Frequently Asked Questions

About Postsecondary Engagement with Achieve's ADP Assessment Consortium

For many years there has been a growing expectations gap between what we expect of our high school graduates in order to earn a diploma and what is required for their success in higher education. For far too many graduates, the American high school diploma signifies only a broken promise; high school standards have not been aligned to college entrance and placement requirements, and high school assessments have not measured the skills and knowledge needed for success in college. Many students learn that they are unprepared to meet college readiness expectations during the admissions and placement processes when it is too late and much harder to address their gap in skills.

Postsecondary institutions and high schools are mutually responsible for providing clear signals to students. Postsecondary leaders and faculty are in a unique role to make a difference, both in setting of college-ready standards and developing admissions and placement assessments that genuinely signal to students that they are ready for credit-bearing courses that will lead to success in college.

Achieve's ADP Assessment Consortium is an outgrowth of the American Diploma Project (ADP), a partnership of 35 states working together to ensure that students graduate from high school prepared for college and careers. The ADP began as a multi-year research project to define what it means to be prepared, drawing on interviews and focus groups with postsecondary faculty from two- and four-year colleges and employers from a cross-section of industries, uncovered a convergence in the expectations of postsecondary and business leaders for incoming first-year college students and entry-level employees. This common core of knowledge and skills is the foundation of the ADP benchmarks in mathematics and English/Language Arts.

With this research in mind, the Assessment Consortium is working in partnership with postsecondary education to develop high school assessments that will signal to students that they are college-ready or indicate skills and knowledge where improvement is needed. The result should be a reduction in the large number of students who end up in remedial courses when they arrive on the college campus. The initiative has begun with development and implementation of a multi-state Algebra II exam that will measure what high school students must know and be able to do in order to be ready for success in their first college credit-bearing mathematics courses.

The genesis of this document reflects questions frequently asked during an invitational meeting for postsecondary leaders in states participating in the ADP Algebra II end-of-course exam. The meeting, "Advancing College Readiness: Higher Education's Role in Improving America's High Schools," was co-sponsored by Achieve, the American Council on Education, and the Charles A. Dana Center; it took place in Washington, D.C. on December 8-9, 2008.

Achieve's Multi-State Algebra II Exam

Q. What is the purpose of the Algebra II exam?

A. The Algebra II end-of-course exam is intended to serve several purposes, particularly:

- ***To help colleges determine if students are ready to do credit-bearing work in mathematics.*** Because the exam is aligned with the ADP mathematics benchmarks, it will measure skills students need to enter and succeed in first-year, credit-bearing mathematics courses. Postsecondary institutions will be able to use the results of the exam to tell high school students whether they are ready for credit-bearing mathematics coursework, or if they have content and skill gaps that need to be filled before they enroll in college. This information also should help high schools better prepare their students for college, and over time reduce the need for colleges to provide remediation courses that are costly to institutions and students alike.
- ***To improve high school curriculum and instruction*.** The exam will help high school classroom teachers focus on the most important concepts and skills in Algebra II and identify areas where the curriculum needs to be strengthened. Starting in 2010, teachers will get test results back very soon after administration of the exam, which will provide sufficient time to make the necessary curricular adjustments for the next year's course.
- ***To provide a consistent measure of college readiness in mathematics.*** Because the exam is being administered to students in multiple states, it has the unique ability to provide a common measure of student performance within and across the states over time. This will allow the results to be translated easily by postsecondary institutions across the nation when making placement decisions, rather than relying on a multitude of state-specific tests.

Q. What are the American Diploma Project (ADP) mathematics benchmarks?

A. The ADP mathematics benchmarks are the result of two years of national research and reflect a convergence in what postsecondary faculty believe students need to enter credit-bearing college coursework successfully and what employers believe students need to enter quality jobs that often require additional education and training. The mathematics benchmarks reflect a rigorous four-year course sequence that includes content typically taught in Algebra I, Geometry, and Algebra II, as well as some data analysis and statistics.

Q: How do the Achieve ADP Benchmarks and the Achieve ADP Algebra II End-of-Course Exam Content Standards align?

A: The Algebra II End-of-Course Exam content standards are based largely on the ADP mathematics benchmarks but also include specific Algebra II concepts that were agreed upon by the states that were involved in the development of the assessment. Therefore, the ADP mathematics benchmarks and the Algebra II exam standards are not an exact match. The ADP benchmarks were intended to cover multiple courses and pathways in mathematics that a student might encounter in high school, whereas the exam standards are intended to assess the specific curriculum usually offered in Algebra II courses.

Q. Which states have been involved in the Algebra II assessment work?

A. The ADP Algebra II end-of-course exam is the largest multi-state assessment partnership to date. Fifteen states—Arizona, Arkansas, Florida, Hawaii, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, New Jersey, North Carolina, Ohio, Pennsylvania, Rhode Island and Washington—have joined the ADP Assessment Consortium. Together, these states developed Algebra II content standards and participated in the review of both multiple-choice and open-ended test items. Additional states are welcome to join the partnership.

Q. How will Achieve report data on the results of the Algebra II assessment?

A. Achieve will issue an annual report that shares the results from participating states; the first report was published in August 2008 (http://www.achieve.org/2008Algebra2report). In the first few years, the size and makeup of the test taking populations in each state will likely vary as some states will administer the test to all students enrolled in Algebra II while others will make the test optional for districts and students. The report will include state-specific information such as the number of students taking Algebra II, the number of students taking the Algebra II end-of-course exam and the results by state and across the consortium.

Q. How can the Algebra II test help reduce the overall number of tests students take?

A. The Achieve Assessment Consortium is focused on smarter testing, not more testing.   High school and postsecondary assessments need both to signal students' college-readiness as well as areas in which students need help to improve their achievement. The Algebra II exam is unique in that it has both secondary and postsecondary uses and has the potential to replace existing tests that fail to measure adequately a student's readiness for college mathematics.

Q. How are advanced mathematics and the Algebra II assessment relevant to students in career and technical education (CTE)?

A. There is growing evidence that the best jobs in the changing American economy will require the same mathematics preparation as is needed for college readiness (see, for example, the Math at Work brochures that have recently been developed by Achieve **(www.achieve.org/mathworks)**. In addition, students in CTE will increasingly need postsecondary training (as much as two years in many cases), with Algebra II serving as much as a gatekeeper course for these students as is the case with those seeking two- or four-year academic degrees. The 81 Career Cluster Pathway Plans of Study were developed by secondary, postsecondary, business, industry and government leaders to serve as guides for career and technical education students' educational and career goals. They cover a wide range of careers–health care, manufacturing, finance, among others–and recommend that all CTE students complete Algebra II and one additional higher-level math course, such as Statistics and Pre-Calculus.

How Higher Education Can Use the Algebra II Assessment

Q. How can postsecondary institutions use the results of the Algebra II assessment?

A. The assessment can signal readiness for college-level credit-bearing mathematics to students and to colleges/departments. For students who do well on the assessment, colleges/departments might consider waiving a separate placement test for the first credit-bearing mathematics course or courses. This would decrease the number of tests a student would take, decrease the cost to colleges and departments for administering tests, and have an added benefit of signaling that the exam is valued by postsecondary and thus worth being taken seriously both by students and their high schools. When given early enough in a student's high school career, and once results are provided soon after administration, the assessment can also signal to students and schools where improvement/further instruction and support is needed to help students reach college-readiness in mathematics by the time of high school graduation. (An analogous example is the California State University's Early Assessment Program [EAP], a supplement to the existing state high school assessment, which signals college readiness of high school juniors and triggers supports for students in their senior year to get them on track to college readiness before exiting high school (http://www.calstate.edu/eap/).

Q. Is the Algebra II exam intended as a replacement for current college and departmental placement tests?

A. No, the Algebra II end-of-course assessment is <u>not</u> intended as a replacement for college mathematics placement tests or institutional placement instruments such as COMPASS and ACCUPLACER. Colleges can use the Algebra II test to signal college mathematics readiness for entry-level credit-bearing mathematics courses such as College Algebra. Achieve recognizes that colleges/departments will need to use their own placement assessments for higher-level courses such as calculus or pre-calculus.

Q. Won't the test just be another barrier to participation in higher education, especially by students from disadvantaged backgrounds?

A. There is considerable evidence that students from disadvantaged backgrounds are less likely to have access to and succeed in rigorous mathematics courses in high school and therefore are more likely to be placed in remedial mathematics courses at the postsecondary level. Very few of these students ever complete such remedial courses and end up dropping out of college altogether. The Algebra II assessment can help schools and districts target the content and supports needed so that all students will be ready for credit-bearing college coursework when they graduate from high school. In addition, Algebra II courses often vary widely in their academic content and rigor; although some students are exposed to content-rich and stimulating classes that build college- and career-ready skills in high school, many others—often already disadvantaged students—only have access to courses that offer remedial and non-academic content that are simply labeled "Algebra II". The Algebra II exam can help ensure that all students will be held to the same standard and consistency of rigor, regardless of their state, district, school or classroom. The Algebra II assessment, however, is only one tool; schools and districts must devote more attention and resources to ensuring that high schools know what college-ready standards look like, that the high school mathematics curriculum is aligned to college-ready standards, and that students and teachers are provided with the supports they need in order to be prepared for success in college. Postsecondary education can play an important role in facilitating discussions about these issues.

Q. Since a growing percentage of high school students are taking Algebra II in the tenth grade (or even earlier), how can the Algebra II assessment signal that such students are college-ready in mathematics when they arrive on the college campus two or more years later?

A. The exam can be used to signal not only college-readiness but also where students need to improve their mathematics skills and conceptual understanding in their subsequent high school mathematics courses. In addition, high schools and colleges need to work together to ensure that students continue to take higher level mathematics courses after Algebra II, whether in 9^{th}, 10^{th}, 11^{th} and/or 12^{th} grades. Colleges and high schools may also need to pursue more vigorously dual enrollment options for college-ready high school students to continue mathematics courses at the college level during their junior and/or senior high school years.

Postsecondary Engagement in the Algebra II College-Ready Assessment

Q. Why is the engagement of postsecondary so important to Achieve's work on the Algebra II assessment?

A. The ability of the K-12 system to raise standards and adopt a more rigorous curriculum has depends heavily on buy-in and support from postsecondary institutions and systems, in sending signals to students, parents, schools and communities that improving standards and achievement at K-12 is essential to student postsecondary success. Higher education's voice in support of raising standards, often in concert with the business community, has led many states to stronger curriculum for all students (see, for example, the Indiana Core-40 curriculum [http://www.indianacore40scholars.org/]); the same voices are equally if not more important in making the case for more rigorous high school assessments. While the initial results of the Algebra II exam and other college-ready assessments are not encouraging, K-12 and higher education need to have a common voice to focus attention instead on what can be done to help students when they have not done well on such assessments.

Q. How has Achieve engaged postsecondary in development of its Algebra II assessment?

A. Postsecondary mathematics faculty have been involved in the initial research effort that has guided the creation of the exam. They have helped develop the exam standards, test items and scoring rubrics. In addition, faculty members from two- and four-year institutions will be involved during 2009 in validation studies that will confirm the alignment of the exam with the content and skills needed for successful entry into credit-bearing college mathematics courses and help determine appropriate cut scores to indicate mastery of that knowledge.

What Postsecondary Can Do to Advance Aligned Assessments in Algebra II and Other Subjects

Q. Are there still opportunities for postsecondary engagement in the development of Achieve's Algebra II assessment?

A. In partnership with the exam contractor (Pearson Education Measurement), Achieve is sponsoring a series of validation studies in 2009, which will include the engagement of faculty to help set the actual college-ready cut scores for performance on the assessment. Further research also will be needed as Achieve and Pearson complete additional administrations of the assessment and as more student performance data are collected. As such research initiatives develop, there are likely to be opportunities for faculty to participate in the research and to develop journal articles and/or other publications.

Q. What specifically can each postsecondary constituency do to advocate for the use of the Algebra II assessment at the institution and system level, and to advocate for the development of a more streamlined K-16 assessment system that focuses on student preparation for college-readiness?

A. Specific postsecondary constituencies can play important roles.   These include:

State higher education policymakers (SHEEOs):   These policymakers can work to ensure that state legislation and other policies support (or even mandate) the use of such assessments at the high school level; SHEEOs can also advocate for policies that support jettisoning assessments that aren't aligned with college- and career-readiness standards. SHEEOs and other policymakers can be advocates for the provision of sufficient financial resources to develop and administer such assessments. Existing P-20, inter-segmental and coordinating councils can be used to initiate conversations with key postsecondary and other leaders, to propose and advocate for state policies that support college-ready assessments, and to develop strategies for communicating the importance and value of college-ready assessments to state legislators and the general public. SHEEOs and other policymakers can also reach out to statewide mathematics groups as well as to organizations that can reach superintendents, counselors, teachers, parents and other key stakeholders in student mathematics achievement.

System and institutional postsecondary administrators: These leaders can provide incentives to mathematics/other departments to use college-ready assessments in addition to or as replacements for current placement assessments, as well as provide incentives to help clarify to students, K-12 schools and others the credit-bearing mathematics course or courses to which college-ready alignment efforts should be targeted. Such administrators can also engage admissions officers and registrars as important institutional partners in using and validating such assessments in the criteria they use for admitting and enrolling students.

College and university departments and faculty members: These leaders can focus greater attention on entry-level credit-bearing "on-ramp" college courses; they can participate in state and other standards-setting and benchmarking efforts (such as the American Diploma Project) to ensure that faculty voices are at the table; and they can actually start using the results of the exam as an indicator of readiness. Department chairs and other faculty leaders can encourage faculty engagement in research efforts to improve high school assessments, and provide rewards for such participation in promotion, tenure and salary decisions. In addition, these leaders can use the Algebra II initiative as a way to open discussions at the department level about how to increase the quality of instruction in first-year college mathematics courses that will lead to greater student persistence and success at the postsecondary level.

Postsecondary associations and organizations: Associations representing institutional leaders (presidents and provosts) can advocate through their national and regional meetings, publications and other means of communication that the college-readiness assessment agenda be placed high on postsecondary leadership agendas. Mathematics and other disciplinary associations and organizations also can be advocates using similar means to communicate with department chairs and faculty members about the importance of supporting and engaging with Algebra II and other college-ready assessments.

Technical Aspects of the Algebra II Assessment

Q. How will cut scores be determined for the Algebra II assessment, using what criteria?

A. Cut scores will be set during the summer of 2009 based on evidence about the knowledge and skills college students need to be successful in first-year credit-bearing mathematics courses. Evidence is currently being developed through a series of judgment, cross-sectional and concurrent validation studies that are engaging two- and four-year postsecondary institutions and mathematics faculty extensively. One outcome of these studies may be the setting of several cut scores to help signal student readiness for entry-level credit-bearing mathematics at the college level versus preparation for more advanced mathematics (such as pre-calculus or calculus).

Q. Are items from the Algebra II assessment available for review?

A. The Achieve Assessment Consortium has released two sets of items, both accompanied by solutions and commentaries. The items released have been carefully chosen by mathematics representatives from the states to help teachers and students understand the types of items that are on the exam. You can find the released items at the following link: http://www.achieve.org/node/842.

Q. Where can I find other resources to help advance postsecondary engagement with the Assessment Consortium and the Algebra II test?

A. Achieve has developed a postsecondary resource library on college-ready assessments (including Mathematics) at http://www.postsecconnect.org/college-ready-assessments. For further information on technical aspects of the Algebra II assessment, please also see the Achieve Algebra II fact sheet at the following link: http://www.achieve.org/files/AlgebraIIFactSheetUpdates111208.pdf. Further information about Achieve's Assessment Consortium can be found at the following link: http://www.achieve.org/ADPAssessmentConsortium.