evenly among three categories: (1) those who did not complete 1 to 10 percent of attempted hours, (2) those who did not complete 11 to 20 percent of attempted hours, and (3) those who did not complete more than 20 percent of attempted hours. In general, these data indicate that taking more than three basic skills course hours is associated with a higher percentage of unearned course hours. Yet taking some but not more than three basic

**Table 2.3. Cross-Tabulation of Course Hours Completion Categories by Attempted Basic Skills Course Hours**

	<i>Attempted Basic Skills Course Hours (%)</i>				
	<i>Number of Students</i>	<i>None (n = 790)</i>	<i>Up to Three (n = 398)</i>	<i>More than Three (n = 148)</i>	<i>Total</i>
Completed all hours attempted	846	66.2%	67.3%	37.2%	1,336
Did not complete 1 to 10 percent	133	11.4	6.8	10.8	10.0
Did not complete 11 to 20 percent	185	11.4	14.3	25.7	13.8
Did not complete more than 20 percent	172	11.0	11.6	26.4	12.9
Total	1,336	100.0	100.0	100.0	100.0

skills course hours seems to be unrelated to unearned course hours. Also, as expected, scores on all the dependent measures steadily declined as students completed fewer attempted hours. Black and Latino students were more likely to have unearned credits than white students, which is consistent with the lower six-year graduation rates for blacks and Latinos (Berkner He, and Cataldi, 2002; Carey, 2004).

## **Addressing the Retention Challenge in Teaching and Learning**

In this section we discuss eight recommendations and their implications for teaching and learning based on the findings reported here.

First, new students tend to benefit from early interventions and sustained attention during the first year in terms of their academic performance. The CTD findings suggest that institutions would be wise to focus early efforts on students from historically underrepresented backgrounds and those with low ACT scores. To do this effectively, a school must first understand who its students are, what they are prepared to do academically, and what they expect of the institution and themselves. For example, given the benefits that time on task and engagement confer in terms of college grades, it is wise to send clear messages to students through precollege mentoring programs and sustained interactions with faculty and staff throughout the first year about the value of engagement and what students who succeed do on this particular campus. For example, all educators—faculty, student life professionals, academic advisers, and so on—need to coach students in the development of expected study habits. Experiences early in the first year set in place patterns of behavior that will endure over students' years in college (Howard, 2005; Schilling and Schilling, 2005). This requires that students are introduced to the approach to studying in the particular course or discipline, that campus space (campus living units, libraries, student unions) is conducive to studying, and that advisers counsel students on ways to make cocurricular involvements supportive of academic success. Faculty members, advisers, and student affairs professionals must clearly and consistently communicate to students what is expected of them and provide periodic feedback as to the quality of students' performance.

Second, faculty teaching first-year courses have the greatest opportunity to shape student behaviors in terms of time on task and engagement. This is important because students learn more when they are intensely involved in their education and are asked to think about and apply what they are learning. Student time on task can be increased by using such active and collaborative learning activities as classroom-based problem solving, peer teaching, service-learning, and various forms of electronic technologies that induce students to work with peers on projects during and outside class, as well as assign writing tasks that require multiple drafts.

Active and collaborative learning approaches are educationally effective when they are aligned with a wider range of student learning styles and feature three fundamentals to fostering student learning: involving students, increasing their time on task, and taking advantage of peer influence. To illustrate, faculty can assign short problem-based activities that require students to work in teams in and out of the classroom; this practice increases students' investment in preparing for class by requiring them to submit an online assignment dependent on assigned readings, and it illustrates the value of drafting and peer review by having students read one another's papers before they turn them in to help them locate errors before being graded. This does not mean lecturing is no longer an appropriate instructional approach, but rather that more faculty should employ a greater repertoire of teaching methods to engage diverse learning styles.

Humboldt State University used its NSSE results to gain insights into the engagement patterns of students who persisted compared to those who withdrew. Results indicated that students who withdrew were less likely to work with their classmates on class assignments than students who persisted (Hughes and Pace, 2003). These results prompted faculty members to structure more collaborative learning in first-year courses and facilitate the formation of study groups and the institution to consider implementing learning communities to increase opportunities for students to interact with their classmates.

Third, fundamental to effective teaching is the belief that every student can learn under the right conditions. This "talent development" philosophy requires that faculty embrace and address students' diverse talents and needs (Astin, 1985; Chickering, 2006; Chickering and Gamson, 1987). Although a talent development philosophy is appropriate for all students, it is particularly effective for working with students historically underserved in higher education, especially when pedagogical practices acknowledge and honor the experiences of learners and view the talents and skills students bring to the classroom as assets rather than deficiencies. Turner's suggestion (1999) for rethinking pedagogical practice is instructive: resist the stance that students' lack of preparation for class is caused by defects in student character or other cultural distractions and instead take the position that students come to college able to do the work but with no clear sense of what they should be doing and why this is important for learning and success. This position requires faculty members to accept that in times of increasingly diverse student populations, it is necessary to make clear the demands of academic work and spell out what students need to do. Such a view holds that because each student has a unique perspective on the world and the topic under study, all students enrich the learning of others as well as their own through sharing their knowledge and experience (Alexander and Murphy, 1994).

Uri Treisman (1992) developed pioneering teaching strategies for working with students from historically underserved groups at the University of

California, Berkeley, who were failing calculus even though they had the academic prerequisites and demonstrated ability to perform successfully. Treisman's strategies were grounded in a talent development perspective: "We did not question that minority students could excel. We just wanted to know what kind of setting we would need to provide so that they could" (p. 368). Given that engaging practices, such as active and collaborative learning, paid off more in terms of first-year GPA for students with lower entering achievement scores, faculty should use a variety of teaching approaches to reach a range of student abilities. For example, first-generation students who report more participation in group discussion, presentations, and group projects and who more frequently discuss courses with other students have been found to have a higher probability of academic success and retention (Amelink, 2005). Preferred learning styles may explain some of the difference in that "lower-ability" students tend to perform better when course material is presented in concrete terms and they have opportunities to apply concepts to their daily lives.

Fourth, institutions must create interconnected learning support networks, including early warning systems and safety nets, and tie students and faculty who are teaching first-year and remedial courses to them in intentional ways. Students attending institutions that employ a comprehensive system of complementary initiatives based on effective educational practices are more likely to perform better academically, be more satisfied, and persist. These include well-designed and well-implemented placement testing; first-year seminars; learning communities; early warning systems; redundant safety nets; supplemental instruction; peer tutoring and mentoring; theme-based campus housing; adequate financial aid, including on-campus work; internships; service-learning; and demonstrably effective teaching practices (Kuh and others, 2005; Wang and Grimes, 2001). However, simply offering such programs and practices does not guarantee that they will have the intended effects on student success. In fact, far fewer students use campus learning and support services than say they will when starting college (NSSE, 2005). Institutional programs and practices must not only be of high quality and customized to meet the needs of students they are intended to reach (Kuh and others, 2005); they must also be intentionally connected to students, courses, and faculty to increase the likelihood that students will take full advantage of the programs; in effect, they must be unavoidable.

Fifth, given the educational value of participating in high-impact activities and data showing that historically underrepresented students participate in these experiences at a lower level than their peers, it is important to structure curricular requirements that make it possible for every student to do one or more of these activities. If a student perceives that the cost of staying in school or becoming involved in a certain activity—such as an internship, undergraduate research, or study abroad—outweighs the return on investment, he or she may forgo the opportunity and leave college prematurely (Braxton, 2003). Similarly, if a student does not expect to do

research with a faculty member or take part in study abroad, chances are that opportunities to pursue these activities will be overlooked or dismissed out of hand.

Sixth, faculty and staff also must employ practices that make a difference to underrepresented student retention. Rendón (1994) found that validation—an enabling, confirming, and supportive process initiated by faculty and other agents of socialization in and out of the classroom—fosters student success, particularly for historically underserved students. Validation activities in the teaching and learning context include calling students by name, working one-on-one with students, praising students, providing encouragement and support, encouraging students to see themselves as capable of learning, and providing vehicles for students to support and praise each other. These validation actions can induce transformational changes in students, accompanied by an increased interest and confidence in their capacity to learn. Helping faculty members acquire approaches to validate students should be a priority for faculty development programs.

Seventh, because students taking a heavier remedial course load are more likely to leave college, and with students of color and first-generation students represented in greater numbers among those taking remedial courses, institutions that are able to tailor remediation programs to the specific social, cultural, and educational characteristics of students in need of such assistance may become more adept at moving students from developmental courses to success in college-level courses and, most important, persistence to graduation. Moreover, given that black and Latino students were more likely to have unearned credits than white students and that scores on all the engagement measures declined as students completed fewer attempted hours, it is crucial to ensure that historically underrepresented students understand academic policies and the implications of withdrawing from courses. At the same time, faculty members should learn more about the experiences of students in remedial courses, the status of course withdrawal policy and practice in their department, and the effect on students of color, and learn to identify curricular trouble spots—courses in which students earn high rates of Ds and Fs, withdrawals, and incompletes—to develop more effective approaches to address challenges to student success.

Finally, the talent development view must also be operationalized at an institutional level. This requires that the campus organize its resources and create conditions for teaching and learning based on educationally effective practices. When these conditions complement the institution's mission and values, they create powerful learning environments that lead to desirable learning outcomes for all students. Moreover, faculty and staff can address shortcomings in students' academic preparation and increase the chances that students will succeed by adapting demonstrably effective policies and practices. Most important, some students may not know how to become engaged, or they may not feel entitled to being engaged, particularly if it involves requests for help, or they may avoid the activities that signify

engagement to avoid failure or the risk of rejection. In predominantly white campuses, minority students may consciously decide not to speak out in class or initiate a conversation with a faculty member outside class for fear of being stereotyped (Bensimon, 2007; Peña, Bensimon, and Colyar, 2006; Steele, 1997).

## Conclusion

Students would be well served by colleges and universities that use educationally effective practices throughout the institution. At the same time, emphasizing the engagement of students at the lower ranges of ACT scores could well increase their chances of earning good college grades in the critical first year. In particular, what faculty do in terms of structuring engaging opportunities into their courses, coupled with a healthy measure of prompt feedback, are essential to shaping such desirable student academic performance (Kuh, Nelson Laird, and Umbach, 2004). Even more, efforts to create more hospitable campus environments for underrepresented students must be culturally sensitive and strive to employ engaging educational practices that make a difference to student success.

## Appendix: Educationally Purposeful Activities

Following is the summative scale of nineteen NSSE items measuring student interaction with faculty, their experiences with diverse others, and their involvement in opportunities for active and collaborative learning:

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Prepared two or more drafts of a paper or assignment before turning it in
- Come to class without completing readings or assignments
- Worked with other students on projects during class
- Worked with classmates outside of class to prepare class assignments
- Tutored or taught other students (paid or voluntary)
- Participated in a community-based project as part of a regular course
- Used an electronic medium (list-serv, chat group, Internet, etc.) to discuss or complete an assignment
- Used e-mail to communicate with an instructor
- Discussed grades or assignments with an instructor
- Talked about career plans with a faculty member or advisor
- Discussed ideas from your readings or classes with faculty members outside of class
- Received prompt feedback from faculty on your academic performance (written or oral)
- Worked harder than you thought you could to meet an instructor's standards or expectations

- Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)
- Discussed ideas from your readings or classes with others outside of class (students, family members, coworkers, etc.)
- Had serious conversations with students of a different race or ethnicity than your own
- Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values

Cronbach's alpha coefficient for internal consistency for first-year students was .818, and for seniors it was .836. The NSSE response set for 2000 was Very Often, Often, Occasionally, and Never. For 2001–2003, it was Very Often, Often, Sometimes, and Never.

## References

- ACT. *ACT National Data Release*. Iowa City, Ia.: ACT, 2004a.
- ACT. *Crisis at the Core: Preparing All Students for College and Work*. Iowa City, Ia.: ACT, 2004b.
- Adelman, C. *The New College Course Map and Transcript Files: Changes in Course-Taking and Achievement, 1972–1993*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, 1995.
- Adelman, C. *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, 1999.
- Adelman, C. *The Toolbox Revisited: Paths to Degree Completion from High School Through College*. Washington, D.C.: U.S. Department of Education, Office of Vocational and Adult Education, 2006.
- Alexander, P. A., and Murphy, P. K. "The Research Base for APA's Learner-Centered Psychological Principles." Paper presented at the annual meeting of the American Educational Research Association, New Orleans, La., Apr. 1994.
- Allen, W. R. "The Color of Success: African-American College Student Outcomes at Predominately White and Historically Black Public Colleges and Universities." *Harvard Educational Review*, 1999, 62(1), 26–44.
- Amelink, C. T. "Predicting Academic Success Among First-Year, First Generation Students." Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, 2005.
- Association of American Colleges and Universities. *College Learning for the New Global Century*. Washington, D.C.: Association of American Colleges and Universities, 2007.
- Astin, A. W. "Student Involvement: A Developmental Theory for Higher Education." *Journal of College Student Development*, 1984, 25(4), 297–308.
- Astin, A. W. "Involvement: The Cornerstone of Excellence." *Change*, 1985, 17(4), 35–39.
- Astin, A. W. *What Matters in College? Four Critical Years Revisited*. San Francisco: Jossey-Bass, 1993.
- Astin, A. W. "How 'Good' Is Your Institution's Retention Rate?" *Research in Higher Education*, 1997, 38(6), 647–658.
- Bean, J. P. "Why Students Leave: Insights from Research." In D. Hossler and J. P. Bean (eds.), *The Strategic Management of College Enrollments*. San Francisco: Jossey-Bass, 1990.
- Bensimon, E. M. "The Underestimated Significance of Practitioner Knowledge in the Scholarship on Student Success." *Review of Higher Education*, 2007, 30(4), 441–469.

- Berkner, L., He, S., and Cataldi, E. F. *Descriptive Summary of 1995–96 Beginning Postsecondary Students. Six Years Later*. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 2002.
- Bettinger, E. P., and Long, B. T. “Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work?” Cambridge, Mass.: National Bureau of Economic Research, May 2005.
- Bok, D. *Our Underachieving Colleges*. Princeton, N.J.: Princeton University Press, 2006.
- Braxton, J. M. “Student Success.” In S. R. Komives and D. B. Woodard Jr. (eds.), *Student Services: A Handbook for the Profession*. (4th ed.) San Francisco: Jossey-Bass, 2003.
- Bridges, B. K., Kinzie, J., Nelson Laird, T. F., and Kuh, G. D. “Student Engagement and Success at Minority Serving Institutions.” In M. Gasman, B. Baez, and C.S.V. Turner (eds.), *Understanding Minority-Serving Institutions*. Albany, N.Y.: SUNY Press, 2008.
- Cabrera, A. F., Casteneda, M. B., Nora, A., and Hengstler, D. “The Convergence Between Two Theories of College Persistence.” *Journal of Higher Education*, 1992, 63(2), 143–164.
- Carey, K. *A Matter of Degrees: Improving Graduation Rates in Four-Year Colleges and Universities*. Washington, D.C.: Education Trust, 2004.
- Chickering, A. W. “Every Student Can Learn If . . . .” *About Campus*, 2006, 2(2), 9–15.
- Chickering, A. W., and Gamson, Z. F. (eds.). “Seven Principles for Good Practice in Undergraduate Education.” *AAHE Bulletin*, 1987, 39, 3–7.
- Commission on the Future of Higher Education. *A Test of Leadership: Charting the Future of U.S. Higher Education*. Washington, D.C.: U.S. Department of Education, 2006.
- Dayton, B., Gonzalez-Vasquez, N., Martinez, C. R., and Plum, C. “Hispanic-Serving Institutions Through the Eyes of Students and Administrators.” In A. M. Ortiz (ed.), *Addressing the Unique Needs of Latino American Students*. New Directions for Student Services, no. 105. San Francisco: Jossey-Bass, 2004.
- Dunwoody, P. T., and Frank, M. L. “Why Students Withdraw from Classes.” *Journal of Psychology*, 1995, 129(5), 553–559.
- Feagin, J. R., Vera, H., and Imani, N. *The Agony of Education: Black Students at White Colleges and Universities*. New York: Routledge, 1996.
- Gaither, G. H. “Editor’s Notes.” In G. H. Gaither (ed.), *Minority Retention: What Works?* New Directions for Institutional Research, no. 125. San Francisco: Jossey-Bass, 2005.
- Gardner, J. N., Upcraft, M. L., and Barefoot, B. “Principles of Good Practice for the First College Year and Summary of Recommendations.” In M. Upcraft and Associates (eds.), *Challenging and Supporting The First-Year Student*. San Francisco: Jossey-Bass, 2005.
- Gloria, A. M., Robinson Kurpius, S. E., Hamilton, K. D., and Wilson, M. S. “African American Students’ Persistence at a Predominantly White University: Influences of Social Support, University Comfort, and Self-Beliefs.” *Journal of College Student Development*, 1999, 40, 257–268.
- Gonzalez, K. P. “Toward a Theory of Minority Student Participation in Predominantly White Colleges and Universities.” *Journal of College Student Retention*, 2000–2001, 2(1), 69–91.
- Howard, J. A. “Why Should We Care About Student Expectations?” In T. E. Miller and Associates (eds.), *Promoting Reasonable Expectations: Aligning Student and Institutional Views of the College Experience*. San Francisco: Jossey-Bass, 2005.
- Hughes, R., and Pace, C. R. “Using NSSE to Study Student Retention and Withdrawal.” *Assessment Update*, 2003, 15(4), 1–2, 15.
- Hurtado, S., and Carter, D. F. (1996). “Latino Students’ Sense of Belonging in the College Community: Rethinking the Concept of Integration on Campus.” In F. K. Stage, G. L. Anaya, J. P. Bean, D. Hossler, and G. Kuh (eds.), *College Students: Evolving Nature of Research* (pp. 123–136). Needham Heights, Mass.: Simon & Schuster.
- Hussar, W., and Bailey, T. M. *Projections of Education Statistics to 2015 (NCES 2006–084)*. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences, 2006.

- Kuh, G. D. "Assessing What Really Matters to Student Learning: Inside the National Survey of Student Engagement." *Change*, 2001, 33(3), 10–17, 66.
- Kuh, G. D. "What We're Learning About Student Engagement from NSSE: Benchmarks for Effective Educational Practices." *Change*, 2003, 35(2), 24–32.
- Kuh, G. D. "Student Engagement in the First Year of College." In M. L. Upcraft, J. N. Gardner, and B. O. Barefoot (eds.), *Challenging and Supporting the First-Year Student: A Handbook for Improving the First Year of College*. San Francisco: Jossey-Bass, 2005.
- Kuh, G. D., Nelson Laird T. F., and Umbach, P. D. "Aligning Faculty and Student Behavior: Realizing the Promise of Greater Expectations." *Liberal Education*, 2004, 90(4), 24–31.
- Kuh, G. D., and others. *Student Success in College: Creating Conditions That Matter*. San Francisco: Jossey-Bass, 2005.
- Kuh, G. D., and others. *Connecting the Dots: Multi-Faceted Analyses of the Relationships Between Student Engagement Results from the NSSE, and the Institutional Practices and Conditions That Foster Student Success: Final Report Prepared for Lumina Foundation for Education*. Bloomington: Indiana University, Center for Postsecondary Research, 2006.
- Kuh, G. D., and others. *Piecing Together the Student Success Puzzle: Research, Propositions, and Recommendations*. ASHE Higher Education Report, vol. 32, no. 5. San Francisco: Jossey-Bass, 2007.
- Li, X. *Characteristics of Minority-Serving Institutions and Minority Undergraduates Enrolled in These Institutions*. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences, 2007.
- Murphy, M. C., Steele, C. M., and Gross, J. J. "Signaling Threat: How Situational Cues Affect Women in Math, Science, and Engineering Settings." *Psychological Science*, 2007, 18(10), 879–885.
- Murtaugh, P. A., Burns, L. D., and Schuster, J. "Predicting the Retention of University Students." *Research in Higher Education*, 1999, 40(3), 355–371.
- National Center for Education Statistics. "Data on Student Participation in Remedial Courses by Racial Ethnic Groups." 2008. Retrieved Jan. 8, 2008, from <http://nces.ed.gov/>.
- National Research Council. *Engaging Schools: Fostering High School Students' Motivation to Learn*. Washington, D.C.: National Academies Press, 2004.
- National Survey of Student Engagement. *Student Engagement: Experiences That Matter: Enhancing Student Learning and Success*. Bloomington: Indiana University Center for Postsecondary Research, 2007.
- National Survey of Student Engagement. *Student Engagement: Exploring Different Dimensions of Student Engagement*. Bloomington: Indiana University Center for Postsecondary Research, 2005.
- Nora, A., Barlow, E., and Crisp, G. "Student Persistence and Degree Attainment Beyond the First Year in College." In A. Seidman (ed.), *College Student Retention: Formula for Student Success*. Westport, Conn.: ACE/Praeger, 2005.
- Ortiz, A. M. "Promoting the Success of Latino Students: A Call to Action." In A. M. Ortiz (ed.), *Addressing the Unique Needs of Latino American Students*. New Directions for Student Services, no. 105. San Francisco: Jossey-Bass, 2004.
- Parsad, B., and Lewis, L. *Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000*. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 2003.
- Pascarella, E. T., and others. "Influences on Students' Openness to Diversity and Challenge in the First Year of College." *Journal of Higher Education*, 1996, 67(2), 174–195.
- Pascarella, E. T., and Terenzini, P. T. "Predicting Voluntary Freshman Year Persistence/Withdrawal Behavior in a Residential University: A Path Analytic Validation of Tinto's Model." *Journal of Educational Psychology*, 1983, 75, 215–226.
- Pascarella, E. T., and Terenzini, P. T. *How College Affects Students: A Third Decade of Research*. San Francisco: Jossey-Bass, 2005.

- Pascarella, E. T., and Terenzini, P. T. *How College Affects Students: Findings and Insights from Twenty-Years of Research*. San Francisco: Jossey-Bass, 1991.
- Peltier, G., Laden, R., and Matranga, M.. "Student Persistence in College." *Journal of College Student Retention*, 1999, 1(4), 357–375.
- Peña, E. V., Bensimon, E. M., and Colyar, J. "Contextual Problem Defining: Learning to Think and Act from the Standpoint of Equity." *Liberal Education*, 2006, 92(2), 48–55.
- Person, D., and Christensen, M. C. "Understanding Black Student Culture and Black Student Retention." *NASPA Journal*, 1996, 34, 47–56.
- Rendón, L. "Validating Culturally Diverse Students: Toward a New Model of Learning and Student Development." *Innovation in Higher Education*, 1994, 19, 33–52
- Schilling, K. M., and Schilling, K. L. "Expectations and Performance." In L. M. Upcraft, J. N. Gardner, and B. O. Barefoot (eds.), *Challenging and Supporting the First-Year Student: A Handbook for Improving the First Year of College*. San Francisco: Jossey-Bass, 2005.
- Steele, C. M. "A Threat in the Air: How Stereotypes Shape Intellectual Identity and Performance." *American Psychologist*, 1997, 52, 613–629.
- Swail, W. S., Cabrera, A. F., Lee, C., and Williams, A. *Latino Students and the Educational Pipelines: A Three-Part Series. Part III: Pathways to the Bachelor's Degree for Latino Students*. Stafford, Va.: Education Policy Institute, 2005.
- Tinto, V. *Leaving College: Rethinking the Causes and Cures of Student Attrition*. (2nd ed.) Chicago: University of Chicago Press, 1993.
- Treisman, U. "Studying Students Studying Calculus: A Look at the Lives of Minority Mathematics Students in College." *College Mathematics Journal*, 1992, 23(5), 362–372.
- Turner, C.S.V. "Guests in Someone Else's House: Students of Color." *Review of Higher Education*, 1994, 17(4), 355–370.
- Turner, R. C. "Adapting to a New Generation of College Students." *Thought and Action, The NEA Journal of Higher Education*, Fall 1999, 33–41.
- Wang, H., and Grimes, J. W. "A Systematic Approach to Assessing Retention Programs: Identifying Critical Points for Meaningful Interventions and Validating Outcomes Assessment." *Journal of College Student Retention*, 2001, 2(1), 59–68.

JILLIAN KINZIE is associate director of the Indiana University Center for Postsecondary Research.

ROBERT GONYEA is associate director of the Indiana University Center for Postsecondary Research.

RICK SHOUP is a research analyst for the National Survey of Student Engagement at Indiana University Bloomington.

GEORGE D. KUH is Chancellor's Professor of Higher Education and director of the Indiana University Center for Postsecondary Research.

Keywords: student success, learning design, MOOC, high-impact practices, high-impact teaching practices, open-ed-ucation resources, scholarship on teach-ing and learning, University of Colorado. DOI: 10.17323/1814-9545-2018-4-116-138. Higher education is in a turbulent time, one of shifting landscapes, of new technologies, and of unfamiliar competitors. Although most instructors contend that they generally employ prac-tices that lead to student persistence, learning, and completion, they have largely anecdotal, and rarely longitudinal data to describe their individual classroom successes. Rigorous research over the past dec-ade, however, has identified a set of specific, well-defined practices that lead to student success when implemented deliberately.

12. Teacher student relation: Maintaining a good relationship with the student is important for a teacher to make his/her teaching method more effective. Students should be given a space where they can freely express their concerns and doubts without any inhibition. When teacher becomes a good friend, students would actively participate and engage in the learning session which gives productive results. Certain communication apps even help to bring parents virtually into classroom to make the learning phase more effective.

13. Online tools: Teachers can make use of the online tools to bring fun to the classroom and ensure engagement and maximum participation. A teacher has different choices when it comes to teaching methods, but approaches for teaching can be classified into two. Students have to be active while teacher has to coach and facilitate student learning and overall comprehension of material. In this method, students's interests are first. They decide what they will learn, how they will learn and in the end they are going to do by themselves the assessment. Teaching methods are an important aspect of teaching and learning. Selecting the right teaching method is the key to success. Teacher has to know that students belong to different categories and personality. The most successful students are they who use all kind of learning styles, even those they do not prefer.

Overview: Historically Underrepresented Student Retention. Students leave college for a variety of individual and institutional reasons (Bean, 1990; Cabrera, Casteneda, Nora, and Hengstler, 1992; Peltier, Laden, and Matranga, 1999; Tinto, 1993). Among the most common factors are stu-dent background characteristics; precollege academic experiences; struc-tural characteristics of institutions such as mission, size, and selectivity; and interactions with faculty, staff, and peers. Four findings from the CTD study are instructive for teaching and learning. Table 2.1. Effects of Engagement on Success Indicators from the Connecting the Dots Project. As well as supporting academic success, classrooms that promote multilingualism can foster positive identities associated with their home cultures. This position is supported by Richard Ruiz's notion of "language as a resource" (1984) which advocates for the use of students's home languages as resources for learning and teaching. Nevertheless, English still overwhelmingly dominates lessons in many classrooms throughout the world where students read, write, listen and speak only in English. One of the most successful approaches to bilingual teaching and learning has been the purposeful and simultaneous use of two languages in the same classroom, a process that is referred to as translanguaging.