

# Student Success in College:

*Puzzle, Pipeline, or Pathway?*



29th Annual Earl V. Pullias Lecture

*In*  
*Memoriam*

The Pullias Lecture is dedicated to the memory of Earl V. Pullias, professor emeritus of higher education at the University of Southern California. Through the lecture series and its publications, many people the world over have come to know his ideas.

"You can be no better teacher than you are a human being," he said. Those who knew him or knew of him remember the human being: an inspired teacher, a thoughtful, articulate scholar and a unique friend who continues to inspire.

Earl V. Pullias graduated from the University of Chicago. He was dean of faculty at Pepperdine from 1940 to 1957 and taught at USC from 1940 until his retirement in 1977. He wrote more than 100 articles and numerous books on education and also served on the Los Angeles County Board of Education.

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*Puzzle, Pipeline, or Pathway?*

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GEORGE D. KUH

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## INTRODUCTION

**S**TUDENT SUCCESS IN COLLEGE HAS NEVER BEEN more important. The economic advantage to baccalaureate degree holders remains substantial, with college graduates averaging a million dollars more in lifetime earnings than high school graduates (Carnevale, 2006; Pennington, 2004). Equally important, four-fifths of high school graduates will need some form of postsecondary education to obtain a job that allows them to be economically self-sufficient and deal effectively with increasingly complex social, political, and cultural issues (McCabe, 2000, U.S. Department of Education, 2006). There is also the long list of non-pecuniary benefits of college - intellectual development and critical thinking, civic engagement, appreciation of the aesthetic qualities of life and so on (Pascarella & Terenzini, 2005).

But there is trouble in the land in terms of educational attainment. The Organization for Economic Cooperation and Development (OECD, 2006) reports that the U.S. is dropping in position among developing countries in baccalaureate degree attainment and 10th in HS graduation rates. Our position has slipped recently, mostly for young people.

This afternoon I shall attempt the impossible - to summarize in 45 minutes or so the various streams of theory and research that help answer the question: What matters to student success in college? I'm drawing extensively from the literature review that we completed this past year for the National Postsecondary Education Cooperative and the National Center for Education Statistics (Kuh, et al, 2007). Those of you familiar with the report by the National Commission on the Future of Higher Education (U.S. Department of Education, 2006) will see many similar themes in my comments, at least about the postsecondary education context.

## STUDENT SUCCESS DEFINED

**S**TUDENT SUCCESS HAS MANY COMPONENTS. FOR THE purposes of our work, we defined student success in a broad, all-encompassing manner to include academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, attainment of educational objectives including graduation, and post-college performance.

Of course, students do not come to college *tabula rasa*. Rather, they are shaped by many years of complex interactions with their family of origin and cultural, social, political, and educational environments.

Let's start with some good news. Interest in attending college is nearly universal, with more than 90% of high school students saying they are thinking about going to college.

Also, the pool of students is wider, deeper, and more diverse than ever. Women outnumber men by an increasing margin, and more students from historically underserved groups are attending college. On some campuses such as Cal State LA, CUNY Lehman College, and the University of Texas at El Paso, students of color who were once "minority" students are now the majority. At nearby Occidental College and San Diego State University, students of color now number close to half of the student body. While this is old hat to you, I can assure you that people in Iowa and the Dakotas find it nothing short of extraordinary.

The bad news is the educational "pipeline" - one of the more commonly used analogies - is leaking.

Last spring, the National Center on Public Policy and Higher Education (2006) reported that only 68 of every 100 ninth graders graduate from high school. Forty immediately enter college, 27 return for a second year, but only 18 complete any type of postsecondary education within six years of graduating high school. These numbers were widely reported and repeatedly and have been cited many times since, but they are surely underestimates. They do not account for students who transfer from one high school to another or one college to another. Nonetheless, focusing on the college participation rate is a more appropriate - if not necessarily accurate - way to approximate educational attainment, as contrasted with college attendance rates by high school graduates that overestimate educational attainment.

Some groups are being left behind in terms of college participation and persistence. Low income students; African American, Latino, and Native American students; and students with disabilities continue to lag behind White and Asian American students. Latino students trail all the other ethnic groups.

Many of those who complete high school are not college ready according to the National Assessment of Educational Progress. Just over half (51%) of high school graduates have college reading skills (ACT, 2006). I commend to you Gerald Bracey's "Is Literacy Lagging" article in the May 2006 issue of *Kappan*, which disputes the "current crisis" label that the ACT used to characterize this finding.

One of the proximal causes for the gap between high school student performance and college-level skills is that at this time only five states - California, Indiana, Nebraska, New York and Wyoming - have fully aligned high school academic standards with the demands of colleges and employers.



Three-fifths of students in public two-year colleges and one quarter in four-year colleges and universities require one or more years of remedial coursework. More than 25% of four-year college students who take three or more remedial classes leave college after the first year. In fact, as the number of required developmental courses increases, so do the odds that the student will drop out. At the same time, if a student does complete a developmental reading or writing course in the first term, then their odds of getting a degree approximate that of other students. This is both a terrible waste of talent and financial resources. As to the latter, the costs of remediation are non-trivial - 1.2 billion annually.

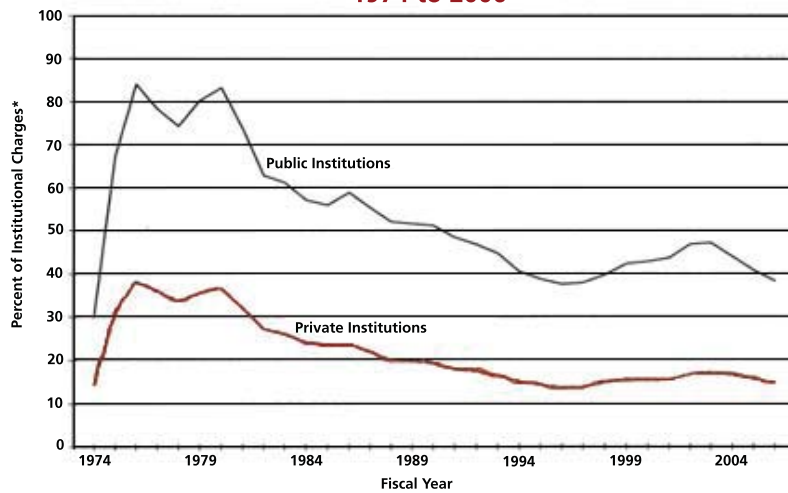
College costs are increasing faster than family incomes. From 1995 to 2005, college costs jumped 36% at private 4-year colleges, 51% in terms of tuition and fees at public ones, and 30% at 2-year schools. Costs are increasing in part because of decreases in state support. By 2005, the state share of expenditures fell to its lowest levels in two decades, and state appropriations are not keeping pace with state revenues growth (overall increase after inflation and per-student). The decrease in the state share of support is inflated somewhat because institutions have expanded budgets using other resources to meet increasing expenditures that are not related to instruction.

Those hit the hardest by cost increases can least afford it. One estimate is that for each \$150 increase in the net price of college attendance, the enrollment of students from the lowest income group decreases by almost 2% (Choy, 1999). Because tuition and fees have been rising faster than family income, there are also more students today with unmet financial need (Breland, Maxey, Gernand, Cumming, & Trapini, 2002; Choy, 1999). As Levine and Nidiffer (1996, p. 159) observed 10 years ago:

The primary weakness of both colleges for the poor and financial aid programs is their inability to help poor kids escape from the impoverished conditions in which they grow up... The vast majority of poor young people can't even imagine going to college. By the time many poor kids are sixteen or seventeen years old, either they have already dropped out of school, or they lag well behind their peers educationally.

One of the most compelling indicators (Figure 1) that the federal government is not doing its share is the diminishing purchasing power of Pell grants, courtesy of Tom Mortenson, the editor of *Postsecondary Education Opportunity*:

**Purchasing Power of Pell Grant Maximum Award  
in Public and Private Institutions  
1974 to 2006**



\*Tuition and fees, room and board  
 Postsecondary Education OPPORTUNITY Association for Institutional Research - May 16, 2006 - Chicago, Illinois

figure 1

Once in college, a student's chances for graduating depend on several factors. Only about one- half of community college students return for a second year. About 15% who start do not earn any credits. High-risk students

drop out at a higher rate than their peers. The research consistently shows that delaying postsecondary enrollment, for whatever reason, reduces the likelihood that the student will persist and complete a degree program (Adelman 2006). Indeed, Figure 2 includes delayed entry as one of the seven major risk factors that threaten persistence and graduation (Berkner, Cuccaro-Alamini, and McCormick 1996; Carroll 1989; Horn and Premo 1995; McCormick and Horn 1996). Students with two or more of these characteristics are more likely to drop out than their peers (Choy 2001; Muraskin and Lee 2004; SHEEO 2005).

### **Risk Factors that threaten persistence and graduation from college:**

- ▶ Being academically underprepared for college-level work;
- ▶ Not entering college directly after high school;
- ▶ Attending college part-time;
- ▶ Being a single parent;
- ▶ Being financially independent (i.e., students who rely on their own income or savings and whose parents are not sources of income for meeting college costs);
- ▶ Caring for children at home;
- ▶ Working more than 30 hours per week; and
- ▶ Being a first-generation college student.

\*SOURCE: Community College Survey of Student Engagement 2005.

The conditions associated with premature departure from college partially explain the low baccalaureate attainment rates of certain groups of students, such as community college students and many ethnic minorities. For example, almost 50 percent of all first-time community college students (and in some settings significantly more) are assessed as underprepared for the academic demands of college-level work. This is another major reason why about half of community college students do not return to college for their second year of studies (CCSSE

2005). Just over half of Latino students attended postsecondary institutions part time (52 percent) as compared to 37 percent of White students. While almost two-thirds (64 percent) of Whites attend postsecondary institutions continuously, only two-fifths of Latinos attended postsecondary institutions without stopping out (Swail et al. 2005). Latinos were more likely to delay enrollment to postsecondary education. 77 percent of Latinos compared to 82 percent of Whites entered postsecondary education within 7 months of graduating high school. In addition, African American and Hispanic community college students are also less likely to earn baccalaureate degrees because they are overrepresented in certificate programs (Bailey, Jenkins, and Leinbach 2005).

Of the estimated 45% of all students who do not complete their degree within six years, only a quarter are dismissed for poor academic performance. Changes in the American family structure are another factor, as more students come to campus with psychological challenges that can have a debilitating effect on their academic performance and social adjustment.

Whatever the reasons for why many students do not achieve their postsecondary educational goals or benefit at optimal levels from the college experience, the waste of human talent and potential is unconscionable.

What can colleges and universities do to uphold the social contract and help more students succeed?

## MAJOR THEORETICAL PERSPECTIVES ON STUDENT SUCCESS IN COLLEGE

AS KURT LEWIN ONCE SAID, "THERE IS NOTHING more practical than to look to a good theory for guidance to explain behavior." Here is a very brief overview of five major perspectives that pertain to student success in college.

### SOCIOLOGICAL PERSPECTIVES

Tinto's (1975, 1987, 1993) interactionist theory is the dominant sociological lens. Despite Tierney's 1993 classic paper, which challenged their veracity, the twin constructs of academic and social integration still receive much attention even though research shows modest empirical support for them (Braxton et al, 1997). Academic integration represents both satisfactory compliance with explicit norms, such as earning passing grades, and the normative academic values of the institution, such as an engineering school that values the physical sciences over the arts. Alas, it is not a very good predictor of persistence, at least not at the same institution. Social integration appears to be a somewhat better predictor of persistence and represents the extent to which a student finds the institution's social environment to be congenial with his or her preferences.

### SOCIAL NETWORKS

Despite some disagreement about how the Tinto model is operationalized, most agree that students must learn to negotiate foreign environments and interact effectively with strangers to succeed in college (Kuh & Love, 2000). This view is consistent with a social network's perspective, which holds that college students' interpersonal relationships with faculty and staff and peers as well as family, friends, and mentors contribute to

student satisfaction, persistence, and overall gains from college. For example, students most likely to persist have values, norms, and behavior already congruent with dominant patterns on campus. Commuters were less likely to persist and had fewer friends attending the college. In contrast, residential students made more new friends, were more tightly connected with the institution, and were more likely to persist. Social networks help explain why social integration is more difficult for certain groups of students. Family influence is all the more influential (Chamberlain, 2005).

### **ORGANIZATIONAL PERSPECTIVES**

The organizational view emphasizes that such features as institutional size, selectivity, resources, and faculty-student ratios are important. This is emphasized in Bean's (1983) student attrition model, where beliefs shape attitudes, attitudes shape behaviors, and behaviors signal intents.

### **PSYCHOLOGICAL PERSPECTIVES**

The psychological view proposes that personality characteristics like self-efficacy predict how students will handle academic and social challenges. Those with a strongly developed self-concept are more confident about their ability to succeed, while those who are less confident are more likely to founder and give up when encountering difficult circumstances.

Especially promising is Dweck's (2000) work on self-theories about intelligence. She discovered that students' views of their abilities can be altered by structuring early learning experiences in a new subject by starting with what students are good at: "Those who are led to believe their intelligence is a malleable quality begin to take on challenging learning tasks and begin to take advantage of the skill-improvement opportunities that come their way" (Dweck, 2000, p. 26).

## **CULTURAL PERSPECTIVES**

Cultural perspectives suggest that many historically underrepresented students encounter challenges in college that make it difficult for them to take advantage of their school's resources for learning and personal development. The fundamental issue is whether students need or should be expected to conform to prevailing institutional norms and mores if they conflict with those of their family of origin.

Bourdieu's construct of habitus - the system of enduring dispositions that incorporates previous experiences that can impose unconscious limits on an individual's educational and career aspirations - is also instructive (Bourdieu & Passeron, 1977). Habitus also shapes individual actions like choosing a major field or perceiving the availability of opportunities, such as doing research with a faculty member or studying abroad.

## **ECONOMIC PERSPECTIVES**

Finally, the economic perspective assumes students weigh the costs and benefits of staying in college and participating in various activities. If a student perceives that the cost of staying in school or becoming involved in a certain activity - such as orientation, a first-year seminar, internship or study abroad - outweighs the return on investment, they will forgo the opportunity (Braxton, 2003).

This attenuated review shows that no single theoretical perspective accounts for factors that influence student success in college. We need to use multiple perspectives in combination to better understand the phenomenon.

## FRAMEWORK FOR STUDENT SUCCESS

TO UNPACK WHAT JOHN BRAXTON AND HIS COLLEAGUES labeled "the student departure puzzle," we developed this schematic to chart the territory.

Instead of the familiar "pipeline" analogy depicted by a direct route to educational attainment, a more realistic portrayal is a wide, meandering path akin to what Adelman proposed with twists, turns, and occasional dead ends that students may experience at different points in

### What Matters to Student Success

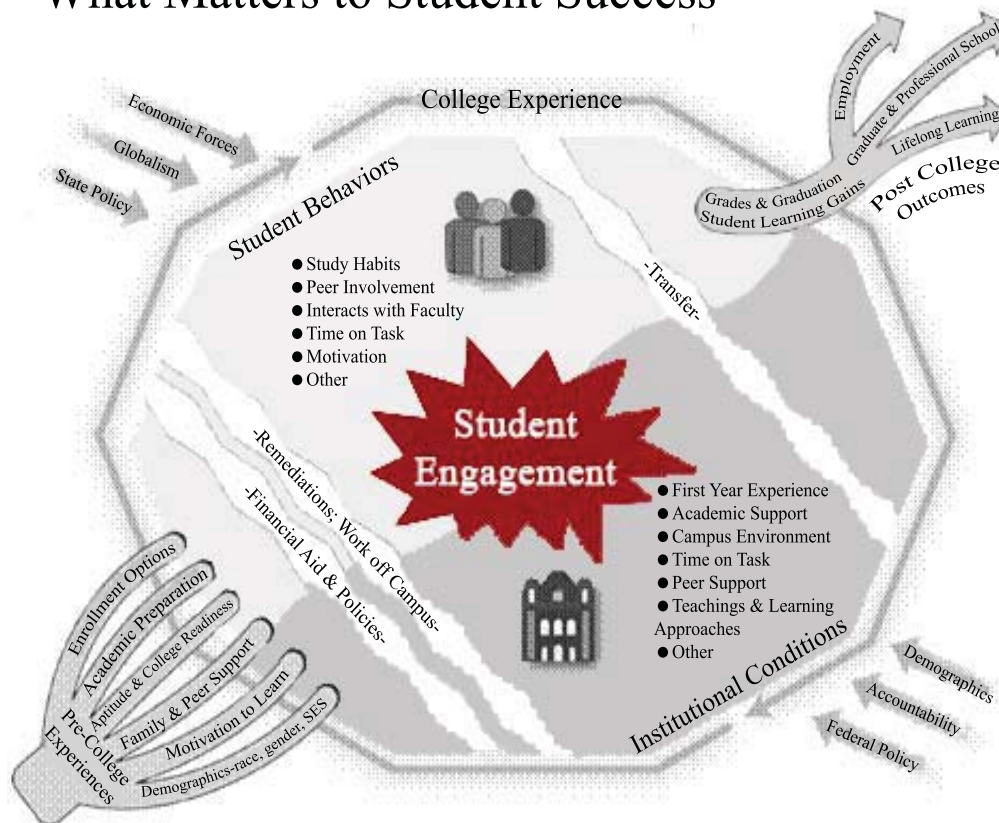


figure 2



their educational career. The first section of the path represents students' pre-college experiences - academic preparation, family background, high school coursework, enrollment choices, and financial aid policies. These related factors and conditions affect the odds that students will do what is necessary to prepare for and succeed in college. The next part of the path - the college experience itself - includes two central features: student behaviors and institutional conditions. Student behaviors include the time and effort students put into their studies, interaction with faculty, and peer involvement among other things. Institutional conditions include resources, educational policies, programs and practices, and structural features.

At the intersection of student behaviors and institutional conditions is student engagement. Student engagement represents aspects of student behavior and institutional performance that colleges and universities can do something about, at least on the margins. Student background, however, is beyond the direct control of the student or the college or university.

## PROPOSITIONS AND RECOMMENDATIONS ABOUT STUDENT SUCCESS IN POSTSECONDARY EDUCATION

WITH THIS OVERVIEW IN MIND, HERE ARE SEVEN propositions that we distilled from the literature about what matters to student success.

**1. The trajectory for academic success in college is established long before students matriculate.**

*Ensure that all students have rigorous, intensive pre-college academic preparation.*

There is no substitute for rigorous academic preparation in elementary and secondary school. If by the eighth grade students do not attain grade level proficiencies - particularly in math and reading - they are unlikely to acquire the needed skills in high school. If students do not perform well in the right kinds of courses in high school, including four years of English and advanced mathematics classes (such as algebra II, pre-calculus, and calculus), interventions later can have only modest effects on their chances to succeed and complete a baccalaureate degree.

*Align high school curricula with college performance standards.*

Students frequently overestimate their readiness for college when state standardized tests are not articulated with college admission requirements and postsecondary academic performance expectations.

*Develop comprehensive national and state college readiness strategies that address the educational needs of all students.*

Unprecedented coordinated efforts are required that involve communities, K-12 schools, postsecondary

institutions, local and state business leaders and government officials, and policymakers to strengthen the connections between various transition points - from elementary to middle school, from middle school to high school, from high school to college, and from college to work. National organizations and foundations are promoting various initiatives aimed at improving pre-college experiences and shifting the societal mentality from "access to college" to "success in college." While we cannot ameliorate educational disadvantages for every student, we can do far more than at present. At the same time, institutional policies and structures are needed to respond to and accommodate high ability, highly motivated learners who can move through the system more expeditiously than what is currently possible.

*Instill in K-12 educators an assets-based talent development philosophy about teaching and learning.*

Everyone agrees that expectations matter. Which group has the lowest expectations for high school students' academic performance?

- a. Students themselves
- b. Peers
- c. Parents
- d. High School Teachers

Sadly, high school teachers have lower educational aspirations for their students than students themselves or their parents. We must change these deleterious beliefs and assumptions about students and their learning. Teachers must adapt their instructional approaches to accommodate the different learning styles of their students in order to build on students' assets and strengths as contrasted with dwelling on initial shortcomings (Dweck, 2000). Teacher education and educational leadership programs are key to preparing professional educators who subscribe to an assets view of their students.

**2. Family and community support are indispensable to raising students' educational aspirations and helping students to become college-prepared and persisting.**

*Expand the scale and scope of demonstrably effective college encouragement and transition programs.*

We must level the playing field, especially for students facing odds stacked against them. As many here at the Rossier School know, effective school-community partnerships are essential, such as Indiana's 21st Century Scholars Program and GEAR UP, because they involve family members who are more likely to offer moral support to students for preparing for college, applying for college admission and financial aid, matriculating, and persisting.

*Ensure that students and families have accurate information about college, including real costs and aid availability.*

At-risk students have less accurate information about college and get less encouragement and support for preparing for and attending college from their family and friends. Learn More (formerly the Indiana College Placement and Assessment Center) is a model for the dissemination phase of this kind of effort.

**3. The right amount and kind of money matters to student success. Too little can make it impossible for students to pay college bills. Too much loan debt can discourage students from persisting.**

*Align financial aid and tuition policy so that financial assistance packages meet students' need.*

Both real and perceived affordability are in play. Many students and families believe college is financially out of reach. The average annual unmet need for 90% of college qualified, low-income students is less than \$5,000. If this

figure is accurate, it seems to be a manageable amount of debt to take on when compared with the long-term benefits. Convincing loan-averse families to take on additional debt to pay for college is a nontrivial matter. At the same time, financial support must be available in amounts and forms that enable low-income students to attend full-time rather than part-time and, when necessary, work fewer hours preferably on campus rather than off campus. Then there is the unreasonably complex process of applying for financial aid. This is one area where I am in full agreement with the National Commission's (U.S. Department of Education, 2006) recommendation.

*Create small pockets of emergency funds to address real student needs in "real" time.*

Providing even small amounts of money at key times can mean the difference between a student staying in school or leaving. For example, some students stop out (but become drop outs) because they do not have enough money at the beginning of the academic term to buy books. Most institutions can find additional resources to expand their short-term emergency loans to address this issue. But first, the institution must recognize the problem, and then get dollars to students when they need them which often is off cycle.

**4. Most students - especially those who start college with two or more characteristics associated with premature departure - require early interventions and sustained attention at key transition points.**

*Clarify institutional values and expectations early and often to prospective and matriculating students.*

Colleges and universities have two non-negotiable obligations to their students. The first is to establish high performance expectations, inside and outside the classroom that are appropriate to students' abilities and aspira-

tions. To do this, we must first understand who our students are, what they are prepared to do academically, what they expect of the institution, and what they - the students - need to do to survive and thrive in college. Then we must give them early, frequent feedback as to how well they are meeting these expectations. The second obligation that institutions have to their students is to make resources available to support the students' academic and social needs. We provide many such examples in our book, *Student Success in College: Creating Conditions that Matter* (Kuh et al., 2005). Far fewer students use campus learning and support services than they say they will when starting college. Faculty members, advisors, and student affairs professionals must clearly and consistently communicate to students what is expected and provide periodic feedback about the quality of the students' performance.

*Provide multiple learning support networks, early warning systems, and safety nets.*

Students at institutions with a comprehensive system of complementary initiatives are more likely to perform better academically, to be more satisfied, and to persist and graduate. I'm talking here about research-tested, well-implemented effective educational practices: orientation, placement testing, first-year seminars, learning communities, intrusive advising, 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 et al., 2005).

Waiting until midterm examinations is too late to give students an idea of how well they are performing. Faculty members teaching in Fayetteville State University's Early Alert Program contact first-year student mentors and the college to alert them about students experiencing difficulty during the first two weeks of the semester. Mentors contact

students to advise and refer as appropriate. At Wheaton College (MA), a first-year student's advising team is made up of a faculty member, student preceptor, librarian, and staff member. These and other approaches adapted to local conditions and student characteristics can work at any institution.

**5. Students who find something or someone worthwhile to connect to in the postsecondary environment are more likely to engage in beneficial activities, persist, and achieve their educational objectives.**

*Make the classroom the locus of community.*

Many students - especially those who commute - spend a limited amount of time each week on campus. The classroom is the only regular point of contact they have with other students beyond those in their primary reference groups and with faculty and staff members. Faculty members partnering with student affairs professionals and others can fashion rich, engaging learning experiences inside and outside the classroom that complement the institution's academic values and the students' preferred learning styles.

This means that faculty members must be more intentional about teaching institutional values and traditions and informing students about campus events, procedures, and deadlines such as registration. Faculty members also can use cooperative learning activities to bring students together to work after class on meaningful tasks.

*Structure ways for more students to spend time with classmates on academic matters.*

Peers are very influential to student learning and values development. This is why high quality first-year seminars and learning communities (where students take two or more courses together) can be so powerful. There are

different variations of these approaches. An especially attractive variant is for the seminar instructor to serve as the academic advisor for the students for the first college year.

*Involve every student in a meaningful way in some activity or with a positive role model in the college environment.*

Working on campus, writing for the student newspaper, or conducting research with a faculty member can be a life changing experience. When students are required to take responsibility for activities that require daily decisions and tasks, they become invested in the activity and more committed to the college and their studies. Advisors, counselors, and others who have routine contact with students must persuade or otherwise induce them to get involved with one or more of these activities or people.

**6. Institutions that focus on student success are better positioned to help their students attain their educational objectives.**

*Use effective educational practices throughout the institution.*

Postsecondary institutions can address shortcomings in students' academic preparation and increase the chances that students will succeed by adapting demonstrably effective policies and practices. I just mentioned some, and we describe others in *Student Success in College* that are specific to particular groups or activities such as working with adult learners, undergraduate teaching and learning, developmental education for underprepared students, assessment, and student affairs work.

*Use technology in educationally effective ways.*

Carol Twigg's (2003) "Course Redesign Program" shows that information technology can be a solution rather than an obstacle to increasing success for underserved students. A key step is insuring learner readiness to benefit from tech-



nology-based courses. Learner readiness involves more than access to computers. It also required adequate technical support as well as other forms of student support - for example, help with using navigation tools and course management systems - and the processes that enable students to gain literacy skills if they do not already possess them.

*Create incentives for institutions to identify and ameliorate debilitating cultural properties.*

Policy and programmatic interventions are necessary but insufficient to shift a campus toward a student success paradigm. In *Student Success in College*, we described different types of educational policies and practices and provide recommendations for cultivating and sustaining student-friendly campus cultures. These efforts are especially important for promoting the success of historically underserved students, because their premature departure is due in part to their inability to successfully navigate the distance and differences between their cultures of origin and the institution's dominant culture.

#### **7. Focus assessment and accountability efforts on what matters to student success.**

*Create incentives for postsecondary institutions to responsibly report and use information about the student experience to improve teaching, learning, and personal development.*

We value what we measure. We have some promising tools, and more need to be developed. The results must be analyzed, interpreted, and reported in responsible ways that take into account the diversity of student backgrounds and abilities and institutional missions and resources. For example, an institution's unadjusted student engagement scores, test results, or graduation rates may not necessarily be the most appropriate indicators of how well an institution is doing by its students. Residual

statistical models may be more revealing because they control for student background characteristics and entering ability as well as institutional characteristics such as size, control, and resources. They promise to estimate whether institutions are performing better or worse than they are predicted to do, given the nature of their students and their resources.

Such analyses may raise nettlesome questions related to articulation agreements and performance indicator systems that must be answered sooner or later. For example, when evaluating the quality of the educational experience, how much responsibility for the performance of transfer students belongs to the institution, to the individual student, and to the other institutions where transfer students have attended?

At the same time, beware and retain a healthy skepticism about measuring outcomes and especially about value-added approaches. They have limitations, which we can discuss later if anyone is interested.

*Develop an efficient way for colleges and universities to report back to high schools their graduates' college performance and use the information to improve.*

For high schools to better prepare their students for the academic challenges presented in postsecondary education, teachers and administrators must know how their graduates perform in postsecondary settings. Too often high schools and community agencies do not have this information or use it effectively to improve student preparation.

## A FINAL WORD

**I**N CONCLUSION, THANKS IN NO SMALL PART TO some scholars at the Rossier School of Education, we know many of the factors that help or hinder earning a bachelor's degree. We also know a good deal about some interventions that promise to increase this number if we implement them effectively to touch large numbers of students in meaningful ways.

There are limits to how much colleges can influence student success. Most cannot change the lineage of their students. Campus cultures do not change easily or willingly. Still, we can do far more than at present to change the way students approach college and what they do after they arrive.

The real question is whether we have the will to use more consistently what we know to be promising policies and effective educational practices to increase the odds that more students get ready, get in, and get through.

Thank you for the privilege of sharing these ideas with you.

## REFERENCES

- Adelman, C. (2006, February). *The Toolbox Revisited: Paths to Degree Completion From High School Through College*. U.S. Department of Education. Washington, DC: Office of Vocational and Adult Education.
- Adelman, C. (2006, April). *The Propaganda of Numbers in Higher Education*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- American College Testing Program (ACT). (2006). *Reading Between the Lines: What the ACT Reading Test Reveals About College Readiness*. Iowa City, IA: Author.
- Association of American Colleges and Universities (AACU). (2005). *Liberal Education Outcomes: A Preliminary Report on Student Achievement in College*. Washington, DC: Author.
- Association of American Colleges and Universities (AACU). (2006). *College Learning and America's Promise: Preparing ALL Students for a New Global Century*. Washington, DC: Author.
- Bailey, T., Jenkins, D., and Leinbach, T. (2005). *Graduation Rates, Student Goals, and Measuring Community College Effectiveness* (CCRC Brief Number 28). New York: Columbia University, Community College Research Center.
- Bean, J. P. (1983). The Application of a Model of Turnover in Work Organizations to the Student Attrition Process. *The Review of Higher Education*, 6(2): 129-148.
- Berger, J. B. (2002). The Influence of the Organizational Structures of Colleges and Universities on College Student Learning. *Peabody Journal of Education*, 77(3): 40-59.
- Berger, J. B., and Milem, J. F. (2000). Organizational Behavior in Higher Education and Student Outcomes. In *Higher Education: Handbook of Theory and Research*, Vol. 15, edited by J. C. Smart, 268-338. New York: Agathon.
- Berkner, L., Cuccaro-Alamin, S., and McCormick, A. (1996). Descriptive Summary of 1989-90 Beginning *Postsecondary Students: Five Years Later* (NCES 96-155). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

- Bourdieu, P., and Passeron, J. C. (1977). *Reproduction in Education, Society, and Culture*. London: Sage.
- Braxton, J. M. (2003). Student Success. In *Student Services: A Handbook for the Profession*, 4th ed., edited by S. R. Komives and D. B. Woodard, Jr., 317-338. San Francisco: Jossey-Bass.
- Braxton, J. M., Sullivan, A., S., and Johnson, R. T. (1997). Appraising Tinto's Theory of College Student Departure. In *Higher Education: Handbook of Theory and Research*, Vol. 12, edited by J. C. Smart, 107-158). New York: Agathon.
- Braxton, J. M., Vesper, N., and Hossler, D. (1995). Expectations for College and Student Persistence. *Research in Higher Education*, 36(5): 595-612.
- Breland, H., Maxey, J., Gernand, R., Cumming, T., and Trapani, C. (2002, March). *Trends in College Admission 2000: A Report of a National Survey of Undergraduate Admission Policies, Practices, and Procedures*. Alexandria, VA: National Association for College Admission Counseling.
- Carnevale, A. P. (2006, September 22). Discounting Education's Value. *The Chronicle of Higher Education*, B6-B9.
- Carnevale, A. P., and Desrochers, D. M. (2003). Preparing Students for the Knowledge Economy: What School Counselors Need to Know. *Professional School Counseling*, 6(4): 228-236.
- Carroll, D. (1989). *College Persistence and Degree Attainment for the 1980 High School Graduates: Hazards for Transfers, Stopouts, and Part-Timers* (NCES 89-302). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Chamberlain, T.A. (2005). *Branching Out or Breaking Off: An Exploration of First-Year Students' Social Network*. Unpublished manuscript, Indiana University, Bloomington, IN.
- Choy, S. P. (1999). College Access and Affordability. *Education Statistics Quarterly*, 1(2):74-90.
- Choy, S. P. (2001). *Students Whose Parents did not go to College: Postsecondary Access, Persistence, and Attainment*. (NCES 2001-126). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

- Community College Survey of Student Engagement (CCSSE). (2005). *Engaging Students, Challenging the Odds: 2005 Findings*. Austin, TX: Author.
- Conley, D. T. (2003). Connecting the Dots: Linking High Schools and Postsecondary Education to Increase Student Success. *Peer Review*, 5(2): 9-12.
- De los Santos, A., Jr., and Wright, I. (1990). Maricopa's Swirling Students: Earning One-Third of Arizona's State's Bachelor's Degrees. *Community, Technical, and Junior College Journal*, 60(6): 32-34.
- Dweck, C. S. (2000). *Self-Theories: Their Role in Motivation, Personality, and Development*. Philadelphia, PA: Psychology Press.
- Dweck, C. S., and Leggett, E. L. (1988). A Social-Cognitive Approach to Motivation and Personality. *Psychological Review*, 95(2): 256-273.
- Gladieux, L. E., and Swail, W. S. (1998). Financial Aid is Not Enough: Improving the Odds of College Success. *College Board Review*, (185): 16-21, 30-32.
- Horn, L. J., and Premo, M. (1995). *Profile of Undergraduates in U.S. Postsecondary Institutions: 1992-93* (NCES 96-237). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., Hayek, J.C. (2007). Placing Together the Student Success Puzzle: Research, Propositions, and Recommendations. *ASHE Higher Education Report 32* (5).
- Kuh, G. D., Kinzie, J., Schuh, J. H., and Whitt, E. J. (2005b). *Student Success in College: Creating Conditions That Matter*. San Francisco: Jossey-Bass.
- Kuh, G. D., and Love, P.G. (2000). A Cultural Perspective on Student Departure. In *Reworking the Student Departure Puzzle*, edited by J.M. Braxton, 196-212. Nashville, TN: Vanderbilt University Press.
- Kuh, G. D., and Whitt, E. J. (1988). *The Invisible Tapestry: Culture in American Colleges and Universities*. ASHE-ERIC Higher Education Report No. 1. Washington, DC: The George Washington University, School of Education and Human Development.
- Levine, A., and Nidiffer, J. (1996). *Beating the Odds: How the Poor Get to College*. San Francisco: Jossey-Bass Publishers.

- McCabe, R. H. (2000). *No One to Waste: A Report to Public Decision-Makers and Community College Leaders*. Washington, DC: American Association of Community Colleges.
- McCormick, A. C. (2003). Swirling and Double-Dipping: New Patterns of Student Attendance and Their Implications for Higher Education. *New Directions for Higher Education* (121): 13-24.
- McCormick, A. C., and Horn, L. J. (1996). *A Descriptive Summary of 1992-93 Bachelor's Degree Recipients: 1 Year Later* (NCES 96-158). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Mortenson, T. G. (2005, October). *Segregation of Higher Education Enrollment by Family Income and Race/Ethnicity 1980 to 2004*. Okaloosa, IA: Postsecondary Education Opportunity.
- Muraskin, L. (2003). *National Evaluation of GEAR UP: A Summary of the First Two Years*. Washington, DC: Department of Education.
- Muraskin, L., and Wilner, A. (2004). *What We Know About Institutional Influences on Retention*. Washington, DC: JBL Associates.
- National Center for Public Policy and Higher Education. (2005, November). *Policy Alert: Income of U.S. Workforce Projected to Decline if Education Doesn't Improve*. San Jose, CA: Author.
- Organisation for Economic Co-operation and Development (2006). *Education at a glance: OECD indicators 2006*. Paris: Author.
- Pascarella, E. T., and Terenzini, P. T. (2005). *How College Affects Students: A Third Decade of Research*. San Francisco: Jossey-Bass.
- Pennington, H. (2004, December). *Fast Track to College: Increasing Postsecondary Success for All Students*. Boston: Jobs for the Future.
- State Higher Education Executive Officers. (2005). *Accountability for Better Results-A National Imperative for Higher Education*. *Network News*, 24: 1-4.
- Swail, W. S. (with Redd, K. E., and Perna, L. W.). (2003). *Retaining Minority Students in Higher Education: A Framework for Success*. ASHE-ERIC Higher Education Report No. 2. Washington, DC: The George Washington University, School of Education and Human Development.
- Swail, W. S., Cabrera, A. F., Lee, C., and Williams, A. (2005). *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.
- Tierney, W. G. (1993). *Building Communities of Difference: Higher Education in the Twenty-First Century*. Westport, CT: Bergin & Garvey.
- Tierney, W. G., and Hagedorn, L. S. (2002). *Increasing Access to College: Extending Possibilities for All Students*. Albany, NY: State University of New York Press.
- Tinto, V. (1975). Dropout From Higher Education: A Theoretical Synthesis of Recent Research. *Review of Educational Research*, 45: 89-125.
- Tinto, V. (1986). Theories of Student Departure Revisited. In *Higher Education: Handbook of Theory and Research*, Vol. 2, edited by J.C. Smart, 359-384. New York: Agathon Press.
- Tinto, V. (1987). *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Chicago: University of Chicago Press.
- Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition*. (2nd ed.). Chicago: University of Chicago Press.
- Tinto, V., and Love, A. G. (1995). *A Longitudinal Study of Learning Communities at LaGuardia Community College*. University Park, PA: National Center on Postsecondary Teaching, Learning, and Assessment.
- Tinto, V., Love, A. G., and Russo, P. (1995). *Building Learning Communities for New Students: A Summary of Research Findings of the Collaborative Learning Project*. University Park, PA: National Center on Postsecondary Teaching, Learning, and Assessment.
- Twigg, C. A. (2003). Improving Quality and Reducing Cost: Designs for Effective Learning. *Change*, 35(4): 22-29.
- U.S. Department of Education (2006, September). *A Test of Leadership: Charting the Future of U.S. Higher Education*. Washington, DC: Author.



## APPENDIX

*About  
the  
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**GEORGE D. KUH** is Chancellor's Professor of Higher Education at Indiana University Bloomington. He directs IU's Center for Postsecondary Research, home to the National Survey of Student Engagement (NSSE) which has been used by about 1100 colleges and universities in the U.S. and Canada. He also is responsible for related surveys for faculty and law school students, the NSSE Institute for Effective Educational Practice, and the College Student Experiences Questionnaire Assessment Program. During his 30 years at Indiana University, he served as chairperson of the Department of Educational Leadership and Policy Studies, Associate Dean for Academic Affairs in the School of Education, and Associate Dean of the Faculties for the Bloomington campus.

George received a B.A. from Luther College, master's degree from St. Cloud State University, and Ph.D. from the University of Iowa. He has published about 300 items and made several hundred presentations on topics related to assessment, institutional improvement, and campus cultures. In addition, he has consulted with about 175 institutions of higher education and educational agencies in the United States and abroad. Among his 20 books and monographs are *Student Success in College: Creating Conditions That Matter* (2005), *Student Learning Outside the Classroom: Transcending Artificial Boundaries* (1994), *Involving Colleges* (1991), *The Invisible Tapestry: Culture in American Colleges and Universities* (1988), and *Indices of Quality in the Undergraduate Experience*. Past-president of Association for the Study of Higher Education (ASHE), he serves on the editorial boards of *Change* and *Liberal Education* and on the National Leadership Council for the Association for American Colleges and Universities' ten-year "Liberal Education and America's Promise" initiative.

George's contributions to literature have been recognized with awards from national organizations such as the American College Personnel Association (ACPA), Association for Institutional Research (AIR), ASHE, and the National Association of Student Personnel Administrators (NASPA). In addition, he received the Academic Leadership Award from the Council of Independent Colleges, the Virginia B. Smith Award for Innovative Leadership from the National Center for Public Policy in Higher Education, the Lifetime Achievement Award from ACPA, and four honorary degrees (Luther College, Millikin University, Winthrop University, and Washington and Jefferson College). His teaching and service have been recognized by NASPA, St. Cloud State University, and the University of Iowa. In 2001 he received Indiana University's prestigious Tracy Sonneborn Award for a distinguished record of scholarship and teaching.

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*About  
Chepa*

The Center for Higher Education Policy Analysis (CHEPA) brings a multidisciplinary perspective to complex social, political, and economic issues in higher education. Located within the Rossier School of Education at the University of Southern California, the Center's director is William G. Tierney. Conducting theoretically informed research with real-world applicability, the Center has a broad focus on three areas of higher education - improving urban postsecondary education, strengthening school-university partnerships, and understanding international education, with a particular focus on the Pacific Rim.

The goal of the Center is to provide analysis of significant issues to support efforts to improve postsecondary education. Such issues intersect many boundaries. The Center is currently engaged in research projects regarding effective postsecondary governance, emerging organizational forms such as for-profit institutions, financial aid and access for students of color, successful college outreach programs, the educational trajectories of community college students, and the retention of doctoral students of color.

Over the last decade we have received funding from the Ford Foundation, the Pew Charitable Trusts, Atlantic Philanthropies, the James Irvine Foundation, the U.S. Department of Education, the William and Flora Hewlett Foundation, the J. Paul Getty Trust, Lumina Foundation for Education, and the Haynes Foundation.





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