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Cover Illustration by Dave Cutler for peerReview.
As it enters the twenty-first century, the United States is approaching universal access to higher education; fully 75 percent of high school graduates now go on to some form of postsecondary education within two years. This achievement is greatly tempered, however, by the fact that many of these students arrive on campus underprepared for college-level study. For example, fewer than half of the students who enter college directly from high school complete even a minimally defined college preparatory program. Once in college, 53 percent of all students must take remedial courses. Those students requiring the most remedial work are the least likely to persist and graduate. Clearly, access is not enough.

Moreover, the common sense goal of aligning the expectations of the high school graduate with those of the entering college student is made more difficult by legitimate concerns about the general direction in which K-12 reform is headed. Many in the higher education community distrust the prevailing discourse of accountability—especially as it is embodied both in federal “No Child Left Behind” legislation and in many state-based K-12 reforms. And even as secondary education in the United States rushes headlong into standards-based reform, new research—into the links between high-stakes testing and student achievement, for example—is emerging that should strain the credulity of even the most test-happy of policymakers.

The goal of a seamless educational system must be to provide all students with an education of lasting value. As important as it is, articulation between school and college must be situated within a larger vision of the kind of intentional learners students must become to thrive in the complex, interdependent, diverse world of the twenty-first century. In other words, the challenge is not just for secondary education to better prepare students for college but for all educational sectors together to prepare students for the twenty-first century.

To meet this challenge, undergraduate education is undergoing a dramatic reorganization. From learning-centered innovations on campuses of all kinds, one can discern the emergence across higher education of a broad reform movement, the emergence of what AAC&U is calling a “New Academy.” This New Academy is the site of praxis for a practical and engaged liberal education. In this dynamic process of becoming, the New Academy is confronting its own questions of alignment as it addresses issues associated with student transfer, as it forges closer connections across the disciplines and between general education and the major. It also is facing significant challenges. One with obvious implications for school-college alignment has to do with changing staffing patterns.

It is important to acknowledge the impact on school-college alignment efforts of the trend explored in the previous issue of Peer Review: undergraduate education’s increasing reliance on contingent faculty. K-12’s under-preparation of students, combined with higher education’s over-reliance on contingent faculty, may set the stage for a train wreck with devastating and predictable consequences for student attrition, retention, and completion. It is almost certain that the courses in which these under-prepared students will be enrolled during their first two years of college will be taught by contingent faculty. These faculty are, for example, less likely to spend time with students out of class, less able to advise students, less available to write letters of recommendation, and less likely to be at the table as curricula are (re)designed. This means that the students most likely to benefit from increased faculty involvement are being paired with the faculty least likely to be involved. And if, as many think, we are trending toward a two-tiered system and a formal separation of the teaching and research functions, K-12 may well be seeking to connect with a higher education system that is itself fragmenting.

How then to align with an academy in transition? Successful alignment, and successful articulation, should begin with a clear and shared understanding of what constitutes college readiness. Regrettably, many of the current efforts at school-college alignment are proceeding without such an understanding. This issue of Peer Review provides a critical overview of selected ongoing alignment efforts and makes the case for more active involvement on the part of higher education in shaping them. The stakes for the New Academy, as for the students it hopes to prepare for the twenty-first century, are very high indeed.
P-16: Building a Cohesive Education System from Preschool through Postsecondary

By Carl Krueger, policy analyst, and Terese Rainwater, project manager for postsecondary education, both of the Education Commission of the States

The history of public education in the United States has several defining moments in which economic, political, and cultural forces demanded a more diverse and better-informed student body. Prior to 1920, the United States was a predominantly agricultural society and the majority of the workforce toiled on farms. With the rise of urban culture and the increasing prevalence of industrialization in the 1920s, higher levels of education became essential to the new economy and political structure of the nation. By 1940, the number of fourteen to seventeen year olds attending high school increased to 70 percent, compared with the mere 10 percent who entered high school in 1900 (Hoffman and Snyder 2001).

The information age provides today’s education system with yet another defining moment. No longer is a high school diploma a ticket to a high-paying job. Instead, receiving education beyond high school has become critical to finding economic security. A recent study by the U.S. Census Bureau confirms the relationship between education and income. For full-time workers aged twenty-five to sixty-four, the average annual income for bachelor’s degree-holders was $52,200; the average annual income for associate degree-holders was $38,200; and the average annual income for high school graduates was $30,400 (Day and Newburger 2002).

The role of American education, however, is broader than simply producing students with the necessary skills and knowledge to get good jobs. It must also produce students who are prepared to take their place in society as active citizens. While volunteerism among young people currently is increasing, voting rates are down.1 Here too, the role of postsecondary education is vital. “Data also confirm a link between educational attainment levels and levels of civic participation. In the 1996 presidential election, for example, college graduates ages twenty-five to forty-four were 70 percent more likely to vote than high school graduates in the same age group. High school dropouts were about 50 percent less likely to vote than high school graduates.”2

1 According to a 1998 study by Peter D. Hart Research Associates (1998), nearly 70 percent of young Americans are involved in activities such as volunteering, belonging to an organization, or helping to solve a community problem. Yet, this increase in volunteerism is not reflected in voting rates among young people. According to the Center for Information & Research on Civic Learning and Engagement (CIRCLE), “the electoral participation of Americans under the age of 25 has declined since 1972, when 18-to-21 year-olds were first permitted to vote” (Peter Levine and Mark Hugo Lopez, “Youth Voter Turnout has Declined, by Any Measure,” September 2002, www.civicyouth.org, accessed December 10, 2002). The problem, according to Delli Carpini, is that “civic engagement has become defined as the one-on-one experience of working in a soup kitchen, clearing trash from a local river, or tutoring a child once a week. What is missing in an awareness of the connection between the individual, isolated problems these actions are intended to address and the larger world of public policy” (Delli Carpini and Keeter 1996).

2 U.S. Department of Commerce, Bureau of the Census, Current Population Reports, “Voting and Registration in the Election of November” (various years), series P-20, Nos. 143, 440, and 504. (Originally published as the Voting Participation figure on p. 33 of the complete report.)
Despite the rising importance of going to college, today’s education system operates as if postsecondary education is an option only for some students. As a result, 72 percent of high school graduates attend some form of postsecondary education, even though only 47 percent were prepared to do so. This lack of preparation is caused by an education system where three key sectors—preschool, K-12, and postsecondary—operate independently of each other and fail to properly communicate their mutual expectations regarding the knowledge and skills students must master. For instance, in almost every state, high school students must meet coursework requirements that are not connected to the requirements for college admission. In those states that require course alignment, the secondary and postsecondary sectors may find agreement in the number of math courses but not in the course title or content of these courses (Somerville and Yi 2002).

“P-16 education” attempts to address these disconnects by establishing an integrated system linking all levels of education from preschool through the achievement of a baccalaureate degree (grade “16”). Such an integrated system can provide all students with an opportunity to succeed in college. This article describes the basic tenets of a P-16 system with particular emphasis on the role of postsecondary education.

**The Goals of P-16 Education**

The ultimate goal of P-16 education is to provide every student with the skills and knowledge they need to succeed as citizens and workers. Realizing this goal requires educators, policymakers, and administrators to think of education as one system of related, interdependent parts instead of as several isolated sectors. To establish such a cohesive, unified system, P-16 creates a series of benchmarks for all students to meet. Important benchmarks include, but are not limited to:

- **Early Learning:** Children enter kindergarten ready to learn.
  Research continues to confirm that entering kindergarten “ready to learn” has two important components: readiness in children—which includes physical, social, and emotional well-being, as well as cognitive readiness—and school readiness—which includes each school’s ability to support the learning and development of young children (Rainwater and Van de Water 2001; Juel 1988).

- **Grade 1:** All students are reading at or above grade level by the end of first grade. Research demonstrates that entering kindergarten “ready to learn” has two important components: readiness in children—which includes physical, social, and emotional well-being, as well as cognitive readiness—and school readiness—which includes each school’s ability to support the learning and development of young children (Rainwater and Van de Water 2001; Juel 1988).

- **Grade 2:** All students are reading at or above grade level by the end of third grade. For third grade students who are not reading at grade level, the chances of graduating from high school are slim (Slavin, Karweit, and Wasik 1993).

- **Grade 8:** All students have taken algebra I by the end of eighth grade. Math achievement in the eighth grade clears the way for students to take advanced classes in high school. In 1996, however, only 25 percent of U.S. eighth graders were enrolled in algebra classes.

- **Grade 12:** All students graduate from high school prepared for postsecondary education or work. Workforce needs are shifting. “Jobs today require more education. In 1959, 20% of workers needed some college; in 2000, 56% do” (Carnevale and Fry 2000).

- **Grades 12-13:** High school exit exams test students at the twelfth grade level and are aligned with college admissions requirements.
  Alignment of standards, curriculum, and assessment continues to be weak and confusing for students and their families. Tests are based on weak standards, are not aligned to state standards, and are not supported by adequate curriculum (American Federation of Teachers 2001).

- **Grade 13:** All students enter postsecondary education prepared for college-level work and do not need to take remedial coursework. Students who are not adequately prepared in high school face remedial coursework in college, and students who take more than one remedial education course (including a math or reading course) are less likely to complete their postsecondary education than students who place into college-level work in their first semester (National Center for Education Statistics 2000).

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Grades 14-16: Every student who enters a postsecondary program finishes that program. “In only half of the states do more than 50% of first-year students at community colleges return for their second year.” In addition, even in states with higher than average college completion rates, only 70 percent of students complete their degree at a baccalaureate degree-granting college or university within six years of enrolling (National Center for Public Policy and Higher Education 2002).

The Progress of P-16 in the States
Postsecondary educators and institutions, K-12 systems, and early learning systems need to partner with their communities, districts, and state education leaders to help ease student transitions at the critical benchmarks identified above. In many states, this work has already begun. While the movement is still in its formative stage, policymakers and educators in twenty-six states have experimented with a variety of approaches to implementing a P-16 system.

Most states seeking to create a connected system of education do so by building on the current system using a continuum of incremental approaches. Incremental approaches build a P-16 system piece-by-piece, gaining support for one area before moving on to the next. An example of this incremental approach can be found in Oregon with the Proficiency-based Admissions Standards System (PASS) system. Developed by the Oregon University System, PASS works to align university admissions standards with the state’s K-12 school improvement plan, which is based on grades and demonstrated student competencies. In the PASS system, students must demonstrate proficiency in math, English, science, foreign languages, social sciences, and visual and performing arts (Oregon University System 2000).

As the endpoint of the education pipeline, the postsecondary sector’s role in creating smooth transitions for students is especially crucial.

Improve achievement of students at all levels of education
Help students transition easily from one level of education to the next
Ensure that all students who enter postsecondary education are “college-ready”
Improve the graduation rates of students in postsecondary programs
Help students become more active and responsible citizens

Current Governor Roy Barnes renewed and expanded Georgia’s P-16 initiative in 2000 with the passage of the A Plus Education Reform Act of 2000 (HB 1187) in which the Education Coordinating Council was created. The bill provides a statutory base to Georgia’s P-16 work and requires the executive state officers—preschool through postsecondary—and the governor to meet quarterly to discuss the state’s P-16 goals, work, and progress.

The Role of Postsecondary Education in Creating a P-16 System
Each sector of the education system has an important part to play in ensuring students have the tools they need to succeed as they progress from grade to grade. As the endpoint of the education pipeline, the postsecondary sector’s role in creating smooth transitions for students is especially crucial. Some activities that postsecondary institutions can undertake to help create a P-16 education system include:

Research developmentally appropriate learning environments for young children. Children who participate in

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early learning education programs are more likely to attend postsecondary education (Jacobson 1999). Institutions of higher learning can do research to determine what children, particularly preschool children, need to know and be able to do on a cognitive level when they enter kindergarten (Rainwater and Van de Water 2001).

- **Align high school exit, college entrance, and course placement exams.** Students perform better when they know what is expected of them. Higher education needs to make expectations clear and work cooperatively with the preschool and K-12 sectors to imbed these expectations in state standards and curricula (Rainwater and Van de Water 2001).

- **Improve college preparatory programs to increase college completion.** Although research shows that taking the right courses in high school is the single greatest predictor of college success (Adelman 1999), educators, administrators, and policymakers need to ask and answer other questions related to why students persist with and complete their college education. For example, why do some students drop out of college? Is it an issue of affordability? Are students simply not prepared to study at the college level?

- **Phase out remedial education.** Colleges and universities can work with K-12 schools to ensure students are prepared for postsecondary coursework before students ever set foot on campus. Increasing the number of college-level courses and providing extra support for struggling students should be a requirement of all K-12 curriculums (Rainwater and Van de Water 2001).

- **Upgrade teacher preparation and professional development.** Today’s education students are tomorrow’s teachers and early education professionals. Professors and education students need to connect with K-12 schools and early childhood education providers in an effort to raise student achievement across all levels. Higher student achievement in the early learning and K-12 system is contingent upon the higher education system producing quality teachers (Rainwater and Van de Water 2001).

- **Share academic performance data.** Higher education can work to create needed data systems that track students across education levels and provide a feedback loop to high schools on student performance. Such systems will help pinpoint where students have problems and when they need extra assistance (Rainwater and Van de Water 2001).

- **Build counseling capacity at the high school level.** College preparation goes beyond offering a high-level college prep curricula to all students.

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References


Jacobson, Linda. 1990. *Study: Program started in infancy has positive effect in adult years.* *Education Week* 19:9, 6.


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6 This article refers to the findings of the Abecedarian Project. More information regarding the study can be accessed online at www.circ.uab.edu/slides/crameye.pdf.
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Students need to know not only what courses to take and when to take them, but how and where to apply to the postsecondary institution of their choice. This is especially true for children from low-income backgrounds, whose parents often have little or no experience with applying to college. Higher education can work to ensure that future guidance counselors are properly trained to help all students navigate their path to postsecondary success.

Conclusion
An increasingly complex world economy and the health of our country’s democracy demand an education system where the vast majority of students successfully complete education beyond the secondary level. To achieve this goal, each education sector—preschool, K-12, and postsecondary—must learn to view itself as part of one integrated, coherent system. P-16 education offers a framework for accomplishing this task. A P-16 education system builds lines of communication between each sector so that preschoolers are properly prepared to enter kindergarten, high school graduates are properly equipped to succeed in college, and college graduates are prepared to take their place in society. Standing at the endpoint of the education pipeline, the postsecondary sector’s role in building an effective P-16 framework is especially important. With active leadership provided by postsecondary institutions, P-16 education reform can help our country’s education system meet its primary purpose of providing every student with the tools they need to be active and productive citizens.

Selected National Resources on School-College Alignment

**Achieve, Inc.**
This independent, bipartisan, nonprofit organization helps states raise academic standards, measure performance against those standards, establish clear accountability for results and strengthen public confidence in our education system.
[www.achieve.org](http://www.achieve.org)

**The American Diploma Project**
A partnership of four leading national education organizations and five states, this project is working to guarantee that American high school graduates will have the knowledge and skills they need for success after graduation: in college, the workplace, or the armed forces.
[www.americandiplomaproject.org](http://www.americandiplomaproject.org)

**The Bridge Project: Strengthening K-16 Transition Policies**
This project of the Stanford Institute on Higher Education Research is formulating both short- and long-term policy and practice recommendations that will help educational institutions and federal, state, and local agencies to strengthen the alignment between higher education admissions-related requirements and K-12 curriculum frameworks, standards, and assessments.
[www.stanford.edu/group/bridgeproject](http://www.stanford.edu/group/bridgeproject)

**The Early College High School Initiative**
Over five years, beginning in fall 2002, this national initiative is creating seventy pioneering small high schools where students will earn both a high school diploma and two years of college credit toward a bachelor’s degree.
[www.earlycolleges.org](http://www.earlycolleges.org)

**The Education Commission of the States**
As a nonprofit, nonpartisan organization involving key leaders from all levels of the education system, this interstate compact seeks to improve public education by facilitating the exchange of information, ideas, and experiences among state policymakers and education leaders.
[www.ecs.org](http://www.ecs.org)

**The Education Trust**
This nonprofit organization works for the high academic achievement of all students at all levels, kindergarten through college. In addition to access, the work of the Trust encompasses K-16, standards, teacher quality, state and federal policies, and community engagement.
[www.edtrust.org](http://www.edtrust.org)

**Standard for Success**
After hosting a series of National Conversations and analyzing educational standards and assessments, Standards for Success is creating a tool for K-12 staff to help students develop the skills necessary to be successful in their first year of college.
[www.s4s.org](http://www.s4s.org)
State and federal governments have launched an ambitious, unprecedented attempt to specify and measure student learning in the public schools. To do so, essentially every state has developed content standards that specify what students should know and be able to do in a broad range of subject areas. Federal requirements will result in all states having assessment systems to measure those standards at grades three through eight and at least once between grades ten and twelve. Twenty states have linked their tests to high school graduation, or plan to do so. Where tests are not tied to graduation, they are built into school accountability systems. Students and educators alike are paying attention to these new standards and assessments.

This process of “raising the bar” began in earnest in the early 1990s, when national organizations released model content standards. From these standards flowed state standards and assessments, then state accountability systems. These standards and assessments vary widely in terms of the specific content and the challenge level of each. Comparisons of state-by-state performance on the National Assessment of Educational Progress (NAEP) to the percentage of students in each state deemed to have met state standards illustrates this variability.

Will standards-based educational reform result in more students being prepared to succeed in college? Without some sort of plan to connect the two systems, the answer is “who knows?” As standards and assessments were developed over the past decade, higher education faculty were either not at the table, or were there to provide their opinions on what K-12 students should know. They were not asked to connect high school preparation more closely with college success. No state created educational standards and assessments for the express purpose of increasing college enrollments or success.

This is not to say states do not care about this issue. The unspoken assumption often is that college preparation doesn’t need fixing or that, by raising standards, all students benefit. Both of these assumptions continue to be largely unsubstantiated. As others have pointed out, the quality of college preparation is largely a hit-or-miss proposition. With the exception of students at the nation’s most selective universities, large numbers of students struggle to succeed in entry-level college courses. Many end up in remedial courses. No evidence exists that student readiness to succeed in college is improving overall, and some evidence suggests it is slipping slightly. College completion rates, for example, have not increased substantially in the past twenty years.

**The Role of Higher Education**

Why is any of this a problem for American colleges and universities? High school teachers are under greater pressure to teach to these standards and tests. Even in traditional college prep classes, the curriculum can be subtly (or not so subtly) reshaped to meet the demands of state standards. Students come to believe they are “proficient” or “advanced” based on their state test scores.
As all of these changes are occurring, higher education is acting largely as a spectator under the mistaken assumption that college-going students won’t be much affected by them. Higher education needs to engage with secondary education in an ongoing dialogue and discussion on what should be expected of students. A few states have begun these conversations, but none has yet institutionalized these understandings into an assessment system that yields data for high school graduation on one hand, and college admission and placement on the other. Oregon is getting close. Texas and California are developing tests they hope can achieve this goal. Maryland spent considerable time and effort to create end-of-course examinations that could conceivably achieve this goal. The New York Regents Examination has long been considered a potential tool for this purpose. Massachusetts is looking at the Massachusetts Comprehensive Assessment System (MCAS) to ascertain if it could yield such information.

Most of this activity is occurring without reference to any explicit set of expectations for university success. In the absence of consistent, clearly stated post-secondary academic content standards, states and even individual high schools remain free to set their own. Who benefits and who suffers due to the lack of such standards? As is all too often the case, those who are already disadvantaged are in the greatest danger of being left off the standards conveyor belt that is supposed to lift all students to higher levels. Standards that link to nothing create another potential dead-end. For those with the knowledge and means to decipher the actual route to college, state standards and assessments pose less of a potential sidetrack. For those who must do as they are told and focus on high school assessments, the prospects for admission to (and, more importantly, success in) higher education are not necessarily increased.

**Challenges**

Each system, K-12 and higher education, has an obligation to articulate its expectations and requirements. Here are some of the challenges facing each system:

- Colleges and universities have been reluctant to enter into the standards discussion and seem content to remain at arms-length.
- High school teachers often insist they know what is required for college admission and success, even when they have little concrete evidence that this is so.
- Entry-level college courses often function as the de facto admissions process, screening those who can pass them from those who can’t.
- High schools remain wedded to an obsolete model of comprehensiveness that means they do several things poorly instead of one thing well.
- Higher education institutions, which have shown the ability to be highly adaptive in certain aspects and areas when necessary, have shown little inclination to revamp the general education component of their curriculum to align better with high schools.
- High schools have shown much less improvement relative to state standards than have elementary schools and are under increasing pressure to “reinvent” themselves.
- Many postsecondary institutions would prefer to rank-order high schools and perpetuate the status quo rather than work toward systemic improvement of high schools.
- No formal mechanism exists to coordinate standard-setting so that standards align between high school and college.

A few comments on each of these points is called for.

By remaining aloof from the standards setting and assessment development process, higher education does avoid getting dragged into what has all the appearances of a nasty political fight. Who needs to take on a new problem like this? The only difficulty with this logic is that, in the absence of higher education’s voice in the conversation, the standards debate will rage on interminably. Once someone reaches a standard, he or she is supposed to go on to something else. In our society, that something is generally postsecondary education or work. While work-related standards are necessary, college-related standards will affect more students in the foreseeable future. With two-thirds of high school graduates going on directly to higher education and up to 75 percent engaging in postsecondary learning within five years of graduation, college standards are the logical complement to high school standards. Higher education cannot avoid its responsibility here indefinitely.
Meanwhile, some high school teachers resist state standards because they assert that they interfere with preparing students for college. While many high school teachers do an excellent job readiness students for college, it is unclear how any individual teacher knows he or she is doing the right thing. Most rely on textbooks that are not articulated with college instruction and may even contain subject matter at odds with college course content. College preparation continues to emphasize coverage over depth, although many professors assert that students who delve deeply into fewer areas and develop greater understanding of and stronger skills in reading and writing, problem solving and critical thinking, do better in college than those who get A’s in high school but don’t develop these skills.

When these students arrive at college, having met or exceeded all entrance requirements and believing they are well prepared, they may end up confronting a course designed to sort those who are college-ready from those who are merely admitted. This is perhaps more true in mathematics and the sciences, but examples can be found in any discipline. One effect is to increase the freshman dropout rate. Another more insidious outcome is to cut students off from careers in whole fields. Having failed to complete the first course in a sequence, the student is effectively barred from any major requiring that subject. Witness the relative shortage of American college graduates in mathematics and the sciences as evidence of this phenomenon. Embedding college success standards in entry-level college courses and aligning high school standards with them would help alleviate the problem.

The American high school is struggling to find its identity. The current organizational structure was promoted by a university president, James Bryant Conant. It is based on sorting students into tracks. The presumption that even a moderately large high school can provide distinctly different programs to different types of students is increasingly difficult to defend. Traditional vocational education programs cannot match the current complexity of the economy or of the skills required for most technical occupations. Community colleges are better suited to this task. The general education track is truly a road to nowhere. The college preparation program, as noted earlier, operates on good intentions and hope. The best hope for a new organizing principle for high schools is a strong core curriculum for all students combined with acceleration for all students as they demonstrate they can benefit from it. Acceleration is for the purpose of deepening and strengthening core academic skills through challenging content, not merely covering more material.

Connections with workplace training and postsecondary education create opportunities for students to leave high school as they demonstrate they are ready. Higher education must be ready to help define a core curriculum that enables all students to make successful transitions to college or technical training.

Few brave souls venture into the thicket of college and university general education requirements, and those who do emerge with scars. This most uniquely American aspect of the college curriculum has become overrun by complex requirements tied to literally hundreds of course titles. It is hard to say what the general education program of study manifests intellectually or otherwise. This lack of clarity would perhaps be of less concern if incoming students were being placed appropriately. Instead, the requirements result in some students repeating much of what they have already learned, while others struggle to keep up with material that is far too complex. A commitment to be clear and consistent on the prerequisite knowledge and skills required for success in entry-level general education courses would enable the creation of effective placement procedures that could even motivate high school students to continue to work hard and achieve throughout their senior year.

**School Reform**

As state testing systems begin to yield longitudinal data, it is becoming clear that high schools are not improving relative to state goals at an acceptable rate. Although many explanations for this phenomenon have been offered, states are putting more pressure on high schools to reinvent themselves. As noted above, a high school core curriculum is one potential idea, although not necessarily a popular one. The high school reform-du-jour is the “small learning community:” dividing large high schools up into smaller schools-within-schools. This may yet prove to be an effective reform strategy. However,
here again, higher education is not a partner in this redesign process. These learning communities are being designed and implemented with only the most general notions of how they relate to college success. They will, in all likelihood, be influenced by state assessment requirements. Another nascent model for high school reform, the middle college high school, holds greater promise, but it absolutely requires more direct involvement and engagement across the high school-college boundary.

All of this high school redesign will prove challenging to traditional college practices of ranking high schools, formally or informally, in terms of their academic quality. This tradition is more prevalent among universities that draw regionally or nationally. The problem is that the correlation between “good” high schools and socioeconomic success is strong. For high schools that send few students on to these selective universities, it is essentially impossible to show that more of their students might be capable of succeeding. A closer connection between state assessments and university admissions criteria could allow students to demonstrate ability, independent of their high school of origin. Admissions officers could compare a student’s performance on state tests to all other students in the state. This could provide a potential advantage to students from high schools that historically send fewer students on to selective colleges. This method might also offer an alternative to SAT/ACT scores by replacing them with curriculum-based measures. But state tests must be linked with college success standards for this strategy to work.

**Standards for Success**

These trends, practices, and policies are historical artifacts of an American educational system that has always been divided between high school and college. Many forces are converging to enforce a stronger nexus between the two, including a few efforts underway in the higher education community. One example is a project sponsored by the Association of American Universities and The Pew Charitable Trusts, called Standards for Success. It has developed a set of standards for success in entry-level university courses. The project has also analyzed high school tests from twenty-five states. These two products show the expectations each system holds for students and the alignment between systems.

The Knowledge and Skills for University Success standards produced by this project identify specific content knowledge in six disciplinary areas (English, math, science, social sciences, second languages, and the arts) along with a range of more general cognitive skills that cut across subject areas. The content knowledge standards are written in a taxonomic format similar to that found in K-12 standards documents, with several levels of detail and specificity. The cognitive and cross-disciplinary skills—such as writing, critical reasoning, analytic thinking, and inquisitiveness—are described in a narrative section that illustrates their importance and uses.

These standards will be distributed in two formats: a brochure listing the standards and a CD-ROM in which the standards are linked to examples of work from students in entry-level university courses that illustrate the challenge level associated with each standard. Copies of the document and the disc will be sent to every high school in the country as well as to state education departments and standard-setting organizations. The goal is to provide those in secondary education with a reference point against which high school standards and assessments can be compared. No such set of standards exists currently. Using these standards, state education departments can determine if their tests align well with preparation for success in college. High school teachers can consider whether their curriculum is consistent with college success as well. High school students can gauge the distance they have to travel to be ready for college and can gear their efforts in high school accordingly.

The challenge faced by this project and other similar efforts is to engage higher education faculty and administrators to integrate academic content standards into admissions criteria and undergraduate courses, and to convince state education officials that higher education is serious about becoming a real partner in standards-driven education reform. Now is an excellent time for forward-looking members of the postsecondary community to grapple with the issues presented here with the goal of increasing success for all students, in high school and college.
The United States is now plunging forward with a massive, state-based effort at K-12 reform. Given the weak performance of many U.S. students by international standards, and the draconian penalties that the federal “No Child Left Behind” law of 2001 imposes on schools that fail to improve students’ test scores, the stakes for this reform initiative are very high.

The higher education community also has a strong stake in the outcomes of the school reform effort. With 90 percent of high school students indicating that they will seek higher education, and with barely half of those who enroll in college having taken even a minimally defined college preparatory curriculum, the academy’s ability to provide something clearly recognizable as “higher” education will be significantly affected by the success or failure of the intended reforms.

Yet, as the several articles in this issue make soberingly clear, P-16 “alignment” is moving forward in the context of a very blurred concept both of what it takes to succeed in higher education, and of the kinds of knowledge and skills needed in the world beyond schooling. Moreover, higher education is itself in the midst of significant educational innovations also intended to improve the quality of students’ knowledge, skills, and capacity to work productively with new and as yet unscripted problems. I have yet to see any discussion of P-16 alignment that addresses this fundamental point. (See the chart on page 15 for an overview of emerging principles for college-level learning.)

Mis-Aligning

It is past time, then—as every author in these pages asserts—for those seeking to enhance the quality of learning on both sides of the school-college spectrum, not just to acknowledge one another’s efforts, but to actively seek new connections between them. Seeking these connections, however, will shine a spotlight on the limitations—of both vision and design—that threaten to short-circuit the potential cumulative impact of improvement efforts in both school and college.

In a nutshell, too many school reform efforts are tied to an increasingly outdated conception of how people learn, and of what it takes to turn information in a subject area such as science or history into powerful, usable knowledge and skills. Although we sorely need assessments—in both school and college—that show whether students can adapt concepts and skills to a world of continuously expanding knowledge, school reform has tied itself to a regimen of standardized answers that ignores, if it does not actively discourage, innovative thinking and wide-ranging curiosity.

Correspondingly, faculty in higher education take as a given that large numbers of entering students will continue to arrive bereft of what they need to succeed in college. In response, faculty at hundreds of campuses are working overtime to supply those lacks through redesigns of the “first year experience” and general education. But too few of these campuses make the effort to help schools understand what they want students to achieve before they begin their first year.
studies. The result remains continuing frustration for everyone.

Similarly, many policy efforts, such as ones that seek to multiply the number of Advanced Placement (AP) courses students take, are oblivious to two important changes on the higher education side: 1) the move to replace broad “surveys” of a field—the standard model for most AP courses—with more “hands-on,” investigative, inquiry-oriented and interdisciplinary learning in the first year of college; and 2) the trend toward creating advanced, interdisciplinary capstone “general education” experiences in the final year of college. Thus, high school students are being urged to take “college-level courses” of a sort that the colleges themselves are replacing with what they view as more powerful forms of learning.

Each zone of reform, in other words, makes assumptions about what it can expect from the other that are increasingly out-of-date and counterproductive if the ultimate goal is to raise the cumulative quality and scope of student achievement. And for too many students—especially first-generation students for whom higher education is both eagerly sought and frustratingly mysterious—the sum of all these missed connections is a fragmented education that ends up long on repetition, short on a purposeful sense of direction, and weak on the liberal education outcomes our economy values and rewards.

Detours
What we need now to make P-16 educational reforms mutually reinforcing and powerful is not the effort many are proposing to align state tests with campus-based placement tests or with the college entrance exams such as the SAT. The placement tests used in most colleges barely hint at what it takes to succeed in college; they are frail reeds as a framework for alignment. And, as many thousands of critics are already protesting, too many of the new state tests give short shrift to the very analytic and integrative skills that pay off, not just in college but in life. Standardized testing may have its uses, but it should not be viewed as our primary bridge to the future.

Nor should we overly invest in reforms that propose to replace the last two years of high school with the first two years of college. Early college opportunities have value for selected groups of students; they are not the right framework for P-16 alignment overall. In an era of unprecedented global interconnections and an explosion of scientific discovery, students need far more knowledge and skill than ever before to make sense of the world, contribute to society, and make reasoned judgments about their own lives. We do indeed need to make better and more productive use of the high school and college years. But collapsing the first two years of college into high school will only result in future graduates who have an even thinner understanding of science, history, world cultures, languages, and the arts, and even less ability to connect their specialized interests to broad human questions. That would be an unhappy “reform” indeed.

Where To Begin
The right point of departure for aligning and strengthening K-16 education is a clear and shared focus on the knowledge, skills, and responsibilities Americans will need for a world of unprecedented complexity. Within this larger context, schools and the academy can explore together what it will take to help students achieve—and demonstrate—the requisite learning from school through the final year of college.

AAC&U has provided a common framework for such explorations with our newly released depiction of a twenty-first century liberal education: Greater Expectations: A New Vision for Learning as a Nation Goes to College. Greater Expectations does not begin with school subjects or university disciplines. Rather, drawing richly on academic, employer, and community perspectives, it examines the
multiple kinds of learning adults actually use in their intersecting roles as citizens in a diverse and globally engaged democracy; contributors to a dynamic economy; and makers of meaningful lives.

From this tapestry, the report points to the centrality of advanced analytical and practical capabilities; a strong sense of personal, ethical, and civic responsibilities; and a deep understanding of the natural, cultural and social realms, and of the ways we model, test, and expand our knowledge of them. Greater Expectations also highlights Americans’ need for a rich understanding both of their inherited and still contested democratic traditions and of the diverse peoples and histories that form the U.S. and global communities. And it embraces preparation for post-college employment as a legitimate goal of liberal education.

The report does not view mastery of disciplinary content and concepts as ends in themselves, and Greater Expectations specifically disavows the idea that studying certain fields automatically provides a liberal or horizon-expanding education. Rather, the authors seek to recover the connections between learning in key domains, such as science or history or the numerous college majors, and the analytical, practical, and ethical capabilities students should achieve through such studies, if their education is to have lasting benefit beyond the academy.

Typically, new school standards and their corresponding tests focus primarily on learning in specific subject areas, and/or on foundational skills such as reading comprehension, writing, and mathematics. Greater Expectations, by contrast, points to four key categories of cross-cutting learning outcomes that, together, prepare students for a challenging and complex world. These emphases are not mutually exclusive; rather Greater Expectations provides a complementary new dimension by pointing toward the higher level outcomes that ultimately characterize a well-educated person:

- A solid knowledge of disciplines that explore the physical and social realms—together with a grasp of their characteristic modes of inquiry and findings;
- Strong analytical, communication, and practical skills—acquired and applied through study in a range of fields and through experiential learning;

### EMERGING PRINCIPLES FOR COLLEGE-LEVEL LEARNING

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<thead>
<tr>
<th>Established...</th>
<th>Modified...</th>
<th>Emerging...</th>
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<tbody>
<tr>
<td>emphasizes what an educated person should know</td>
<td>in recognition of the explosion of available information</td>
<td>ALSO emphasizes where to find needed information, how to evaluate its accuracy, and what students can do with their knowledge</td>
</tr>
<tr>
<td>values learning for learning’s sake</td>
<td>to acknowledge the new role of higher education in U.S. society</td>
<td>ALSO celebrates practical knowledge</td>
</tr>
<tr>
<td>sees the curriculum predominantly as a conveyor of well-established knowledge</td>
<td>in recognition of the world’s diverse complexity</td>
<td>ALSO interprets education as an informed probing of questions and values</td>
</tr>
<tr>
<td>emphasizes study in a discipline</td>
<td>in recognition of the multi-disciplinary approach needed to understand real world problems</td>
<td>ALSO seeks connections within and across disciplines</td>
</tr>
<tr>
<td>emphasizes individual work</td>
<td>given the need to work as members of teams in the workplace and in community life</td>
<td>ALSO values collaborative work, particularly in diverse groups</td>
</tr>
<tr>
<td>stresses critical thinking</td>
<td>given the need for civic engagement in major policy decisions</td>
<td>ALSO links critical thinking to real-life problems, often involving contested values</td>
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<tr>
<td>studies majority Western cultures, perspectives, and issues</td>
<td>to respond to the plurality of the modern world, worldwide problems, and interdependence</td>
<td>ALSO learns about cultural complexity, a range of cultures, and global issues</td>
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Excerpted from Greater Expectations: A New Vision for Learning as a Nation Goes to College (Association of American Colleges and Universities 2002), p. 44.
An examined framework of ethical, civic and social responsibilities—and of their implications for democratic and global citizenship;

“Intentional” and integrative capacities that support continuous learning.

The particular capabilities or outcomes described in each of the above categories—detailed at length in chapter three of the report—can be developed through any number of curricular pathways. What matters, the report proposes, is that the capabilities basic to each category be addressed and practiced recurrently across the educational experience, at successively more challenging levels. Moreover, these capabilities should be developed in the context of problems whose importance the students can see (www.greaterexpectations.org).

Severally and together, these outcome categories provide a point of departure to revisit the two fundamental questions that should guide the entire P-16 agenda: What do students need to be well-prepared for college? And, what should they then achieve in college to be well prepared for the world beyond school?

The area of analytical, research and writing skills is one key arena for potential alignment. College and high school faculty can collaboratively specify, not just the subjects students should have studied in high school, but the specific kinds and levels of capability that students ought to acquire through their studies by the time they enter college. These capabilities can be practiced in many high school courses, and demonstrated, as Greater Expectations points out, through a culminating investigative project that seniors complete in high school—a project that could become the point of departure for these same students’ further analytical work in college.

Correspondingly, using the same framework of expected capabilities, college faculties can describe their own expectations for students’ advanced achievement, and use these goals to guide, map and eventually assess students’ progress in analytical, investigative, and writing skills, from cornerstone to capstone studies. With constant practice across the entire educational experience, in many different fields, students can be reasonably expected to develop proficiency in proposing well-reasoned and evidence-based solutions to complex questions and problems. Their achievement can be assessed in the context of culminating studies—appropriate to their particular interests—that constitute the final evidence of readiness to receive a college degree.

The key to this proposal is the assumption that any course has multiple aims and must focus simultaneously on content and capabilities. Currently, the capabilities addressed across a series of courses are, at best, accidental and disconnected. Students may be entirely unaware of them in too many courses. Greater Expectations is proposing that school and college faculty each begin to map their expectations transparently and developmentally, across successively higher levels of the formal curriculum.

With support from Carnegie Corporation, AAC&U’s Greater Expectations initiative has already begun explorations of what intentional high school/college preparation might look like in several critical liberal education outcome areas such as global learning, civic engagement in a diverse democracy, inquiry-based learning, and integrative learning. The reports from this effort will be published in the fall of 2003. Our hope is that, through efforts focused on the creation of “purposeful pathways” toward important outcomes, both school and college faculty will become active collaborators in creating more powerful educational experiences for all students.

As collaborators, we can work together to nurture the forms of learning that prepare students, not just to recognize standard answers to standardized questions, but ultimately to engage pace-setting and as yet unscripted problems whose solution, for better or worse, will determine our shared futures.
That America’s high schools are failing to prepare students for higher education—or even full and active participation in society—is hardly news to education professionals. In a 2001 study of America’s high schools, the U.S. Department of Education cited “senioritis,” or a lack of academic engagement among high school upperclassmen marked by boredom and dropping grades, as a symptom of the curricular, pedagogical, and social ills plaguing the typical, large American high school (National Commission 2001). In my view, many of those ills derive from the century-old structure of these institutions, while others have arisen from more recent changes in our adolescents, who are maturing sooner and are living in an increasingly facile and adult popular culture, with which academic study and serious learning must compete.

For nearly twenty-five years, Bard has operated and guided the development of Simon’s Rock College, the nation’s only four-year college of the liberal arts and sciences specifically designed to provide highly motivated students with the opportunity to begin college after the tenth or eleventh grade. This experience, along with our work in creating effective pedagogical methods through our Institute for Writing and Thinking, has placed Bard in a unique position with respect to the early college movement and efforts to design new curricula to engage adolescents in challenging academic pursuits.

The success of the early college model at Simon’s Rock has shown us that for many adolescents, especially those who find the typical high school experience to be boring, unchallenging, and entirely too lengthy, a well-executed early college program can be an essential link to their continuing higher education and developing lifelong habits of inquiry.

In creating Bard High School Early College (BHSEC), we sought to address many of the problems found in traditional public high schools by adapting what we already understood to be successful in this regard—Simon’s Rock’s early college model and aspects of Bard College’s curriculum—to a nonresidential, public school setting. We also sought to create a working program that could be emulated elsewhere.

Collaboration

An initial key to the creation of this new school was finding a willing partner, which we did in New York City Schools Chancellor Harold O. Levy. Levy, who first approached Bard in March of 2001 with the idea of collaborating on a new public school, was interested in creating an innovative high school that would break the traditional mold and incorporate some of the concepts presented in a book I had written, Jefferson’s Children: Education and the Promise of American Culture (1997), particularly those relating to the early college model. Levy, who described this project as “a unique option that will ensure that those New York City students who are ready and willing to engage in serious intellectual work have the opportunity to do so,” established with Bard a distinctive public-private collaboration that enabled the creation of Bard High School Early College, as a regular public school, not a charter school.

After an intensive, five-month development period, during which members of a team from Bard worked closely with the New York City Board of
Education, Bard High School Early College opened in the fall of 2001 in a shared public school building in Greenpoint, Brooklyn. The BHSEC program, offering a four-year core curriculum in general education—writing, foreign language, literature, history, mathematics, science, and the arts—supplemented by electives, culminates in the associate in arts degree in liberal arts and sciences, in addition to a high school diploma. Students enter this tuition-free public school through a competitive process that relies not exclusively on test scores, but essays, interviews, and school records that help us determine not how academically gifted a student might be, but how motivated they are to achieve academically. They must demonstrate both intellectual curiosity and the discipline to play an active role in their learning. The school has attracted a diverse, highly motivated student body which, since its opening, has doubled in size to five hundred. Now well into its second year, BHSEC has its own building at 525 East Houston Street in Manhattan, the former PS 97, and is seeing many of its innovations adopted in pilot programs across the country.

### Curriculum

Among the primary challenges in establishing the school’s new curriculum was adapting our understanding of early college instruction and of working with younger students at Simon’s Rock, a rural, residential college, to an established public school system. In developing the school’s curriculum it was important to stress that we had to do more than offer two years of accelerated high school with two years of college study tacked onto grades eleven and twelve. For our students to succeed over the long term, we had to ensure that the first two years—grades nine and ten—were integral to the overall four-year course of study and prepared the students for the college-level content of grades eleven and twelve. Close reading of texts, strong written and verbal communication skills, and analytical skills are emphasized from the beginning of the BHSEC experience.

A useful tool for curriculum development for BHSEC was Bard’s intensive, three-week Language and Thinking Workshop, which has been a requirement for Bard’s incoming first-year students for more than twenty years. The goal of the workshop is to help students experience the power of using written language as a tool for learning in all subjects. It also initiates students into seminar-style classes, widely used at Bard, Simon’s Rock, and BHSEC. The Language and Thinking Workshop was adapted for the Bard High School’s younger students and begins the academic year for all grades. In this week-long workshop, a collection of texts forms the basis for student writing and critical response in seminars. The readings, clearly important in and of themselves, also encourage young students to discover the relationship between language, writing, and learning, and to utilize this understanding—which for many is not realized until their college years—throughout their high school experience and beyond.

Through the first two years at BHSEC students undertake an integrated program with a solid grounding in mathematics, science, history, English, and foreign languages. Classes are relatively small and, while students take the required New York Regents exams by the end of the tenth grade, the curriculum is not built around preparation for those exams. We fully expect the BHSEC graduates to pass these examinations, since our standards are higher than those of many leading high schools, but we do not emphasize them in our coursework since the tests themselves are deeply flawed and based on poorly conceived and implemented curricula. Rather, our underlying theme is one of active engagement with ideas and with critical thinking, and an appreciation for the relationship between thought and expression.

An essential underpinning for the BHSEC’s college curriculum is the belief that courses should be taught by college faculty holding the Ph.D. in the appropriate subject.
that courses should be taught by college faculty holding the Ph.D. in the appropriate subject. While many students in high school experience “college-level” course work in Advanced Placement (AP) classes, rarely are those classes taught by faculty holding advanced degrees in the subject. AP courses, much like Regents courses, are driven by tests that are poor quality examinations with low standards. Raising the bar for faculty raises the quality and depth of the material taught in the class. It enables the students to truly delve into the subjects they’re studying and to move farther, and faster, and deeper than they otherwise would. We have also found that faculty teaching within their field of study project an enthusiasm for the material often lacking in classes taught for the purpose of passing an AP exam.

To our surprise, we had little difficulty recruiting Ph.D. faculty for Bard High School, even given the short period of time we had for recruitment. We found an abundance of enthusiastic, highly qualified faculty across the curriculum who were motivated to participate in this project. We have also supplemented the curriculum through collaborations with the Rockefeller University, American Symphony Orchestra, and other professional and research organizations in New York, as well as the faculties of Bard and Simon’s Rock, allowing us to offer unique and diverse study opportunities in science, culture, and the arts and humanities.

All first-year college students (eleventh grade) take a First-Year Seminar, a multidisciplinary humanities course similar to that offered at Bard and Simon’s Rock. The program introduces students to college-level writing and critical analysis of significant works that represent the classical and medieval periods, including works by Sophocles, Plato, and Dante. Students build upon their developing analytical and interpretive skills through extensive writing projects and discussion throughout this first year and the remainder of this four-semester sequence of seminars, as well as in their subject-specific courses. The college-level years include in-depth required courses in science, mathematics, foreign language, and a broad offering of electives, taught by faculty members from BHSEC, and Bard and Simon’s Rock Colleges.

Success
As we near the completion of our second year, Bard High School Early College has succeeded beyond even our own expectations. Students of diverse backgrounds from throughout New York City’s five boroughs are thriving, applications are high, and foundations and educational organizations across the nation are looking to the school as a model offering applications for many disparate settings. The school, financed jointly by the New York City Department of Education and Bard College, has received substantial grants from numerous foundations, including the Bill and Melinda Gates Foundation, Carnegie Corporation, Open Society Institute, Ball Foundation, and others. BHSEC was cited as a model last year by the Gates Foundation as it launched a $40 million initiative to create seventy new early college programs. The Woodrow Wilson Foundation will serve as an intermediary for the Gates Foundation initiative, creating a series of early college schools modeled on our liberal arts-based curriculum. The success of BHSEC has helped to spur a serious, national exploration of the early college model as one route to reforming America’s high schools for a broad range of high school students, particularly those headed for higher education. The Bard High School will also serve as a tool for educators as we further develop and refine our curriculum and teaching and collaboration methods within high school and early college settings.

Raising the bar for faculty ... enables the students to truly delve into the subjects they’re studying and to move farther, and faster, and deeper than they otherwise would.

References
Who Moves Across Systems

What the Data Show

**72% of High School Seniors in 1992 Went on to Postsecondary within Two Years of Leaving High School**
- 22% entered two-year colleges
- 43% entered four-year colleges
- 7% entered other postsecondary institutions

**Large Numbers of Them Had To Take Remedial Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>All Colleges</th>
<th>High Minority Colleges</th>
</tr>
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<tbody>
<tr>
<td>Reading</td>
<td>13%</td>
<td>25%</td>
</tr>
<tr>
<td>Writing</td>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>Mathematics</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Reading, Writing or Mathematics</td>
<td>29</td>
<td>43</td>
</tr>
</tbody>
</table>

**Students Who Required Extensive Remediation Graduated from College at Lower Rates**
- No remedial courses: 54%
- One remedial course: 45%
- Three remedial courses: 18%
- More than two semesters of reading: 9%

**Many College Freshmen Did Not Return for Sophomore Year**
- Four-year colleges: 27%
- Two-year colleges: 44%

**1992 College Freshmen Who Graduated within Six Years**
- Earned BA
  - African American: 37%
  - Asian: 66
  - Latino: 48
  - Native American: 37
  - White: 59
  - Total: 56%

**Students from Low-income families Were Less Likely To Be Enrolled In the College-preparatory Track**
- Low-income: 28%
- Middle-income: 49
- High-income: 65

**African American and Latino Students Were Also Less Likely To Be Enrolled in The College-preparatory Track**
- African American: 43%
- Asian: 56
- Latino: 35
- White: 50

**Course-Taking Levels:** Percentage of high school graduates who completed middle or advanced level science and mathematics courses, by level of highest course completed: Selected years 1982 to 1998.

**Sources: The Education Trust; The College Board; The American Diploma Project; The National Center for Education Statistics**
Near the end of her first college biology class, the student raised her hand. “Could you give us a scoring guide for scientific inquiry that describes the level of knowledge and skills we’ll be expected to demonstrate in lab?” Other heads in the large lecture class nodded knowingly.

The professor was puzzled; she had never had a request for a scoring guide before. She told the student that expectations for the class would be clear from the feedback she would give them after the first lab. “But unless we know up front what the standard is, the goals for our work won’t be clear,” the student insisted. The freshman offered to share the scoring guide used in her high school college-prep science classes with the professor. After talking with the student, examining the scoring guide, and understanding what was being requested, the professor created a rubric for her biology lab sections. It was the first time she would do this, but not the last.

Similar exchanges will be taking place on campuses across the nation in the near future. Students who graduate from standards-based K-12 systems consider themselves prepared for college-level work and expect to build on the academic foundation they acquired in high school. As we are learning in Oregon, it is no small task to deliver on this promise.

The Oregon University System’s Response to School Reform

Oregon has entered the second decade of our ambitious school-reform movement. In 1991, the state legislature passed the Oregon Educational Act for the 21st Century and, in 1995, amended it to require sweeping changes across all educational sectors—with particular attention to high schools. The Act called for a comprehensive system of standards, with assessments to measure proficiency at grades three, five, eight, and ten. Students earn Certificates of Initial and Advanced Mastery (CIM and CAM) by meeting required levels on state tests and in classroom performance assessments that are aligned with the standards. The standards define a sequence of rigorous content knowledge, along with higher-order skills such as analysis, problem-solving, inquiry, and research. Work-related experiences provide a context for applying knowledge and skills. In many schools, students demonstrate their proficiency through culminating projects or exhibitions that may bring together teachers from different disciplines, sponsoring community members, and local employers. The most recent action by the State Board of Education, in December 2002, requires that every student have an education plan in preparation for the next steps that each individual chooses to pursue after high school gradua-
tion. High schools have also been given the option of granting high school credit for proficiency demonstrated in lieu of traditional seat time.

In true Oregon fashion, the original legislation and its subsequent implementation have involved a multitude of task forces, local councils, and work groups where the voices of literally thousands of Oregonians were heard. Although members of the higher education community participated in these conversations, reform has been primarily viewed as a K-12 concern. This absence of higher education as a participant in the redesign of K-12 education in many states is interesting, because college admission requirements—four years of English, three years of math—tend to dictate the high school curriculum. Typically, K-12 reform links to a larger K-16 system only after reform-minded educators come to realize the problems created for college admission.

In Oregon, the questions of greatest concern from our K-12 community and its governing State Board of Education included: “How would higher education treat these certificates of mastery?” and “How would student performance assessed via state multiple choice tests, work samples, and within locally designed programs be used in the traditional college admission framework of Carnegie units and grade point averages?” Anxious parents simply wondered, “Will my daughter or son be eligible for college?”

In 1994, the State Board of Higher Education determined that a system-wide response across the seven public institutions would best connect college admission with the certificates of mastery. This response would involve a transition away from Carnegie units and grade point averages to a system of admission based on the demonstrated proficiency of a set of standards that indicate preparation for college-level coursework. The development of the Proficiency-based Admission Standards System (PASS) was initiated.

**Milestone #1: Align K-12 Admission Standards and Assessments with College Entry**

To arrive at a set of admission standards for college entry, the Oregon University System (OUS) conducted a thorough research effort by analyzing more than sixty documents describing content standards and by conducting surveys of national and international performance-based practices. The resulting work was reviewed and revised over a four-year period by universities, community colleges, and high schools, whose feedback helped PASS generate a set of admission standards and criteria for assessment that are grouped into six content areas: English, mathematics, science, second languages, social science, and the arts. (The current iteration of the PASS standards and criteria are available online at www.ous.edu/pass.) In 1998, both the State Board of Education K-12 and the State Board of Higher Education accepted the PASS standards, establishing the nation’s first K-16 system of standards that benchmarked performance at grades three, five, eight, ten, and college entry.

The PASS assessment system was developed over a five-year period, through a collaborative effort of college faculty and teachers from sixty high schools that enroll more than half the high school student population in the state. In addition to national and state assessments, OUS developed a methodology to train classroom teachers to determine proficiency from a collection of student work that addressed the PASS standards and criteria. Content analyses were also used to determine at what level state assessments addressed PASS standards and criteria. Once state and higher education assessments were fully aligned K-16, the State Board of Education recognized a reciprocal relationship between the K-12 and higher education systems. While the state K-12 standards provide the foundation for meeting PASS, PASS levels automatically meet state K-12 standards. In 2001, a statewide panel comprised of approximately eighty high school teachers and college faculty was established to annually review standards and assessments and to ensure comparability of teacher judgment throughout the state.

**Milestone #2: Fulfilling the K-16 Promise**

Beginning in fall 2001, PASS became an option in the admission process for Oregon’s seven public universities in English, mathematics, and science. Students may meet the requirements for admission in a subject area by presenting evidence of proficiency for all the PASS required standards in that subject (e.g.,
meet or exceed four PASS math standards in place of three units of math).

From the outset, OUS assumed that a proficiency-based system would be an improvement over traditional admission methods by:

■ better preparing students for success in college-level work;
■ providing high school students with the incentive to reach higher standards; and
■ providing admissions officers with better information about a student’s knowledge and skills for decisions regarding entry, placement, and scholarship awards.

However, over the last decade, we have learned that the full implementation of PASS will require substantial changes at the K-12 and college levels. It will require changes in how we design curriculum, counsel students, assess student performance, award scholarships, grant credit, place students in entry level coursework, grant admission to honors programs, and transfer information from the high school to the college admission office.

Even the simplest processes between K-12 and higher education are transformed when transitioning to a standards-based system. For example, high schools have traditionally listed their college-prep courses and presented this list annually for approval to the OUS Office of Enrollment Services. In spring 2001, OUS also asked high schools to map their course content to the PASS standards. This initiated a curriculum review in high schools across the state. High school faculty examined which standards they addressed in their classes and determined whether any courses need to be added to the class schedule to cover the standards required for college entry. Through this process, faculty also became aware of whether or not all classes addressed rigorous standards and where the opportunities were provided throughout the high school program for students to become college ready. Faculty also learned which programs appeared to exclude rather than include students in these opportunities.

In order to assess how an incentive program might impact proficiency-based admission, OUS instituted the PASS Recognition Program in fall 2001. These scholarships of $500 to $1,000 were awarded to applicants who demonstrated advanced levels of academic preparation through the PASS standards. More than 270 students applied for the scholarships and 100 were selected. The resulting pool was similar, but not identical, to the pool of campus scholarship winners who were selected by SAT and GPA alone. An added benefit of this program was reported by high school counselors across the state: Their students were willing to expend additional effort to meet more rigorous standards beyond GPA when proficiency-based scholarships were offered. Over the last decade, the performance of Oregon students across the K-12 system is steadily improving in reading/literature, writing, mathematics, and science. This suggests that, in future years, more students will be meeting or exceeding the PASS standards that are aligned with K-12 standards.

The students who were in elementary school when the Oregon Education Act for the 21st Century was passed in 1991 have now entered our public universities as the first class to earn the Certificate of Initial Mastery and also meet many of the PASS admission standards in one or more content areas. As we study their progress, and that of students after them, there is a pressing question that must be answered: Have we done all we can, in partnership with our K-12 colleagues, to create a system that assures greater access and success for students in higher education? Is there a scoring guide to measure our progress toward this goal? There should be.

Full implementation of PASS will require substantial changes at the K-12 and college levels.

References
What do we expect students to know and be able to do when they arrive on our college campuses? Can we honestly say that most of our students enter our institutions prepared to be successful? Who is to blame when they fail? What are the policy implications of the federal “No Child Left Behind” legislation for higher education? How can higher education and K-12 school systems work together to fulfill not just the letter, but the spirit of the current education reform laws? The Maryland Partnership for Teaching and Learning K-16 is a state-wide effort created in 1995 as a response to the growing need for cross-segmental collaboration in the education community.

K-16 (or P-16) is a shorthand way of viewing all of public education as a seamless continuum stretching from preschool to the baccalaureate degree. This perspective encourages new ways of thinking about complex issues such as educational standards and accountability, the alignment of college admissions policies and secondary education graduation standards, school governance, finance, and teacher preparation. No individual institution, or K-12 community, can carry the flag alone on any of these issues. Rather, the Partnership recognizes that what is needed is for Maryland’s colleges and universities—which currently receive 44 percent of Maryland’s high school graduates—to take the lead collectively in defining college readiness and supporting public schools to ensure that all high school graduates are college-ready.

Recognizing the need to address K-16 issues in a collective, systemic way, the chief executive officers of the University System of Maryland, the Maryland State Department of Education, and the Maryland Higher Education Commission formed the Maryland Partnership for Teaching and Learning K-16. This alliance has three goals:

- Enhance student access to post-secondary education, especially for disadvantaged and minority students, by aligning high school expectations with college admission requirements so that any student who wants to attend college can do so.
- Improve the quantity and quality of teacher candidates (and current teachers) so that every classroom has a qualified teacher.
- Strengthen communication and collaborative decision-making among the three partner institutions.

The Maryland K-16 Partnership seeks to achieve these goals through five primary tasks:

- Engage higher education faculty with their K-12 counterparts in designing assessments of Maryland’s K-12 “Core Learning Goals” for high school graduation, aligned with college admission, and identify key competencies for college placement examinations.
- Engage faculty across two-and four-year institutions in a process for developing clear and consistent expectations for undergraduate education (English composition and mathematics were the first to be addressed).
- Extend the current capacity to share and use the data on student achievement K-16.
- Address the state’s teacher shortage by supporting policies that build capacity in shortage areas.
- Engage the business community in education reform in Maryland through the K-16 Council. (Business brings an important perspective and can leverage resources to expand the thinking of the K-16 educators and policy experts.)
Leadership of the K-16 Partnership
To help achieve these goals, the partnership is headed by a K-16 Leadership Council that includes representatives of all three agencies, including their boards, the business community, four-year and two-year institutions (both public and private), and teachers and principals (represented by Maryland’s teacher and principal of the year, respectively). Chairmanship of the Council rotates among the three segment CEOs, and the three co-chairs have signed a memorandum of understanding to support the partnership with staff and resources. In theory, the Council addresses critical issues of alignment, teacher education and teacher shortage, assessment, student achievement, and access to higher education. In practice, it has succeeded in ensuring that no major policy decisions are made exclusively in one segment, without some participation by members of the other segments. (For example, in one of the University System’s recent presidential searches, a member of the Maryland State Department of Education’s staff was included on the presidential search committee.)

As anyone who has ever engaged in partnership work knows, the successes are numbered most obviously in the processes we establish to work through very real (and frequently frustrating) challenges. Are high school standards aligned with college admissions requirements? Are teachers prepared to teach to new standards? Are transfer students provided with clear pathways to four-year degrees? Are there creative ways to leverage scarce resources? There are no easy answers to these questions, but our K-16 Partnership creates a venue for problem-solving work to be done.

While the performance of the Maryland K-16 Leadership Council has been uneven over the past five years, its very existence has provided the state with an important vehicle for inter-segmental communication and a necessary mechanism for solving the inevitable practical problems associated with comprehensive education reform. At times, the Council has generated breakthroughs in shaping state policies regarding the redesign of teacher education or promoting controversial high standards for high school graduation. At other times, the Council merely serves as a venue for “show and tell” where principal partners can receive public recognition for internal taskforce reports that move school reform work forward only incrementally. But even that public information function has proven to be a valuable asset for the state, especially when it becomes evident that higher education is essentially clueless about the pressures and constraints on the K-12 community, and vice-versa.

Up to now, the activities of the Partnership have been embedded in the larger context of standards-based reform at all levels. The K-12 segment (MSDE) has used the K-16 forum to raise public consciousness about the importance of high-stakes high school assessments and the teacher shortage, and MSDE has successfully leveraged K-16 in support of dramatically increased funding for “adequate and equitable” education for all children in Maryland. The higher education segment, in the meantime, has used K-16 to address issues of placement, remediation, and the quality of teacher education programs. But it has not been as successful in gaining funding for these initiatives.

A quick look at some of the controversies currently under consideration by the Maryland K-16 Partnership suggests the range of issues our partnership addresses through committees and workgroups:

- An apparent paradox exists today as Maryland seeks to find ways to meet its need for quality teachers. At the very moment that the state is facing a crisis in filling classrooms with teachers, we are increasingly committed to raising the standards for teacher candidates entering the classroom. Can the University System of Maryland negotiate with Maryland State Department of Education and Maryland Higher Education Commission to “loosen” (not lessen) some of the teacher certification requirements so our institutions can develop better pipelines for career changers and late-deciders?

- Professional Development Schools (PDS), which are a critical component of the state plan (Redesign of Teacher Education), are posing an especially difficult issue for our institutions. While colleges and universities are required to send all their teacher candidates through PDS, the public schools are not held accountable for participating in these partnerships. This apparent “double standard” is a thorny issue that is working its way through the K-16 committees.

- Public pressure is already building to allow community colleges to offer teach-
ing certification in order to relieve the teacher shortage. How will we work with Maryland community colleges to realistically share the burden? A new degree, the Associate of Arts in Teaching (AAT) grew out of a collaboration between the colleges of education and the community college education departments and was brokered by the K-16 Partnership. Transfer students who complete the AAT, which includes passing the first statewide test for teachers (Praxis I), are guaranteed that their programs will transfer as the first two years of a teacher preparation certification program.

- The high school assessments, phasing in over the next three years, will pose a serious crisis in public education in Maryland when high percentages of students do not pass the required assessments. Alignment around mathematics standards, and remediation in general, continue to be a flashpoint in discussions of “seamless” transition K-16. Our statewide mathematics group continues to work on outcomes expectations for high school and college mathematics courses.

**Highlights and Accomplishments of the Maryland K-16 Partnership**

While there are numerous accomplishments of the K-16 work in Maryland, several stand out for pragmatic reasons. K-16 has given us a way of organizing ourselves to construct collaborative grant proposals. In 2000, the University System of Maryland (USM) won a five-year U.S. Department of Education Teacher Quality Enhancement Grant (Title II) in the amount of $4.2 million to enhance the quality of the Prince George’s County Public Schools. Drawing on the relationships established through our K-16 Partnership, USM brought together universities and community colleges to collaborate with a public school system to increase the number of certified teachers in the schools, build a strong induction program for new teachers to increase teacher retention, and improve student achievement.

In October 2002, using this same model of cross-segmental collaboration, USM won a National Science Foundation Math Science Partnership Grant in the amount of $7.5 million to bring science faculty and science teachers together to improve the quality of science instruction at both the high schools and the undergraduate levels in Maryland.

In addition to the federal projects developed through our K-16 partnerships, Maryland was selected as one of three states (along with Georgia and Utah) to collaborate on a “Student Transfer Project” supported through a grant from the Association of American Colleges and Universities (AAC&U) and funded by the Fund for the Improvement of Post-secondary Education. This project addresses general education outcomes for two- and four-year colleges, and extends the work we have done with the AAT project.

Finally, our alignment work captures the essence of K-16 in Maryland. By bringing high school teachers, community college, and university faculty together in their disciplines, we continue to work through our shared understandings of student learning outcomes. We completed an agreement on a set of state-wide standards for a “C” grade (passing) in writing/composition, and we have defined a set of mathematics “bridge goals” and core competencies that bridge the gap between the current high school mathematics outcomes and the college placement expectations. In addition, the alignment work has laid the groundwork for us to respond to the challenges posed by AAC&U’s Greater Expectations National Panel report (see www.greaterexpectations.org).

**Reflection**

This K-16 work is messy and complicated. Sometimes it appears that we are wandering in a desert of dry, desiccated policies—all form and no “substance.” Sometimes the ground under our feet trembles with potential segmental schisms. Sometimes institutions and departments build impenetrable walls around their “turf,” naively believing education reform has little to do with the lives and work of “regular” faculty. But, ultimately, those of us who have toiled in the K-16 arena for several years have come to realize that every day we are doing work that ultimately benefits the students who need it most. It is instructive to reread Jonathan Kozol’s Savage Inequalities, or John Dewey’s School and Society, or Paolo Freire’s Pedagogy of the Oppressed. These children are our future. We in higher education are both privileged and obligated to build a better society from the ground up—and K-16 focuses the mind on doing just that.
Connecting the Systems: What Can Postsecondary Education Do to Work with K-12 to Help Students Better Prepare for College?

By Andrea Venezia, director, The Bridge Project: Strengthening K-16 Transition Policies, Stanford University, Institute for Higher Education Research

Over the past twenty years, the United States has engaged in a flurry of K-12 education reforms. States have developed K-12 standards and accountability mechanisms, and K-12 schools, students, and teachers are being assessed continually. Although there have been some major admissions- and remediation-related changes (e.g., the upcoming Supreme Court decision regarding the University of Michigan’s use of affirmative action, the Hopwood decree in Texas, Proposition 209 in California, and policies geared toward eliminating or reducing significantly the provision of remedial courses on four-year campuses), postsecondary education has remained relatively untouched by government in the areas of standards, accountability, and assessment. This situation could change, however, with the pending re-authorization of the Higher Education Act. New attention is being paid to student transitions between high school and college. While many of the proposals might seem threatening to institutional autonomy, there is some potential for learning more about students’ needs, and for creating policy structures that support student success. These reforms are taking place as the student population increases and students’ educational aspirations are at an all-time high.

Historically, educational change has been isolated within either the K-12 or the higher postsecondary education sector. Standards for defining college-level coursework and remedial courses, for example, are traditionally determined solely by postsecondary education institutions, while K-12 entities define the curricula for non-Advanced Placement “college prep” courses in high schools. The lack of coordination between the public K-12 and postsecondary sectors could impede successful transitions between the systems and reduce educational opportunity for many students.

This lack of connection is rooted deeply in the history of U.S. education policy. The country’s two separate systems of mass education—K-12 on one hand and colleges and universities on the other—rarely collaborated to establish consistent standards. In 1900, the education sectors were linked somewhat because the College Board set uniform standards for each academic subject and issued a syllabus to help students prepare for subject-matter examinations. The connection, never very strong and not geared toward all students, eventually fell apart, and the main linkages today are usually through teacher preparation programs in schools of education and pre-college outreach programs.

There is evidence that current policies are sending confusing signals to students about what is expected at the high school exit level as compared to the college entrance level. Research conducted by RAND for Stanford University’s Bridge Project found that, for example, approximately 33 percent of the items on any state high school assessment were framed within realistic situations, and as many as 92 percent of the items
were contextualized. In contrast, the placement tests and college entrance exams assessed examinees primarily with abstract questions. Also, many states are using writing samples in their K-12 assessments. By contrast, ACT and SAT I use multiple-choice formats to test writing attainment (although the College Board is planning to add a writing component to the SAT I). With the exception of the COMPASS Numerical Skills test, no more than 25 percent of the items on the placement exams and college entrance assessments were presented in realistic settings, and as few as 5 percent of the items were contextualized (Le and Robyn 2001). Other studies have come to similar conclusions. For example, the Education Trust has shown that placement standards in mathematics often include Algebra II, while admission tests rarely exceed Algebra I (Education Trust 1999).

In addition, few states, postsecondary institutions, and postsecondary systems have the data they need to understand the efficacy of their programs, and how well they are serving students. For example, are placement tests accurately assessing student knowledge and placing them in the most appropriate courses? Data systems in most states are not connected between K-12 and postsecondary education, so it is difficult to ascertain student needs as they travel across systems, and which students are slipping through the cracks.

While a few states and many regions have embarked on wide-scale P-16 reform efforts to try to connect the levels and send consistent messages, they have run into political hurdles, such as a lack of perceived incentives on behalf of postsecondary education entities. P-16 reform has become a term used by many policymakers and researchers to refer to a wide variety of efforts to increase student access to, and preparation for, postsecondary education. Many of these efforts are often in the form of programs that sit at the outside of schools’ and colleges’ missions.

These efforts, while well meaning, cannot change the deep problems discussed above. Work needs to be done to understand new incentives for higher education, in particular, to come to the table with K-12 to develop student-centered reforms. States should consider large-scale changes in their curricula, standards, assessments, data collection, governance and accountability efforts in order to tie systems together. Thus, while the reality for most students is that their education will likely continue past the secondary years, state and institutional policies continue to reflect a significant separation between K-12 and higher education.

**Stanford University’s Bridge Project: Strengthening K-16 Transition Policies**
The Bridge Project builds on the view that reforms affecting K-12 and postsecondary education must occur across systems in order to provide all students with the information and support they need to transition successfully between levels. Reforms developed in isolation from each other can lead to mismatched policy objectives and send confusing messages to education stakeholders. The overarching purpose of the project is to provide policy recommendations geared toward improving opportunities for all students to enter and succeed in postsecondary education.

Project researchers studied high school-to-college student transition policies, and K-12 stakeholder knowledge of those policies, in California, Georgia, Illinois, Maryland, Oregon, and Texas. The research focused on policies, perceptions, knowl-
and informal state and higher education institutional K-16 policies and practices in each of the six states? How compatible are the K-16 standards and assessments in terms of their content, objectives, and specifications? Project researchers completed analyses of the signals and incentives sent by existing policies; RAND researchers conducted content analyses of high school exit- and college entrance-level assessments. This phase includes research with two-year and four-year colleges and universities, and state agencies, focusing on issues related to admission, matriculation, placement, articulation, transfer, K-16 policy development and implementation, connections with K-12 entities, and K-16 data collection and usage.

Phase II sought to understand how postsecondary education admissions- and placement-related policies are communicated to, and interpreted by, secondary school-level educators, parents, and students in each of the six regions. It also provides analyses of inequalities in the current system, such as differences in student access to, and understandings of, “college knowledge.” the K-16 policy-related communication processes utilized by, and the consequent understandings of, different student groups, and differences between student groups in terms of their aspirations and college knowledge.

After conducting the research, project researchers developed a set of recommendations, based on the field research and on a comprehensive review of related literature. The Bridge Project focuses on signals and incentives that will enhance the “college knowledge” of prospective students in secondary schools and help them gain admission to colleges, be placed into college-level courses upon entry, and complete their desired degrees (or community college competencies). Such signals are especially important for students who are currently not exposed to high-level K-12 curricula or who do not receive information about college in a consistent manner from their parents, counselors, siblings, or teachers.

**Becoming Full Partners: Recommendations Beyond Current P-16 Efforts**

Based on Bridge Project research and reviews of relevant literature, the following recommendations are relevant for both four-year and two-year institutions.

Additional recommendations will be included in the project’s policy report (see “project findings” below for more information).

Recommendations for further research:

- Research the efficacy of placement exams and placement/advising procedures. Are current placement exams placing students into appropriate levels courses? Are those courses preparing students well for college-level work, for courses in their major, and for graduation?
- Research incentives that could encourage postsecondary institutions and systems to engage with K-12 in substantive ways.
- Conduct rigorous external evaluations of current pre-college outreach programs to ensure they are serving the student populations they intend to serve, and that they are serving students well.

Recommendations for policy and practice for college administrators, institutional researchers, and faculty members:

- Meet regularly with K-12 and articulate high school exit and college entrance standards, and work together to ensure that the policies are transparent and consistent.
- Collect data on student course, program, and degree completion and use to inform practice at both levels. Disaggregate the data by race, ethnicity, income, and other relevant factors in order to address issues related to inequitable persistence and graduation rates.
- Examine the relationship between the content of postsecondary education placement exams and K-12 exit-level

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**PROJECT FINDINGS**

Stanford University’s Bridge Project will release its major findings and publications at the National Press Club in Washington, DC on March 4, 2003. Researchers will present the project’s main findings and, will highlight the project’s publications, including: a policy report released the day of the press conference; a handbook for parents to help their children prepare better for college (to be published by Jossey-Bass for back-to-school in fall 2003); a book based on each of the six state case studies (published by Jossey-Bass for AERA 2004); and an online toolkit for researchers to replicate this research in their own state or region.

Additional information can be found online at www.stanford.edu/group/bridgeproject.
standards and assessments to determine if more compatibility is possible and necessary.
- Allow students to take placement exams in high school (with no stakes attached) so that they can prepare academically for college and understand college-level expectations. These assessments should be diagnostic in nature so that students, parents, and teachers know what is necessary to improve students’ preparation for college.
- Expand successful dual or concurrent enrollment programs that include all students, not just traditionally “college-bound” students. Many students are not comfortable socially or emotionally in high school environments, while others complete their schools’ highest-level courses as sophomores and juniors and have trouble finding appropriate courses as seniors. In addition, concurrent enrollment programs can stimulate curricular review and innovation in both systems.

Summary
The national debate about standards, and education reform in general, has been conducted primarily without coordination between K-12 and postsecondary education. If there are to be clearer and more consistent signals about what students need to know and be able to do to succeed in college, then the linkages between K-12 and postsecondary education must be strengthened. Reforms need to go beyond programmatic responses such as pre-college outreach programs, and target embedded policies that currently send confusing signals to students, their parents, and K-12 educators. These should not be “top-down” efforts; K-12 and postsecondary education must be equal partners in their work to prepare all students to graduate from high school ready for college.

References

By Audrey L. Amrein, researcher, Arizona State University, and David C. Berliner, Regents’ Professor of Education, Arizona State University

Following are summary findings from two recent studies conducted by the Education Policy Studies Laboratory at Arizona State University and commissioned by the Great Lakes Center for Education Research and Practice, a Michigan-based think tank. The two reports, The Impact of High-Stakes Tests on Student Academic Performance and An Analysis of Some Unintended and Negative Consequences of High-Stakes Testing are the first in what will be a series of annual reports on the impact of high-stakes tests. The complete text of both reports is available online at: www.greatlakescenter.org.

The Impact of High-Stakes Tests on Student Academic Performance

Based on data from twenty-eight states, there is scant evidence to support the proposition that high-stakes tests—including high-stake high school graduation exams—increase student achievement. The effects of state mandated high-stakes tests on student achievement were established by evaluating student performance on tests that assess the same curriculum domains as are covered by a state’s own high-stakes tests. These other independent measures of student achievement included the National Assessment of Educational Progress (NAEP), American College Test (ACT), Scholastic Aptitude Test (SAT), and Advanced Placement (AP) assessments.

State-by-state analyses of scores and participation rates for the NAEP, ACT, SAT, and AP reveal that after a state implements high-stakes tests, nothing much happens on other measures of the same domain. The study found that after high-stakes were attached to tests, grade four math achievement decreased. Grade eight math achievement slightly increased, and grade four reading achievement stayed the same. The states that have used high-stakes tests, in some cases for more than the past decade, have continued to perform much like the rest of the nation after writing high-stakes tests into their testing policies.

The study concludes from the data that the implementation of high school graduation exams results in a decrease in academic achievement. It was found that after high-stakes graduation exams were implemented, ACT, SAT, and AP scores declined. No comment is made here on the appropriateness of these tests as measures of the outcomes of schooling or as predictors of college performance. That is a separate issue. These tests do claim, however, to measure some of the same domain as do high school graduation examinations. The analysis suggests that high-stakes tests may inhibit the academic achievement of students on these different...
and independent measures of student achievement, rather than fostering their academic growth.

Although test scores on state-administered tests usually increase after high-stakes testing policies are implemented, the evidence presented here suggests that students are learning only the content and item forms of the state-administered test. Training in taking state mandated high-stakes tests appears to work, that is, scores on the tests do go up. Such training, however, does not appear to have any meaningful carryover effect when assessment of student learning is made on the other independent measures of achievement used.

**Some Unintended and Negative Consequences of High-Stakes Testing**

This study of sixteen states that have implemented high-stakes high school graduation exams examined a number of possible negative effects associated with high-stakes testing policies. It studied whether there was an increase in student dropout rates from high school; a decrease in high school graduation rates; or an increase in the rate of student enrollment in General Education Diploma (GED) programs as students pursue alternative, and often easier, high school diplomas.

Quantitative state-by-state analyses of these three questions suggest that, indeed, state adoption of high-stakes testing policies leads to increased dropout rates, decreased graduation rates, and higher rates of younger individuals taking the GED equivalency exams. In addition to these quantitative analyses, news reports and qualitative studies were used to inquire whether sufficient evidence existed to support other claims about negative and unintended consequences of high-stakes testing policies. Results suggest that high-stakes testing policies are associated with:

- Higher numbers of low performing students being retained in grade before pivotal testing years, apparently to ensure that students are properly prepared to take high-stakes tests;
- Higher numbers of low performing students being suspended before testing days, expelled from school before tests, or being reclassified as exempt from testing because they are determined to be either Special Education or Limited English Proficient (LEP)—all strategies to prevent low-scoring students from taking high-stakes tests;
- Higher numbers of students from whom equal opportunities to learn subjects such as art, music, science, social studies, and physical education are being withheld. Because these subjects are not often tested, teachers and administrators tend to focus less on these subjects as high-stakes testing dates approach;
- Higher numbers of urban school teachers, in particular, “teaching to the test,” limiting instruction to only those things that are sure to be tested, requiring students to spend hours memorizing facts, and drilling students on test taking strategies;
- Higher numbers of teachers who leave their public school positions to teach in private schools, free of state testing mandates because state rules make them feel compromised as professionals;
- Instances of cheating by teachers and other school personnel in response to the pressures of high-stakes testing.

Substantial evidence exists that high-stakes tests do create the negative, unintended consequences about which critics worry and that make high-stakes high school graduation exams objectionable.
Highlights from AAC&U Work on Liberal Education from Kindergarten through Graduate School

Greater Expectations Forum on Key Liberal Education Outcomes in High School and College

The Forum on Twenty-first Century Liberal Arts Education Practice is the campus-based, action arm of AAC&U’s Greater Expectations Initiative. The Forum, made up of four working groups, is investigating key liberal learning outcomes: inquiry-based learning, civic engagement in a diverse democracy, global preparedness, and integrative learning.

Working groups are investigating best practices in these areas and holding regional seminars with high school and college practitioners. The Forum will publish guides to promising practices in pedagogy, assessment, and program administration at both the high school and college levels.

Additional information is available online at www.aacu.org/gex/Forum/forum.cfm.

Making Liberal Education and Integrative Learning National Priorities from Kindergarten through Graduate School

AAC&U and The Carnegie Foundation for the Advancement of Teaching announced at AAC&U’s recent annual meeting in Seattle a new strategic partnership aimed at understanding and promoting liberal learning across the educational spectrum. The Forum on Twenty-first Century Liberal Arts Education Practice is the campus-based, action arm of AAC&U’s Greater Expectations Initiative. The Forum, made up of four working groups, is investigating key liberal learning outcomes: inquiry-based learning, civic engagement in a diverse democracy, global preparedness, and integrative learning.

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Additional information is available online at www.aacu.org/gex/Forum/forum.cfm.

AAC&U Works with U.S. News and World Report to Inform Prospective Students about Learning Innovations

To provide students with more information about innovative curricula, AAC&U is working with the editors of U.S. News and World Report’s America’s Best Colleges, one of the most widely read college admissions guides. Thanks to this partnership, the 2003 edition of America’s Best Colleges includes a new feature on “Programs That Really Work.” Editors at U.S. News consulted with AAC&U staff members and with AAC&U member institutions to identify and describe a set of pace-setting innovations and programs that enhance learning. This year’s “America’s Best Colleges” features a new ranking of colleges and universities across the country with “outstanding examples of programs that lead to student success.” While not yet incorporating data about these programs into its formal rankings, U.S. News has begun asking the schools it polls for information about these sorts of innovations and the numbers of students who benefit from them.

The programs featured include such innovations as: first-year experiences; writing in the disciplines; learning communities; service learning programs; internships and co-ops; undergraduate research programs; study abroad initiatives; and senior capstone projects. Research shows that each of these innovations raises the level of students’ educational involvement and accomplishment.

College-Level Learning in High School

In this Academy in Transition report, D. Bruce Johnstone and Beth Del Genio examine college-level learning in high school and related issues such as high school curriculum and standards, college access and equity, faculty jobs and curricular authority, and relations between two-year and four-year colleges. They examine the central role of college and university policies and practices, both toward the sponsorship of college-level learning in high school and toward the acceptance of college-level credits. They also present new research findings on academic leaders’ attitudes toward college-level learning in high school.

The executive summary is available online at www.aacu.org/publications/execsummary.cfm. Copies of the report can be purchased online at www.aacu.org/publications/index.cfm.
Ensuring Not Simply P-16 Alignment, but Truly Educated Students for the Twenty-First Century

By Andrea Leskes, vice president for education and quality initiatives, Association of American Colleges and Universities

Too many college graduates are found wanting in both their knowledge and intellectual skills for the constantly changing twenty-first-century world. In response, colleges and universities across the country have begun redesigning curricula while their faculty learn varied, effective new teaching strategies. Such innovations are aimed at raising the level of student achievement. So while P-12 struggles to prepare larger numbers of more diverse students for college, the image of that college study as held by pre-collegiate educators (and the relevant policymakers) may soon be outdated. Factual knowledge in traditional disciplines alone will not ready students for success if college increasingly stresses integration and the ability to apply knowledge to solving complex problems. As the expectations of college study change in response to workplace and societal demands, P-12 reform may be chasing a goal that is, in fact, receding into the past.

For those students entering college directly from high school (what has been considered the traditional-age college student), readiness for rigorous college-level study will depend largely on their primary and secondary education. It is this readiness that all the various P-16 initiatives basically address. In a comprehensive review of the situation, however, we must be mindful that higher education also serves large numbers of returning adult students; their readiness for college success requires approaches and solutions that are not part of P-16 initiatives. The continuing opportunities they will need to remedy educational gaps may make the goal of phasing out remedial work in college unrealistic.

Alignment of standards, as a policy in and of itself, will not necessarily raise expectations and accomplishment. It could just as easily adjust them downward. To avoid this unfortunate result, alignment would ideally work backwards from the highest desired level of achievement—in this case the capacities, abilities, and knowledge of a college graduate. In its new report, Greater Expectations: A New Vision for Learning as a Nation Goes to College, AAC&U defines this graduate as intentional about his or her learning. Such an intentional learner is empowered through the mastery of intellectual and practical skills, informed by knowledge from many fields, and responsible for personal and social values (see facing page for more details). If the goal of producing such graduates serves to guide P-16 alignment, it can create a powerful and relevant educational system. If not, it may fall far short of what individuals and the country really need.

The competence of college graduates directly impacts P-12 education; after all, tomorrow’s schoolteachers are today’s college students. The better college study becomes for all students—the more rigorous, coherent, integrated, and related to the needs of contemporary society—the better it becomes, too, for prospective teachers. Students of education who experience varied and innovative teaching methods applied to many subjects will be more likely to emulate these methods in their own classrooms. Similarly, those who are often challenged through cooperative work with diverse groups will be better prepared for guiding diverse students toward success. Through repeated, authentic assessment of their college work, prospective teachers will internalize a commitment to continuous improvement that will find its way into primary and secondary classes. Of course, responsibility for such an enhanced undergraduate education is not restricted to faculty members in schools or departments of education—the responsibility resides in the entire university faculty.

While standards are the centerpiece of much K-12 reform, the word can connote a “one-size-fits-all” approach to learning that fits poorly with U.S. diversity—diversity of individuals, aspirations, of school and college missions, of institutional types. AAC&U urges high, clear, well-articulated, and aligned standards throughout educational levels, but also encourages multiple paths for their achievement. During the college years, too, no one curricular design—no single pathway—will suit all students and all disciplinary fields. However, agreed upon outcomes for learning and rubrics that explain the levels of expected accomplishment will enable students and teachers alike to gauge their success.

It is important that neither standards nor achievement be equated with courses completed or seat time. A focus on student capacities and their demonstration in appropriate ways will help shift education at all levels toward authentic assessment of content and skills mastered. Herein lies the real power of P-16 alignment for transformational change. Through P-16 projects, educators at all levels, together with external constituency groups, can discuss and agree on benchmarks. These benchmarks of achievement—knowledge, intellectual skills, perspectives, practical skills, affective behaviors—derived from and calibrated with the desired characteristics of a college graduate, will create purposeful pathways of learning. Such pathways will, in turn, assure individual students of personal success, and society of the employees and citizens needed for an increasingly complex, interdependent world.
The Learning Students Need for the Twenty-First Century

The highest level of student achievement for P-16 alignment—the gold standard—is that of a college graduate prepared to continue learning throughout a life lived now and in the future. Such an individual will need to adapt to new environments and integrate knowledge from various sources. But all parts of the educational system, from pre-school through the undergraduate years, must cooperate to develop such intentional learners. Sustained opportunities to gain and apply knowledge at successively more challenging levels will help ensure that education leads to this ultimate goal.

To thrive in a complex, interdependent, diverse, and constantly changing world, these INTENTIONAL LEARNERS must be:

- **EMPOWERED** through the mastery of intellectual and practical skills
- **INFORMED** by knowledge and forms of inquiry basic to many fields
- **RESPONSIBLE** for their personal actions and for civic values.

The intellectual and practical skills that students need are extensive, sophisticated, and expanding with the explosion of new technologies. **EMPOWERED LEARNERS** excel at:

- effectively communicating orally, visually, in writing, and in a second language
- understanding and employing quantitative and qualitative analysis to solve problems
- interpreting and evaluating information from a variety of sources
- understanding and working within complex systems and with diverse groups
- demonstrating intellectual agility and the ability to manage change
- transforming information into knowledge and knowledge into judgment and action.

While intellectual and practical skills are essential, so is a comprehensive knowledge of the world students inherit, as human beings and as citizens. **INFORMED LEARNERS** understand well:

- the human imagination, expression, and the products of many cultures
- the interrelations within and among global and cross-cultural communities
- means of modeling the natural, social, and technical worlds
- the values and histories underlying U.S. democracy.

The integrity of a democratic society depends on citizens’ sense of social responsibility and ethical judgment. **RESPONSIBLE LEARNERS** manifest competency in and commitment to:

- intellectual honesty
- responsibility for society’s moral health and for social justice
- active participation as a citizen of a diverse democracy
- discernment of the ethical consequences of decisions and actions
- deep understanding of one’s self and respect for the complex identities of others, their histories, and their cultures.

**Source:** Greater Expectations: A New Vision for Learning as a Nation Goes to College (2002)
AAC&U is the leading national association devoted to advancing and strengthening liberal learning for all students, regardless of academic specialization or intended career. Since its founding in 1915, AAC&U’s membership has grown to more than 800 accredited public and private colleges and universities of every type and size. AAC&U functions as a catalyst and facilitator, forging links among presidents, administrators, and faculty members who are engaged in institutional and curricular planning. Its mission is to reinforce the collective commitment to liberal education at both the national and local levels and to help individual institutions keep the quality of student learning at the core of their work as they evolve to meet new economic and social challenges.

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