

## **INVESTING IN THE FUTURE: COLLEGE READINESS IN ILLINOIS**

**Submitted for:** Information.

**Summary:** This report expands on previous Board activities concerning college readiness and remediation. It explores the nature of the problem in Illinois and the nation, brings the Board up to date on recent research and findings since the 1997 remediation report, explores activities undertaken by other states, and concludes with five specific recommendations on what Illinois needs to do to close the existing gaps in the P-16 system to improve student persistence and educational attainment and ultimate workplace success. Recommendations address preparation for college level work, curriculum rigor, the provision of remediation programs to postsecondary students, establishing statewide standards in remediation assessment and placement, and the collection of appropriate data to guide policy making and develop incentives for increasing college readiness.

**Action Requested:** None. An action item on this subject will be brought to the Board in December.



STATE OF ILLINOIS  
BOARD OF HIGHER EDUCATION

**INVESTING IN THE FUTURE: COLLEGE READINESS IN ILLINOIS**

**Introduction**

The concern about college readiness and the need for remediation—helping students prepare for college level success—is not new to American educators. The need for some level of remediation in American colleges and universities has been well documented by higher education historians. The colonial colleges of Harvard, Yale, and Princeton committed themselves to the preparation of competent leaders, learned clergy, and cultured men. These institutions and their founders and leaders understood that such men must be developed from the material at hand. The American Revolution, which began as a movement for independence, resulted in a commitment to democracy—a new sensitivity to the importance and potential worth of the people and their aspirations. This increasing commitment to educate more and more of its citizens—not only the rich, the well born, or the academically gifted—has ensured the continuing need for remedial responsibilities and exacerbates the need for improving access to rigorous curriculum. For over a century, research has documented the need for remedial activities in all types of institutions, hundreds of successful projects have been replicated, policies have been created and amended, successes have been documented, and tens of thousands of students have graduated from college because of the timely support they received.

Today, however, the ante has been raised. Improving the college readiness of students is one of the most significant ongoing challenges facing the P-16 educational system in Illinois and across the nation. An increasing number of students entering higher education, coupled with the need for a better-trained workforce, has necessitated upgrading the secondary curriculum and responding in more creative ways to meet the emerging need for more remediation. Recent national data indicate that 82 percent of all high school graduates are likely to enroll in postsecondary education by the time they are 28 years old. Approximately 72 percent of high school graduates go straight to some form of postsecondary education, and another 10 percent enroll over the next 10 years (Carnevale, 2000). Many of these students are underprepared to take up the challenges of postsecondary education. Increasingly, ALL students must be prepared for success at the college-level—either in the workforce or in institutions of higher education.

This report will expand on previous Board activities concerning college readiness. It will explore the nature of the problem in Illinois and the nation, highlight recent research and findings since the last Board report on remediation in 1997, explore what is working in other places, and make recommendations concerning what Illinois needs to do to close the existing gaps in preparation, persistence, and educational attainment to ensure college and workplace success.

**Previous Board Actions and Concerns on Remediation and College Readiness.** College readiness has been on the agenda of the Board of Higher Education, the Illinois Community College Board, the State Board of Education, and the legislature for many years. In 1985, the Board of Higher Education adopted several policies that were designed to improve college readiness by identifying admission requirements and setting standards. The Board

established the 15-credit college preparation core curriculum as a minimum requirement for college admission (see table below). The 15 units are a minimum expectation for admission into a baccalaureate degree program. The policies also laid out the expectation that colleges and universities would systematically address student preparation, access, and retention issues, including the need for assessment.

At the same time that the Board of Higher Education established the college prep requirements, the State Board of Education established high school graduation requirements. The table below compares the two sets of standards. Because the high school graduation standards are significantly weaker than the college preparation requirements, they ensure, according to all research on student preparation, that students who meet only those graduation requirements are underprepared for postsecondary study and will likely need remediation.

<b>Comparison of College Prep and High School Graduation Requirements</b>		
<b>Knowledge Areas</b>	<b>College Preparation Core Curriculum Requirements</b>	<b>High School Graduation Requirements</b>
English	4 years (written, oral, and English literature)	3 years language arts
Social Studies	3 years (history and government)	2 years social science (at least 1 year of history or history and government)
Mathematics	3 years (introductory through advanced algebra, geometry, trigonometry, or fundamentals of computer programming)	2 years (one may be related to computer technology)
Sciences	3 years (including laboratory)	1 year
Electives	2 years foreign language, music vocational education or art	1 year (art, music, foreign language*, or vocational education) *which shall be deemed to include American sign language

<b>Percent of Illinois High School Students Taking the ACT who Completed a College Prep Core Curriculum</b>	
1991	37%
1992	40%
1993	44%
1994	47%
1995	49%
1996	50%
1997	49%
1998	52%
1999	51%
2000	52%

The 1997 report concluded with several implementation strategies recommended “for discussion by the higher education community.” These strategies included strengthening P-16 ties between community colleges and high schools, building college admission standards into the Illinois Learning Standards, and identifying early warning systems in high school to help students succeed in postsecondary education. Other strategies recommended included focusing on finding ways to improve student academic progress, building a statewide system for monitoring academic progress, and requiring the assessment of student performance at appropriate levels. While the 1997 report identified many good practices and implementation strategies, some of which are being implemented, to enhance the likelihood of student success at the postsecondary level, *no specific new policy recommendations were adopted* at that time or in the intervening years.

### **College Preparation and Remediation in America**

There are two primary populations of students who are likely candidates for remediation in order to succeed at the college level. The first group is currently enrolled K-12 students who have undeveloped or underdeveloped basic skills, or have not completed a college preparation core curriculum. A recent national study noted that “Even in high performing states, only one-third of American high school students meet or exceed levels of grade-appropriate proficiency in mathematics, science, reading, and writing. Overall, the nation’s 12<sup>th</sup> graders’ performance on standardized math and science tests ranks them among the lowest performing industrialized countries in the world”(The Institute for Higher Education Policy, 1998). The second population is comprised of those students who have already graduated from high school and who have been admitted to colleges and universities, but still need remediation. This group includes both very recent high school graduates and returning students whose skills are rusty or were never developed initially.

*Overall, the nation’s 12<sup>th</sup> graders’ performance on standardized math and science tests ranks them among the lowest performing industrialized countries in the world” (College Remediation, 1998).*

Remediation—preparing students to take up the challenges of college-level study—is a critical element in ensuring student success and maintaining the high academic standards established by Illinois institutions of higher education. Educators are reluctant, however, to celebrate the effectiveness of remediation and to highlight it as a welcome policy direction. Too often, students experience shame and inadequacy about taking a “remedial” course, thinking they are “dumb” when told they need remediation. Far too often, students are *not* told they are underprepared—that taking the appropriate courses in high school would have better prepared them for college level work. Institutions and faculty assume that students have the necessary levels of skills and teach to that level without helping students identify what they need to know to move from one level of skill to another. For a variety of reasons, there is a stigma attached to “remediation,” so students avoid remedial coursework, if possible. Efforts to “fix” the problem often devolve to finger pointing and recrimination among educational partners.

To make up for college preparation deficiencies, significant numbers of students enroll in remedial courses across the country. Although the exact number of students needing remediation varies from one state to another and from one report to another, all studies reflect a persistent need for remediation at the postsecondary level. In a 1995 study of remediation at the national level, for example, 29 percent of all first-time, first-year students enrolled in at least one remedial course. The percentage of students needing remediation was higher for two-year public institutions—41 percent—compared to 22 percent at public four-year institutions (NCES, 1995).

Ohio found that 27 percent of traditional age freshmen enrolled in at least one developmental course (1995), and in Texas, 30 percent of freshman and sophomore students were enrolled in remedial courses (1993-94). And in another study, Knopp reported that, nationally, about 13 percent of *ALL* students (not just freshmen or sophomores) enroll in a remedial course (Knopp, 1996).

The actual *need* for remediation is often much higher than the number of students who *enroll* in remedial courses. Research on community colleges conducted by John and Suanne Roueche noted that test scores indicate a higher need for remediation. “On average, almost 50 percent of all first-time community college students test as unprepared for the academic demands of college-level courses and programs and are advised to enroll in at least one remedial class. This percentage of underprepared students has not changed significantly in at least two decades” (*High Stakes, High Performance*, 1999).

These “remediation rates” are very likely significantly understated because few states have mandated universal assessment for remediation, and even fewer states have identified and required a statewide minimum cut score. (This may be possible in Illinois with the arrival of the Prairie State Achievement Exam.) Without a statewide assessment instrument and cut score, institutions choose their own tests and set their own standards. For example, a student may enroll in one institution, be assessed and assigned to remedial coursework, transfer to another institution where he/she is again assessed, but is not recommended for remediation. Far worse is the opposite example: a student who completes a year of coursework only to discover at the next institution that they are not “college ready” based on an entirely different test or a different minimum score on the same test. Another unfortunate outcome is likely in institutions with low cut scores; fewer students receive remediation than actually need it.

**The Emerging Need: A Better-Educated Workforce.** The consequences of low levels of academic preparedness can be seen in a variety of critical state and national indicators, all of which have an impact on the economy. The low level of literacy, a high K-12 dropout rate, high college remediation rates, and shortages of employees in high skill, high wage jobs are a few of the factors dulling the overall effectiveness of the economy and weakening the potential of workers. While the need for remediation to enhance student success in postsecondary education is not new, the demand for a more highly educated workforce is. Breneman and Haarlow (1998) noted, “Eighty percent of sustainable jobs today require some education beyond high school, although not all workers will need a baccalaureate degree. Sixty-five percent of the workforce need skills that include advanced reading, writing, mathematics, critical thinking, and interpersonal group skills—twenty years ago that figure was only 15 percent.” To enter the workforce, students will need strong basic skills in reading, writing, and mathematics; problem solving and critical thinking skills; and “how to learn” skills.

Postsecondary education has a tremendous responsibility to respond to this emerging need. As the nation and the state move into the new information economy, there is a heightened sense of urgency about the need to upgrade the quality and increase the quantity of students entering postsecondary education.

The job “mix” in the U.S. economy is also shifting, according to the Hudson Institute. “The best-paying jobs are growing most rapidly . . . but the lowest-paying jobs are growing as well. Fewer jobs . . . are found in the middle” (*Workforce 2020*, 1999). The Hudson report goes on to describe the growing bifurcation in the American economy and the accompanying divergence in income that is associated with it. The high-paying jobs require more education. In the “new” economy, a rise in income is tied directly to the level of education and skill. Further,

“the fastest-growing jobs require much higher math, language, and reasoning capabilities . . . while slowly-growing jobs require less” (*Workforce 2020*).

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A recent survey conducted by the U.S. Department of Education, underscored the need for a better-educated workforce. The *National Adult Literacy Survey* measures literacy in three critical basis skills: prose (reading), document (writing), and quantitative literacy (mathematics) of the workforce. The report concluded that:

- Of five levels of ability, 40-43 percent of the labor force scored at the two lowest; 25 percent at the next two; and only 3-5 percent at the highest level;
- Younger workers are more literate than those over 65;
- Literacy is strongly associated with earnings and postsecondary education; and
- “Less than five percent of individuals in the labor force had ever participated in any basic skills training outside high school—only six percent of individuals scoring in the lowest level had received basic skills training during the past five years” (USDE 2000).

The corporate world has also expressed concern about the skills level of employees. Hunter Boylan noted in an article on developmental education “A recent report by the National Association of Manufacturers (1997) indicated that 55 percent of American companies expressed dissatisfaction with their workers’ written communication skills” (Boylan, 2000).

**Changes in Demographics.** National data continue to identify a strong correlation between minority, immigrant, and socioeconomic status and the need for remediation. There are many possible contributing factors to the need for remediation: lack of individual student motivation; low achievement expectations by teachers; restricted access to a college preparation curriculum; the low quality of previous education; schools with limited curricula; schools that are underfunded; and social and environmental factors which are not supportive of academic achievement. While there is little agreement on the causes for these differences, there is an increasing awareness that the problem must be addressed at a systemic level. Long-term solutions to these problems are systemic, and likely lie within and between these factors. Higher education must join its K-12 partner to leverage systemic improvement in pre-college preparation and post-high school remediation. Whatever the cause, there is an immediate need for remediation to bring these students up to speed and help them succeed.

The underpreparedness of minority, immigrant and low-income students will take on increasing importance for colleges and universities as the demographic profile of college students changes in the nation as a whole, and in Illinois in particular. For example, a recent Educational Testing Services (ETS) study of census data observed that Illinois is one of 16 states where minority undergraduates will range between 30 and 50 percent of the student population by 2015. Six states, Arizona, California, Florida, Nevada, North Carolina, and Illinois, will see the number

of high school graduates jump 20 percent or more in the next 15 years—primarily the result of the influx of immigrant families and the children and grandchildren of baby boomers (*USA Today*, August 22, 2000). The Illinois 2000 ACT data confirm that Illinois low income and minority students are less likely to complete the core curriculum.

- Of all test takers, there was a five point spread in ACT composite score between students from families earning less than \$18,000 a year and those earning more than \$50,000 per year.
- Fifty-two percent of all test takers completed a college prep core, but when the data was broken down by race and ethnicity, 37 percent of African-American students, 57 percent of white students, and 38 percent of Mexican-American students completed the core.
- For families with less than \$18,000 per year income, the percentages were even lower for the same three sub-groups—30 percent, 45 percent and 29 percent.

In response to the increase in the number of immigrants, English as a Second Language (ESL) classes are an emerging remediation requirement in higher education. Because native population birth rates are static or in the near future declining, immigrants will be seen as an attractive addition to the workforce if the economy is to expand. Many of these immigrants will need remediation.

Remediation is also important for individuals already in the workforce who are seeking to upgrade their skills. Nontraditional students who have been out of school for some time may reenter educational institutions with rusty or never-developed skills. The impetus for involvement may be a job promotion requiring new skills, or it may be a career shift.

Investing in remediation is a good idea. There is a very strong incentive for expanding access to higher education opportunities for minority students – it is good for business. A recent report noted that, “A growing body of group process research consistently shows that more diverse work teams produce ideas and solutions that are more creative and of higher overall quality than homogenous groups. Diverse teams also tend to be more open-minded and flexible.” The report goes on to describe other benefits of a diverse student body and workforce: improving international competitiveness, gains in state income levels, decreasing poverty, and measurable educational value (Carnevale and Fry, *Crossing the Great Divide: Can We Achieve Equity When Generation Y Goes to College*, 2000).

The sooner we invest in remediation, the better. Each student who lacks the skills to move to the next education level, if he or she chooses, is a lost opportunity—particularly in a very tight economy where high-skill, high-pay jobs go begging. No state can afford to allow students to fall by the wayside. *All* students must be prepared to succeed at the postsecondary level—in part because the world of work is changing dramatically and creating new opportunities and new expectations, in part because some students have been overlooked with regard to access to a good education, and in part because new population subgroups are entering higher education with new and different remediation needs. The cost to the individual is lost potential and limited opportunity; the cost to the economy is highly skilled jobs that are left unfilled; the cost to society generally is an insidious erosion of growth, creativity, and quality of life.

**The Price of Remediation.** There is always a certain amount of discomfort talking about the costs associated with remediation. Institutions and states struggle with balancing the

needs of students and containing costs. For those who believe we don't remediate enough students, the costs of providing the courses seem quite modest; for those who believe students should not be admitted if they are unprepared, the costs seem excessive. Good remediation policy recognizes that not all students will be as prepared as they should be, and that improving their level of preparedness requires attacking the problem from multiple angles. At the national level, the cost of remediation is not excessive—less than one percent (approximately \$1 billion) of a \$115 billion annual public higher education budget (Breneman and Haarlow, 1998; in *College Remediation*, The Institute for Public Policy, 1998). A 1995 Government Accounting Office study of student financial aid spent for remedial courses, found that the amount of financial aid money spent on remediation was less than four percent, and “realistically, it probably is much lower than that.” The study was undertaken in response to congressional concerns about wasting federal dollars. That same study reported that students took an average of 4.9 credits of remedial coursework, and that the cost of remediating a single student was about \$1,000 a year (GAO Report, 97-142).

Whatever the cost, however, the price of NOT remediating underprepared students is more than Illinois or any other state can afford. A recent report by the Education Commission of the States (ECS) pointed out that the benefits of an investment in remediation could be substantial. “If only one-third of the students taking at least one remedial course were to earn a bachelor's degree, they would generate more than \$74 billion in federal taxes and \$13 billion in state and local taxes, while costing the taxpayer about \$1 billion to remediate.”

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### **College Readiness: The Nature of the Problem in Illinois**

Interest in college readiness and remediation needs in Illinois has received the attention of policy makers and institutions in Illinois for many decades. The most recent report on remediation in Illinois—the 1997 Board report summarizing a statewide survey—provided the following insights into the problem.

- In FY1996, 82,938 students enrolled in 461,917 credit hours of remedial coursework in community colleges, and 11,278 students enrolled in 54,575 credit hours in public universities.
- The amount of remediation provided by community colleges increased between 1991 and 1996 from 11.5 percent to 14.1 percent of students taking one remedial class.
- Both community colleges and universities showed an increase in credit hours devoted to remediation; but earlier statute mandated that most remediation occurs at the community college level.
- Nearly half of Illinois high school graduates taking the ACT exam had not completed a college preparation background.
- The majority of remedial instruction was in mathematics (two-thirds of university credit hours and 60 percent of community college credit hours).

- Costs increased slightly. In 1991, community colleges spent a little more than five percent of direct salary costs for all remedial/developmental education; in 1996, that figure was 6.5 percent.

The 1997 report also indicated that remediation was increasing in Illinois. Some of that increase was attributed to increasing numbers of people entering, or returning to, postsecondary education—many of whom were underprepared or unprepared. In 1980, for example, 49 percent of recent high school graduates entered college. In 1990 that number increased to almost 60 percent (*Increasing Educational Attainment*, IBHE, 1998). By 1997, the college-going rate had risen to 67 percent and then dropped back to 65.6 percent in 1998 (*Increasing Educational Attainment*, IBHE, Mortenson 1998).

We can anticipate that the need for remediation will continue to grow in Illinois as even larger numbers of high school graduates enter the postsecondary environment. Based on recent research at the national level, the Board can anticipate that upwards of 80 percent of the Illinois population eventually will undertake education or training at the postsecondary level at some time in their lives (Carnevale, 2000). Unless system-wide changes are made, many will continue to enter the workforce and postsecondary education with inadequate preparation.

There are additional weaknesses in the Illinois remediation network. To begin with, too many students enter Illinois postsecondary institutions with poor academic preparation in high school. They do not complete a college prep core curriculum. Completion of a college prep core curriculum is a known predictor of student success in postsecondary education. Although the ACT test was designed for admission purposes, scores can serve as a proxy indicator of college readiness. In general, Illinois students have always done fairly well on the ACT, and composite scores have changed little over the last five years, increasing slightly from 21.2 for 1996 graduating seniors to 21.5 for 2000 graduating seniors. These scores can be especially relevant in assessing college readiness because Illinois is a large ACT state (approximately 72 percent of high school graduates were tested in 2000). The ACT data indicate that within yearly cohorts, Illinois graduating seniors who complete a full college preparation core curriculum continue to score significantly better (3 points on a 36 point scale) than those who completed less than that full curriculum, consistent with national differences. These data make a strong case for completion of the core. Other ACT states noted similar results. Students who completed high school prep courses were more successful than those who did not. Nevertheless, the ACT 2000 data indicate that only 52 percent of Illinois high school ACT test-takers reported completing the college prep core. The national average of the 2000 ACT test takers was 63 percent, indicating that *Illinois lags far behind in this important indicator of postsecondary success*. The percent of Illinois high school students taking the ACT exam who completed a college preparatory curriculum increased two percent in four years, from 50 percent to 52 percent during the same period. At this rate, and without making needed policy changes and creating incentives, it will take almost 50 more years to rectify this problem.

Illinois has no statewide requirements or standards for assessment for remediation and placement. Institutions use a variety of instruments and an even greater variety of cutoff scores. The results of one test are not necessarily comparable with others, so the numbers of students identified as needing remediation may vary from one institution to another. Students move in, out, and among institutions, encountering in their transitions a dizzying array of conflicting expectations and requirements. Sometimes the confusion allows students to avoid remediation; sometimes it helps them receive the support they need.

It is difficult to get a handle on the true scope of statewide remediation needs when Illinois has not identified a standard statewide cutoff score. In states that use a statewide cut score for determining the need for remediation, a common cut score on the English and math tests is an ACT of 19 or an SAT of 450. Nationally, 44 percent of students score less than 19 on the ACT English test, and 48 percent score less than 19 on the math test. *This data alone should alert us to the fact that at a minimum, 44 percent of students nationally may be at risk of needing remediation in English, and 48 percent in math.* Illinois ACT 2000 data is comparable. The English score for the 46 percent of students who did not complete the college prep core was 19.2 (22.4 for those who did); for math it was 19.7 (23.0). Since there is no standard cutoff score used among institutions to determine placement in remediation, what is defined as remediation at one place is college level coursework at another.

We know even less about the effectiveness of remediation. In general, higher education institutions across the country and in Illinois have a poor understanding of the true effectiveness of remediation. Again, evaluation methodologies and standards are not consistent among colleges and universities. Passing a course may suffice to indicate successful remediation at one institution, but another might require a comprehensive pre- and post-testing procedure. At one institution, students must complete all remediation work before they go on to college-level work; at another, they may be enrolled in both remedial courses and college-level courses.

While no new major statewide studies of remediation have been undertaken in Illinois since the 1996 survey, a variety of studies by systems and by individual colleges and universities provide valuable contextual information concerning the current status of remediation. Individual community colleges and the Community College Board have undertaken most recent studies. In April of 2000, the Community College Board formed a Remedial and Developmental Education Advisory Committee to assess the current status of remedial education in Illinois community colleges. The work of this Advisory Committee included another survey of developmental education practices in Illinois community colleges. Thirty-three of the 48 community colleges responded. All institutions reported offering remediation courses in mathematics and English, and many also provided remediation in reading skills. Just over 60 percent of those responding offered courses in geometry as part of mathematics remediation. Ninety-seven percent indicated that placement testing was required—the majority of colleges responding (70 percent) used the ASSET/COMPASS instruments, and 30 percent used the ACT. The majority of colleges also reported that they assessed the outcomes of remediation.

Several studies of remedial and developmental education at individual community colleges across the state were also completed in the last couple of years. City Colleges of Chicago recently undertook a study of remediation (Gutierrez, 1996). Of a total of 33,609 credit and pre-credit students enrolled in City Colleges of Chicago, 9,145 (29 percent) were taking one or more remedial classes. In 1996-97, 44 percent of undergraduates at City University of New York's two-year campuses were enrolled in remediation courses; however, the state of New York uses a 20 on the ACT as a cutoff score for determining remediation requirements.

City Colleges also studied the outcomes of remediation. Success rates were reported in the following remedial areas in 1995: reading (66 percent), English (62 percent), and mathematics (50 percent). In 1994, students who had successfully completed remediation were also followed to see how well they succeeded in college-level courses. Of the English remediation successes, 63 percent passed English 101 and 41 percent of completers of mathematics remediation passed any math course.

## **Putting It All Together: A Systemic Approach to Remediation in Illinois**

As Illinois develops a more comprehensive, systemic approach to college readiness, there are several key points that the Board can make recommendations for that will have a significant impact. Better college preparation and ultimate student success can result from changing a variety of policies and practices. In the discussion below, successful activities in other states will support the effectiveness of this broad approach.

- Policy and practice can help the state gain a better understanding of the environment.
- Policy and practice can have a powerful impact on student behavior at the pre-collegiate level.
- Policy and practice can enhance access to a college preparation core curriculum.
- Policy and practice can influence the relationship between high school graduation requirements and college admission requirements.
- Policy and practice can result in a more systematic approach to identifying and placing postsecondary students needing remediation.
- Policy and practice can ensure more effective outcomes of remediation.

**Policy and Practice can help the State Gain a Better Understanding of the Environment.** Illinois educational partners currently do not have sufficient data to get a true picture of college readiness needs in the state. For example:

- We do not know how many students in Illinois actually need remediation and do not get it. Illinois does not systematically collect data on the assessment of the college readiness of incoming postsecondary students.
- We do not have a good understanding of how students move in and out of the educational pipeline.
- We do not know how many students, statewide, enroll in remedial courses.
- Illinois does not currently have sufficient capability to follow students through their many educational transitions.
- We cannot track the courses and performance levels of students across the P-16 system or the transfer of students between postsecondary institutions.
- Comparable data among institutions are unavailable at present.

**Policy and Practice can have a Powerful Impact on Student Behavior at the Pre-Collegiate Level.** Parents, students, teachers, and counselors need to understand that early awareness regarding academic preparation for college and work is critical. Early awareness of the need for adequate pre-collegiate preparation, the on-going need for remediation throughout a student's educational experience, for financial planning, and for a coordinated curricular response

to identified weaknesses is important to the success of remediation efforts at all levels. It is especially important that students are academically well prepared *before they enter high school*. Serious deficiencies not addressed prior to high school impacts negatively on academic achievement in high school and beyond. There are several critical points at which students develop the necessary academic skills. Researchers know, for example, that reading skills must be well developed by the third grade; that strong reading skills are mandatory for success in college; and that the middle school years (5-8<sup>th</sup> grades) are extremely critical in preparing students for high school success. Several states have designed early intervention pre-collegiate activities that begin as early as the elementary and middle school years. The University of Georgia works with students beginning in the seventh grade, and the state has implemented a Reading Readiness Enrichment Program. Ohio's statewide pre-collegiate program is based on the belief that "the transition from eighth grade into ninth grade should be considered the point of engagement for college preparation." The cost of Ohio's program is split by K-12 and higher education. Oklahoma and Maryland have developed similar partnerships. In recognition of the importance of pre-high school preparation, federally funded GEAR-UP programs across the country are targeted to improving the success of middle school students.

**Policy and Practice can Enhance Access to a College Preparation Core Curriculum.** If 82 percent of high school graduates are projected to seek some type of postsecondary education by the time they are 28 years old, a radical change must take place in the way we think about the basic skills needed by all high school graduates. Most of our citizens must be prepared to succeed in this new environment, and we already know one of the most important indicators of success: access to and taking the quality and rigor that is contained in a high school college preparation curriculum. A USDE study found that this was *the* overriding significant factor in successful baccalaureate completion (*Answers in the Tool Box*, 1999). Many high schools are still offering the general, vocational and college prep tracks, and by doing so, continue to send the message to students that preparation for college-level work—at a postsecondary institution and in the workforce—is not for everyone—a message which is refuted by dozens of research studies and by the changes underway in the economy requiring a more highly skilled workforce.

For underprepared students who are determined to continue at the postsecondary level, high school provides another important opportunity for skill building, but a rather late one. As part of strong P-16 partnerships, several states have recognized the importance of offering early and systematic preparation or remediation activities at the high school level. For example, California has recently taken a two-pronged, very tough approach to bring students up to college level readiness. One arm of the statewide initiative concentrates on improving the skills of high school students by working with high school teachers in 150 public schools to better align the high school and college curricula. The other more controversial part of the initiative links successful completion of remediation by college freshmen before allowing them to continue into their sophomore year.

**We Must Motivate Students to Get the "Right" Preparation.** In a previous section of this report, we discussed how the failure of 48 percent of Illinois students taking the ACT to complete a college preparation core impacted significantly on their ability to move smoothly and confidently into postsecondary education. Unfortunately, we do not have a good understanding about *why* more students do not access the college preparation core curriculum in high school. Some studies suggest that students self-select out of the college-prep track; others suggest that they do not receive appropriate and timely advice and support; and still others cite the absence of coursework in some schools. In Illinois, for example, we lack sufficient data about how widely available the college preparation core is for students in the state.

The decisions students make about high school course taking can have an impact on their future academic and economic opportunities. Ohio’s statewide pre-collegiate program calls for advising students beginning in the ninth grade about college preparatory coursework. The Illinois Prairie State Achievement Exam (PSAE) will give Illinois an important advising tool by providing high school juniors with an early “heads up” about skills which could be strengthened by completing the college prep curriculum in their senior year or seeking remediation. Early information (possibly beginning in the seventh grade) regarding what courses need to be taken in high school to score well on the Prairie State Examination will be necessary. Informed interpretation of the PSAE scores can serve to motivate students to use their senior year to build up their skills or to make the decision to stay longer in high school to make up specific course deficiencies.

Policy-makers in several states are also exploring how federal and state financial aid resources can be directed toward encouraging students to take the right courses and complete a college preparatory curriculum. This has led to looking at requirements for existing need-based financial aid programs and considering new need-based financial aid programs. The state of Arkansas developed the Arkansas Academic Challenge Scholarship specifically to change access to the college prep curriculum, change course-taking behavior, improve preparation, and reduce the need for remediation in college. Arkansas has nine years of evidence that financial incentives improve preparation and decrease the need for remediation. Texas is in the second year of implementation of the TEXAS Grant program that provides awards to students with financial need who have completed all high school college-preparatory courses. At the federal level, one U.S. presidential candidate has suggested the possibility of paying a premium Pell amount to all financially needy students who have completed advanced mathematics and science requirements in high school. Also, increasing attention is being given to devising incentives for high school course taking by adding the college prep requirement to non-need-based financial aid programs. The Hope Scholarship program in Georgia is one example.

**Policy and Practice can Influence the Relationship Between High School Graduation Requirements and College Admission Requirements.** Questions of skills and standards invariably lead to the examination of curriculum and efforts to align curriculum across systems. Institutions of higher education have an enormous investment in what is happening in the K-12 curriculum—particularly with the major reforms being undertaken across the country. The gap between high school graduation standards and college admission standards has generated a good deal of attention in the literature, and P-16 systems across the country are strengthening networks of communication and planning in an effort to better understand the nature of the gaps and activities to better align standards. These types of conversations are likely to result in making the transition from high school to postsecondary education easier for larger numbers of students.

Sometimes, aligning standards across systems can be accomplished by a simple change in policy and practice. To reduce the need for math remediation at the postsecondary level, the Southern Regional Education Board (SREB) recommended that its member states increase from three to four the number of required high school courses in mathematics (Algebra I and above). The SREB based its decision on research that indicated “students who take Algebra I by ninth grade are the most likely to go to college.” The USDE study also found that the more math courses students took in high school, the more likely they were to earn baccalaureate degrees (*Answers in the Tool Box*).

**Policy and Practice can Result in a More Systematic Approach to Identifying and Placing Postsecondary Students Needing Remediation.** Postsecondary institutions will continue to play a role in remediation for college readiness, and indeed should play an effective

role. For a variety of reasons, many students will enter postsecondary education underprepared. By admitting these students, institutions assume an obligation to help them gain the necessary skills for success. The research on remediation has documented a variety of activities to improve skills and prepare students for college-level work.

There is nearly universal agreement, for example, that *mandatory* assessment and *mandatory* placement in remedial coursework should be required for admission to college level work. Students should also be required to successfully complete remedial courses prior to enrolling in regular college level courses, and should not be allowed to enroll in remedial and regular courses simultaneously.

**Assessing College Readiness: A Question of Standards.** There is no agreement across the country or even within the same state, in many cases, on the definition of “college ready,” how students should be assessed to determine their college readiness, or where the bar should be set to determine which students require remediation. Not all institutions use the same instrument to measure readiness; many institutions do not require testing for admission and/or placement purposes, and others create their own instruments and standards. In addition, institutions as well as states are often reluctant to mandate standardized testing, and those that do, often cannot and do not want to compare results.

- Nearly 125 combinations of 75 different tests, including the SAT and ACT, are currently used to place students in remedial courses in Southern Regional Education Board (SREB) institutions (Kirst).
- In states using the English ACT for admission and remediation placement, scores vary from 19-21 (Arizona 19, New York 20, Minnesota 21). In the 16 SREB institutions, ACT cut scores in math and English vary from 16 to 19.
- In Ohio, English ACT scores for admission at individual institutions ranged from 17-20. The Ohio Board of Regents noted, “A student who might be considered ready for a freshman level course at some Ohio institutions would be placed in developmental writing courses at others.”
- New York uses a combination of measures: a score of 480 on the SAT (verbal and math), and a score of 20 on the ACT (verbal and math). A score of 75 on the New York Regent’s Exam in English and math is also acceptable.
- In Minnesota, students scoring above 24 on the ACT math, English, and reading tests were exempted from assessment; but other students were subject to mandatory assessment when the state determined that students with an average ACT score of 22.1 (1998) were still not “college ready.”

Several states have designed their own remediation assessment instruments, and their scores cannot be compared to other states. The inability to set consistent standards has resulted in often conflicting analyses regarding the need for remediation, confounding the states’ and institutions’ ability to make clear consistent policy, and *greatly underestimating the need for remediation*. The wide variation in scores, and in their interpretation, also points to the difficulty of and reluctance to pinning down a uniform working definition of “college readiness.”

**Policy and Practice can Ensure More Effective Outcomes of Remediation.** Does remediation work? How do we know? Unfortunately, very little research has been conducted measuring the outcomes of remediation. In the past, institutions have used a variety of measures to assess whether remediation has worked or not. This variation in student learning outcomes assessment methods only serves to add to the confusion and uncertainty about the effectiveness of remediation. For example, Boyland and Saxon (1998) studied pass rates in Texas and noted tremendous variations in success rates ranging from below 25 percent to over 90 percent in community colleges, and from 30 percent to nearly 100 percent in the universities.

Institutions may choose a highly subjective, unreliable assessment method such as asking whether students successfully completed remedial courses. Or they might test students' skills before and after remediation with a nationally normed instrument. Some institutions track students extensively through their academic careers. Did they succeed in college level work? Did they graduate?

Fortunately, there are many studies that confirm that remediation works. We have plenty of evidence that students who require remediation can and do graduate from colleges and universities successfully. What we don't know is how well it works at individual institutions and in specific disciplines, or how remediation efforts can be improved. For example, students who enroll in remedial coursework at community colleges graduate at a higher rate (24 percent, Boylan and Bonham, 1992) than all community college students who graduate (22 percent, NCES data). Data for universities is similar - 40 percent compared to 45.6 percent (Boylan & Bonham, 1992). Adelman's USDE study noted that 39 percent of university students requiring remediation of reading skills completed their degrees, compared to a 69 percent graduation rate for those who did no remediation (*Answers*).

We do know that students needing remediation who do not have access to or undertake remediation are less likely to succeed. We are in a position to make a difference for these students.

### **Conclusions and Recommendations—The Illinois Response**

There has been a long-standing commitment in Illinois to helping students succeed at the college level. But despite good intentions, excellent background research and policy analysis, and the presence of successful remediation programs on many college and university campuses, there is still much to be done. An updated statewide agenda should continue to address the existing gaps in policies and practices.

#### **Conclusions**

- There is a substantial misalignment between high school degree requirements and college preparation and admission requirements.
- There is no comprehensive statewide plan on how best to remediate unprepared students.
- There is no systemic agreement on what constitutes "college level" work and "college readiness."
- There are multiple standards against which students are measured.

- There is too little joint analysis, development, and decision-making by P-16 partners to define the appropriate level of academic preparation for college-level work, either in college or the workplace.
- The state of Illinois and Illinois institutions of higher education have limited understanding of the effectiveness of remediation activities.
- Students need to be better prepared at the K-12 level to undertake the challenges of higher education and a workplace that now requires two years of postsecondary work.

Remediation will play an increasingly important role in sustaining strong economic growth in Illinois by providing the educational foundation for an expanded, well-trained workforce that is undergoing substantial changes in terms of demographics and the necessary skills for success. Remediation is a collaborative responsibility calling for collaborative activities and the alignment of curricula and performance across P-16 levels. The number and diversity of citizens who complete education and training programs will increase as more minority, low income, immigrant, and non-traditional students are afforded opportunities to gain the necessary skills to succeed.

### **Recommendations**

The gaps and deficiencies discussed in this report call for a systematic approach if we are to significantly increase the number and quality of college ready high school graduates. The recommendations below have been developed as critical components of a broad, statewide, integrated P-16 effort to align remediation policies and practices to achieve that end.

No action is recommended by the staff to the Board for the meeting of October 3. Some of the following recommendations are controversial, and some have not been fully discussed with our P-16 partners. An action item on this subject will be brought to the Board in December.

*Illinois should significantly increase the percentage of high school graduates who complete college preparation courses.*

- Devise incentives to encourage students to complete college preparation requirements.
- Ensure early awareness by parents, students, and educators of the importance of college preparation core curriculum, by designing and delivering “college readiness” courses beginning in the tenth grade; by developing public information outreach efforts; and by creating a College Readiness Report Card to be sent to students with their ACT scores in their junior year with information on courses they can take to build their skills. Publicize the availability of this information to parents, students, teachers and career counselors.
- Ask colleges and universities to require the college prep core curriculum and/or a passing score on the Prairie State Achievement Exam as a prerequisite for unconditional admission for recently graduated high school seniors.

*Identify and meet remediation needs early. Students who receive remediation at critical points in their education are more likely to be prepared for enrollment in postsecondary education.*

- Establish a continuum of expectations for college success beginning in grade school. Identify reading remediation needs at the third grade level; basic skills and content knowledge in grades 7-12; and improve the achievement level of eighth graders as they transition to high school.
- Make college-readiness courses and remediation available at the high school level. Based on the results of the Prairie State Achievement Exam, high school juniors who are not college ready should have access to remediation during their senior year in high school, or during the summer prior to enrolling in a postsecondary institution. The P-16 partners should work together to devise effective means of providing that remediation.
- Develop on-line college-readiness products and make them widely available to parents, students and teachers.

*Align high school graduation standards with college admission standards to better prepare students for the rigor of postsecondary study.*

- Pass legislation that raises the requirements for high school graduation by aligning the graduation core curriculum requirements with the college preparation curriculum requirements.
- Increase the college preparation curriculum requirements by adding a fourth year of mathematics (Algebra I and above).
- Establish an advisory group to develop a new working definition of “college-level” work, and develop recommendations for standards in math, English, science, history, and social sciences at the high school and postsecondary levels.

*Institute a statewide postsecondary remediation policy, including standards for assessment, placement and measurement of outcomes.*

- Identify a statewide instrument for assessment and set a statewide cut score common to all higher education institutions.
- Require incoming assessment of ALL students to all public community colleges and universities.
- Mandate placement in remedial courses for students scoring below minimum state equivalent test scores.
- Establish statewide criteria and evidence for evaluating remediation learning outcomes.
- Require completion of all recommended remediation PRIOR to enrollment in college-level courses in which remediation was required.

- Require outcomes assessment of remediation activities prior to enrollment in regular college courses.

*Illinois P-16 institutions should collaboratively develop a student record system that can share data to improve policy, practice and performance of Illinois students.*

Being prepared to undertake college-level work is no longer an option for a few students. The new economy calls for an increase in the overall educational attainment level of all workers, and a significant increase in the percentage of workers with postsecondary education and training. Working together, Illinois' P-16 partners can significantly increase the number of high school graduates prepared to take up lifelong advanced learning in both educational and employment settings. Illinois must redouble its efforts to help students achieve through creating opportunities and incentives for P-16 partners to make real differences in student's lives, with particular attention to those with substantial gaps in course taking behavior, student persistence, and performance. We already know how to do this – by improving the college prep course-taking behavior of high school students, and by providing remediation when it is necessary in the most timely and effective manner, and by communicating throughout the educational pipeline, the consistent message that *ALL Illinois students can and must master the rigor and content of the college prep curriculum.*

