

ACCUPLACER®

GUIDE TO TESTING AND INNOVATIVE PRACTICES



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ACCUPLACER® Guide to Testing and Innovative Practices

Revealing Potential, Expanding Opportunity

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ACCUPLACER® is a computer-adaptive diagnostic, online intervention and placement testing system that assesses student academic skills in reading, writing and mathematics in an immediate and accurate way. Teachers and counselors can use the results of these assessments to determine students’ strengths and weaknesses to provide early academic intervention. Administering more than 8 million tests per year, the ACCUPLACER system is used by more than 1,300 secondary and postsecondary institutions to place students in the appropriate courses where they can confidently meet classroom requirements.

For further information, visit www.collegeboard.com/accuplacer.

Contact us at: info@accuplacer.org or 866-607-5223





Get to Know the New ACCUPLACER®

Since 1985, educators have depended on ACCUPLACER® for reliable course placement assessments. ACCUPLACER testing and technology has evolved into a new generation of tools. This new suite of options provides students, instructors and advisers with individualized, specific information, along with recommendations and options for addressing academic needs. The original ACCUPLACER subject area tests are designed to be used in conjunction with diagnostic tests that allow students to get a detailed analysis of their strengths and weaknesses. Based on this personalized approach, the best plan for each student can be determined. ACCUPLACER has partnered with Pearson to offer ACCUPLACER®//MyFoundationsLab®, a comprehensive online diagnostic and intervention system that addresses academic gaps and/or strengthens academic skills. ACCUPLACER®//MyFoundationsLab can be used flexibly in a number of settings that are best determined by the individual college or high school. The Enhanced ACCUPLACER suite can help reduce remediation time and help students move forward with confidence toward college readiness.

Some of the features for which community colleges, universities, technical colleges and high schools best know ACCUPLACER include:

- **Computer-adaptive testing.** Questions are chosen on the basis of answers to previous questions. This technique selects just the right questions for the student's ability level.
- **Internet-based delivery.** Institutions can administer assessments anywhere as needed without installing or upgrading software. Test administrators control the test delivery.
- **Immediate score reports.** Individual student score reports are available immediately after testing. Students know how they did, and advisers can meet with students to interpret results, discuss options and make a plan prior to registration for courses.
- **Customizable.** Institutions can add custom messages about course placement based on institutional or system course placement scores.

Additionally, today's ACCUPLACER offers new tools that align diagnostic scores with remediation so students can target specific academic needs and improve more quickly.

ACCUPLACER Diagnostics provide a detailed analysis of a student's strengths and weaknesses to enhance college preparedness and academic performance. Untimed and available in four subjects, this suite of assessments is designed for use at both high schools and postsecondary institutions.

ACCUPLACER®//MyFoundationsLab®, created in partnership with Pearson, provides individualized, online instruction to address academic gaps or weaknesses.

The Official ACCUPLACER iPhone App allows students to improve their skills and become familiar with the style and content of questions asked on an ACCUPLACER test, independently or in conjunction with instructors.

EARLY TESTING AND INTERVENTION

- **Targeted intervention leads to better test scores:** Montgomery County Public Schools performed interventions to target students' nonproficient areas and discovered that student performance improved in 12 of the 15 subject areas among all cohorts.
- **Early assessment in high school motivates students to earn college credit:** At Colorado Springs Early Colleges, ACCUPLACER is a motivational tool that spurs student achievement. Hundreds of at-risk students are accumulating college credits while earning their high school diplomas.
- **Test-prep workshops help place students in upper-level courses:** Community College of Aurora holds test-prep workshops to help students develop new skills and advance to college-level math courses. Eighty-six percent of students who placed in a college-level math course, as a result of the workshops, obtained a grade of C or higher.





BOOSTING READINESS WITH EARLY TESTING AND INTERVENTION

Montgomery County Public Schools — Maryland

Montgomery County Public Schools (MCPS) in Maryland is proud of having the highest graduation rate in the country. In 2011, among the nation’s largest school districts, it was an impressive 86 percent, but the school system wanted to help even more students achieve at the college level.

Approximately one-third of MCPS graduates enroll in Montgomery College, the local community college, and many require remediation: In 2007, ACCUPLACER test results of first-year students at Montgomery College indicated that 64 percent needed developmental math, 36 percent needed developmental English and 27 percent required developmental reading.

To help more graduates proceed to college-level work more quickly, MCPS partnered with Montgomery College to administer ACCUPLACER, and ACCUPLACER Diagnostics and interventions at the high school level. The partners aimed to identify and address students’ academic needs using the two assessments earlier, so more students would be ready for college-level course work.

Early intervention leads to better test scores

In fall 2010, MCPS used ACCUPLACER Diagnostics to assess 1,183 high school seniors and identified specific areas in which individual students needed improvement. Students who did not meet proficiency requirements were then given the opportunity to strengthen their skills. Targeted interventions were developed and provided by instructors based on the individual math and English needs identified by the ACCUPLACER Diagnostic tests.

Student performance improved in 12 of the 15 domains among all cohorts of students who were retested in the spring. Specifically, the percentage of students testing *not proficient* decreased for these 12 domains, in some cases dramatically. For example, the percentage of students testing *not proficient* decreased 18 percentage points for Sentence Structure, 17 percentage points for Word Problems and Applications, and 10 percentage points for Real Numbers. Review detailed data on page 11.

“The ACCUPLACER program allows high schools to effectively prepare students for college. My staff uses information from the ACCUPLACER Diagnostic to provide targeted interventions and modify instruction, so our students succeed in high school and college.”

— Henry R. Johnson Jr., Principal, Northwood High School

Executive Summary

Montgomery County Public Schools performed interventions to target students’ nonproficient areas. Mathematics, reading and writing diagnostics look at student performance in 15 domains. After interventions, average student performance improved for 12 of the 15 domains. For example, the percentage of students testing “not proficient” decreased by 18 percentage points for Sentence Structure and by 17 percentage points for Word Problems and Applications. This table presents data that require further interpretation, but the face validity suggests that even short-term intervention can improve test scores in many domains.

Domain	Percentage of students testing “not proficient” before targeted interventions	Percentage of students testing “not proficient” after targeted interventions	Change in the percentage of students testing “not proficient”
Mathematics			
Real numbers	89%	79%	10 percentage-point improvement
Linear equations, inequalities, and systems	77%	77%	no change
Quadratic expressions and equations	86%	91%	5 percentage-point decline
Algebraic expressions and equations	88%	87%	1 percentage-point improvement
Reading			
Word problems and applications	83%	66%	17 percentage-point improvement
Passage-based reading: main idea	66%	63%	3 percentage-point improvement
Passage-based reading: supporting detail	64%	56%	8 percentage-point improvement
Sentence relationships	83%	70%	13 percentage-point improvement
Passage-based reading: inference	83%	74%	9 percentage-point improvement
Passage-based reading: author’s purpose/rhetorical strategies	78%	70%	8 percentage-point improvement
Sentence Skills			
Agreement	63%	53%	10 percentage-point improvement
Modifiers	58%	47%	11 percentage-point improvement
Diction/logic	69%	59%	10 percentage-point improvement
Sentence structure	69%	51%	18 percentage-point improvement
Sentence boundaries	56%	58%	2 percentage-point decline

Lessons Learned

MCPS found that administering ACCUPLACER Diagnostics at the high school level provided a range of benefits, including:

- Dramatic improvements in the students’ proficiency levels.
- Robust data identifying students’ academic skills, useful for counseling sessions.
- Ability to compare ACCUPLACER Diagnostics with state testing and PSAT/NMSQT® scores.
- Aggregate data focusing on student performance, on average, in certain math and English subjects.
- Improved test-taking experience for students. Nearly 88 percent of students said they felt comfortable with the computer-based testing.



MOTIVATING STUDENTS WITH EARLY ASSESSMENTS

Colorado Springs Early Colleges — Colorado

This year, hundreds of at-risk students in Colorado Springs are starting to accumulate college credits while earning their high school diplomas.

The students attend Colorado Springs Early Colleges (CSEC), a unique tuition-free public charter school that has partnered with Colorado Technical University, Pikes Peak Community College, and the University of Colorado at Colorado Springs.

The average student graduates from CSEC with more than 45 hours of college credit toward an associate degree in applied science, or in arts and science; an associate degree in general studies; a career technical education certificate; or a four-year baccalaureate degree.

CSEC was established in 2007 to offer ninth- through 12th-grade students the opportunity to place into college-level courses and earn college credits. Keith King, CSEC founder and administrator, attributes much of the school's success to its consistent use of ACCUPLACER as a motivational tool to spur student achievement.

Students are grouped by test results rather than by age

CSEC students are required to take ACCUPLACER and WritePlacer® assessments in five areas: reading comprehension, essay writing, arithmetic, elementary algebra proficiency and college-level mathematics readiness, before enrolling at CSEC. Students then are placed in classes based on their academic achievement as measured by ACCUPLACER test results, rather than by their age.

The school uses the Colorado Community College curriculum remedial system of 030, 060, 090 and 099. Some ninth-graders score high enough to place in college-level courses.

Students who have lower test scores are encouraged to take ACCUPLACER Diagnostics to isolate areas for improvement. The CSEC adviser also guides students to relevant developmental resources so they can focus on strengthening language or math skills. Following their studies, students can retake the ACCUPLACER test and advance to higher-level college courses.

Students typically take ACCUPLACER tests in January and retest after a three-week summer school program that addresses their skill-set deficiencies. In 2011, ACCUPLACER scores, on average, increased 7.2 percent in

“We feed off the enthusiasm of the students. I now head a leadership team that includes an academic dean, the dean of student success and the registrar. Together we are leading the school to accomplish great things for students. No excuses. No exceptions.”

— Keith King, Founder and Administrator, Colorado Springs Early Colleges, Colorado State Senator

sentence skills, 15.3 percent in reading comprehension, 17.3 percent in arithmetic, 20.5 percent in writing and 68.4 percent in elementary algebra.

By high school graduation, nine out of 10 CSEC students have passed college courses while completing their high school requirements. In 2011, 24 of the 124 CSEC graduates earned associate degrees along with their high school diplomas. One highly motivated CSEC student, Jenna Rock, earned both a high school diploma and a bachelor's degree in electrical engineering from Colorado Technical University.

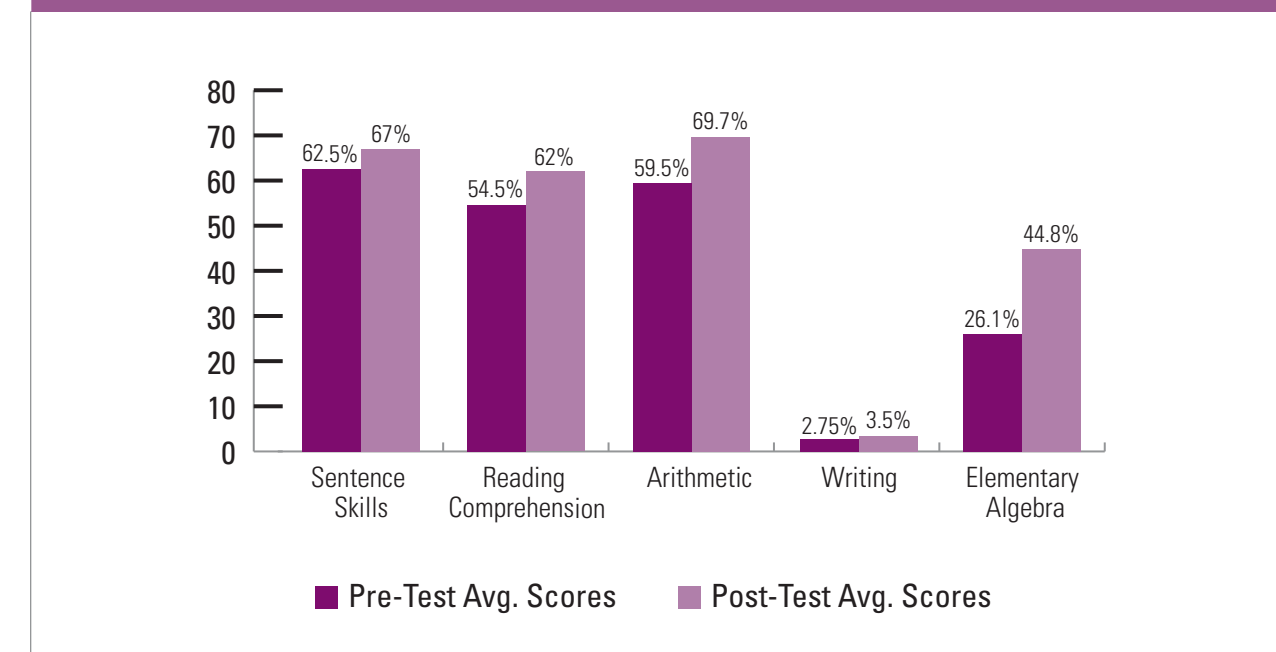
King credits ACCUPLACER with much of this success. “If you give students the opportunity, you will be impressed with how many of them, from the start, look at their ACCUPLACER results and say, ‘Wow, I have this deficiency, and I can solve it and make progress.’ Students feel that the yardstick of the ACCUPLACER test is a fair assessment, and they have the opportunity to evaluate themselves against that standard of achievement.”

Early assessment in high school motivates students to earn college credit

At Colorado Springs Early Colleges, ACCUPLACER is a motivational tool to spur student achievement. Hundreds of at-risk students are accumulating college credits while earning their high school diplomas. Using the Colorado Community College remedial system of courses, students used ACCUPLACER scores to place in the college remedial courses and progress to college-level courses and earn college credit prior to high school graduation. In 2011, students' ACCUPLACER scores, on average, increased 7.2 percent in sentence skills, 15.3 percent in reading comprehension, 17.3 percent in arithmetic, 20.5 percent in writing and 68.4 percent in elementary algebra. On average, CSEC graduates earn 45 hours of college credit, and an impressive number of students are graduating from high school with an associate degree or career technical education certificate.

Figure 1.

Percentage Growth of ACCUPLACER Scores in 2011





PROVING THE VALUE OF TEST PREP

Community College of Aurora — Colorado

The Community College of Aurora (CCA) began discussing the implementation of test preparation workshops — dedicated to helping students prepare for ACCUPLACER placement tests — after discovering one under way at another college.

At first, some faculty members did not support test prep, largely because of concerns about accelerating students too quickly. After further discussion, they agreed to try test-prep workshops to prepare CCA students for the ACCUPLACER arithmetic (AR) and elementary algebra (EA) tests.

Refresher workshops: high demand and strong success

The first math workshops, held in summer 2005, were two-hour sessions that reviewed a variety of pre-algebra and elementary algebra topics. The results astonished the skeptics:

- Up to 30 students attended each session, including students who had already taken the ACCUPLACER Arithmetic (AR) and Elementary Algebra (EA) tests.
- More than half of those who had already taken the AR and EA tests were able to test into a higher-level math class than they had tested into previously.
- Among students who retook the placement test and tested into a higher-level math class, 90 percent earned a C or higher.
- One student jumped past three developmental math courses and went on to earn an A in her college-level math course.

“Our preassessment workshops are now an established step of our new student registration process,” says Patti Molai, CCA’s coordinator of academic support. “Advisers encourage students to attend a workshop before taking an ACCUPLACER exam.” During the fall semester of 2010 and the spring semester of 2011 alone, 450 students attended a workshop. Of those, 109 enrolled in a math course, and 85 percent of those students earned a C or higher.

“Not only were the students’ scores higher than we aimed for, but they left with more confidence in their abilities to take, understand and pass any math class in the future.”

— **Alice C. Gilbert, Math Faculty Member, Community College of Aurora**

Scaling up with video

The demand for test prep was so great that by the spring of 2007, CCA had to change its approach. The college decided to film the workshop and put it online. Mike Pfaff, an adjunct faculty member and the go-to instructor for the workshops, was filmed using nothing but a writing tablet and an overhead projector. The videos were a near-instant success, receiving an average of 25 unique hits a day during the busiest test-prep weeks. Enrollment in Pfaff’s classes also spiked.

The Wagner workshops: test prep plus teaching new skills

That same year, CCA received a request from the Wagner Equipment Company, a heavy equipment dealer that had been partnering with CCA to train diesel mechanic apprentices. Wagner was finding potential employees who were qualified by every Wagner standard except one: They couldn’t meet the prerequisites for the math and/or English courses that were part of the training.

CCA knew it was time to discard the notion that the workshops should only be about refreshing skills. “Wagner needed these candidates to be successful, and the candidates themselves were just as motivated to meet the prerequisites,” says Math Department Chair James Gray. “Several of them had to learn new skills.” And CCA had to teach them.

Math faculty member Alice C. Gilbert developed the math portion of the Wagner workshops, as they became known. She led candidates through a variety of lectures, individual and group work, and one-on-one instruction. Through a series of mini-diagnostic tests, the students progressed through different levels of topics until Gilbert felt they were ready to retest with ACCUPLACER. All 10 candidates who participated in the program met the required cutoff scores, most of them with a healthy margin.

“Not only were the students’ scores higher than we aimed for, but they left with more confidence in their abilities to take, understand and pass any math class in the future,” Gilbert recalls. “They were actually anticipating another math class enthusiastically because they believed they could do it.”

Ultimately, the students who went through the Wagner program did nearly as well in their college-level math classes (average class grade of 81 percent) as those who didn’t need the program (average class grade of 85 percent).

A test-prep program for all

CCA next decided to expand test prep to the entire student population. This time, success was more elusive.

“It is one thing when you have a boss telling you that your future with the company is on the line,” Gray explains. “It is quite another without that direct motivation. We had no shortage of interested students; the issue was getting the students to follow through with the required work.”

Ultimately, CCA decided to embed the program into the first two weeks of an intermediate algebra course. At the end of those two weeks, students retake the ACCUPLACER EA test. Those who meet the cutoff score can move into a late-starting college algebra class, and those who don't meet it simply continue in the course in which they were already enrolled.

In spring 2011, 20 of the 45 students enrolled in the program tested into college algebra, although only 17 chose to move up. Of those 17 students, 11 earned a C or higher in college algebra.

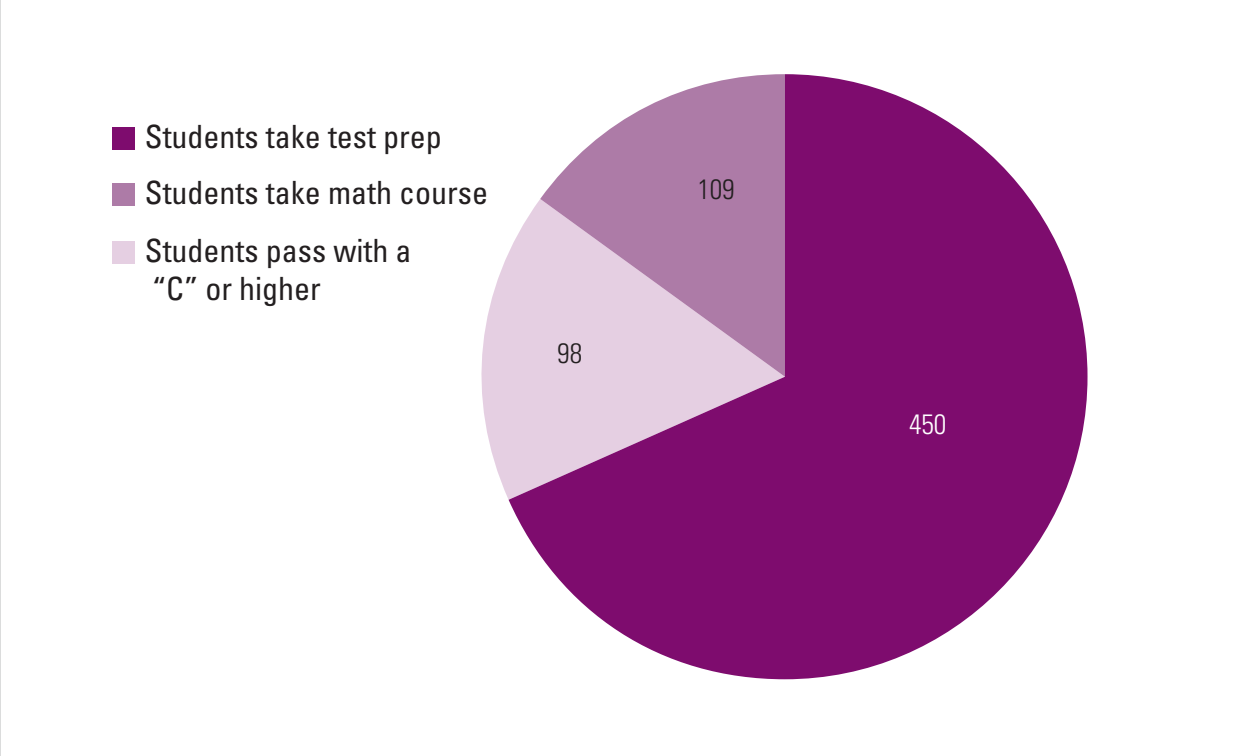
"The program is effective for all the students," says Pfaff, who was one of the course designers and teachers. "It helps those who stayed in Intermediate Algebra because they have a preview of the full course as well as a measure of their strengths and weaknesses."

Test-prep workshops help place students in upper-level courses

The Community College of Aurora holds ACCUPLACER test-prep workshops to help students develop new skills and advance to college-level math courses. Eighty-six percent of students who placed in a college-level math course, as a result of the workshops, obtained a grade of C or higher. Over time, faculty members have become increasingly supportive and involved, having seen the results. CCA has developed an effective option for students who attend test prep and test into intermediate algebra with a late-start course the same semester. CCA now offers test-prep workshops to its entire student population.

Figure 2.

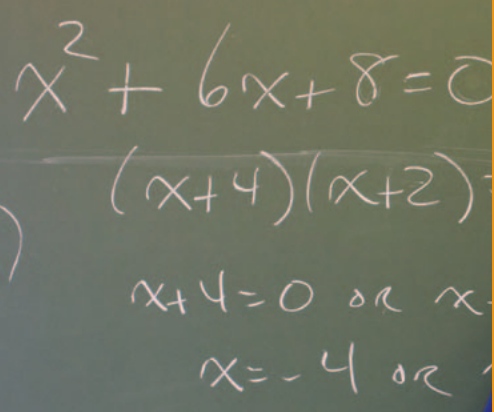
Test-Prep Program Fall 2010/Spring 2011



ALIGNING HIGH SCHOOL AND COLLEGE STANDARDS

- **Customized instruction helps students score and place higher:** Anne Arundel Community College uses ACCUPLACER Diagnostics to identify skills that need improvement and to tailor the curriculum accordingly. Fifty percent of at-risk students advanced at least one math level as a result of receiving targeted tutoring.
- **Aligned curriculum and partnership contributes to student success:** Asheville-Buncombe Technical Community College partners with other institutions to redesign curriculum and address student needs based on ACCUPLACER placement and diagnostic results. Students who scored lowest on initial placement testing show the greatest gain following remedial instruction.
- **Effective use of resources improves student performance:** At El Paso Community College, student performance improves considerably as a result of the institution's engagement with an educational consortium, diagnostic-driven instruction, pilot test studies, use of centralized data and other factors.





TARGETED INTERVENTIONS IMPROVE COLLEGE READINESS

Anne Arundel Community College — Maryland

Anne Arundel Community College (AACC) enrolls about 70 percent of the county’s public school students who attend college in Maryland. When college leaders wanted to reduce students’ need for developmental math, they tapped two key resources: the college’s strong partnership with Anne Arundel County Public Schools and ACCUPLACER.

The college and school system developed a pilot program that included 90 high school seniors enrolled in Algebra II. Two-thirds (60 students) became the control group. The other 30 students, all of them identified as at-risk students, were the test group. At-risk students were defined as students with individualized education programs or 504 plans, or students of limited English proficiency.

In October 2010, all 90 students took the elementary algebra and college-level math ACCUPLACER placement tests. The 30 students in the test group also took ACCUPLACER Diagnostics.

Powerful tools lead to significant improvement

The ACCUPLACER Diagnostics gave the instructor and the 30 students in the test group two strong tools for improving performance: First, ACCUPLACER generated a class profile based on the results so the instructor could tailor the curriculum. Second, the diagnostics identified each individual student’s strengths and weaknesses, so students could focus on the specific skills they needed to improve. With this information, the instructor was able to provide targeted tutoring based on each student’s individual needs.

In May 2011, at the end of their 12th-grade Algebra II class, all 90 students repeated the ACCUPLACER placement test. As a result of targeted tutoring, students in the test group progressed significantly more than students in the control group. Exactly half (50 percent) of students in the test group advanced at least one full math level. Without targeted tutoring, only 35 percent of students in the control group advanced at least one math level after taking the standard Algebra II class. What makes these results more striking is the fact that all of the students in the test group were at-risk students.

Based on these results, the interventions will be expanded to include additional students. Several inferences could be made about the value of this study, one of them being that if the use of the ACCUPLACER Diagnostics and targeted tutoring improved the math levels of half of the at-risk students, then it might be a good approach to use with all students.

“Thirty-five of the control group progressed at least one math level because of the knowledge gained in their Intermediate Algebra class, and 50 percent of the test group — those who received both the class content and the targeted tutoring, progressed at least one full math level.”

— Lois Burton, Director of Testing and Tutoring, Anne Arundel Community College

Executive Summary

Anne Arundel Community College (Md.) and Anne Arundel County Public Schools built on their strong partnership to reduce students’ need for developmental math. At-risk 12th-grade students who had completed Algebra II and a control group were given the ACCUPLACER and ACCUPLACER Diagnostics. After attending the Intermediate Algebra class, 35 percent of the control group advanced at least one math level. Fifty percent of the test group — those who received both the class content and targeted tutoring, advanced at least one full math level. The data presented below are based on ACCUPLACER testing at the end of the 12th-grade Algebra II class.

Figure 3a.

Targeted Interventions Lead to Dramatic Improvements in Math

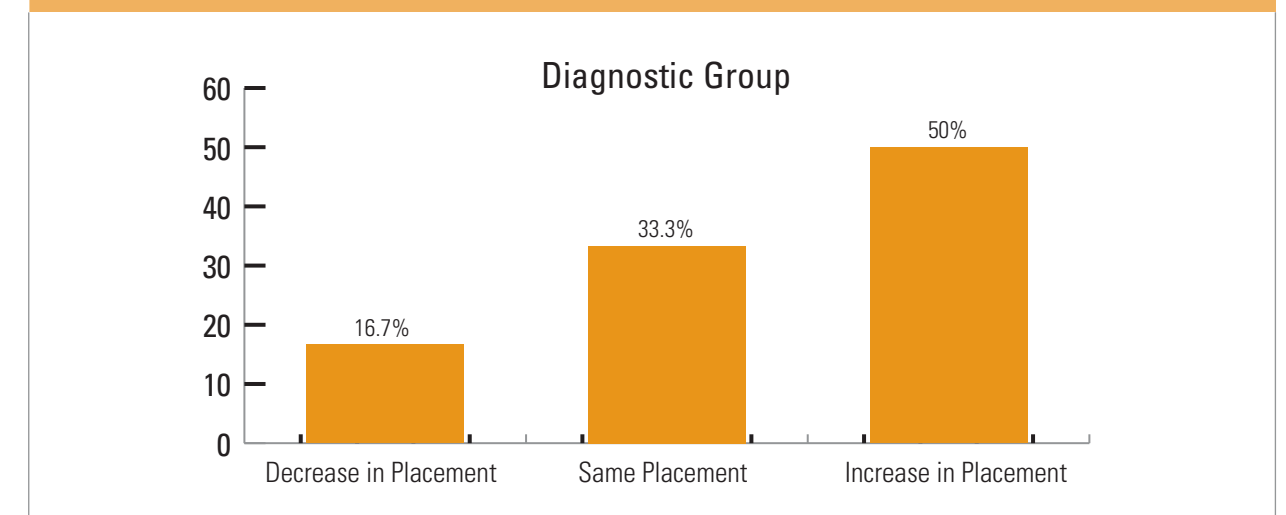
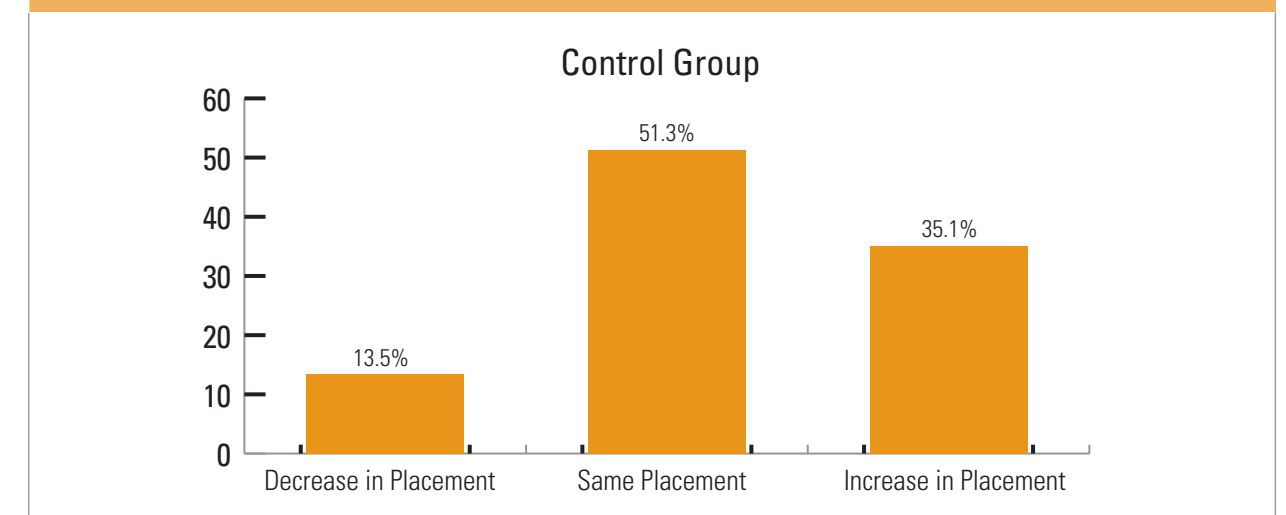


Figure 3b.

Targeted Interventions Lead to Dramatic Improvements in Math



ALIGNING CURRICULUM WITH K–12 AND COLLEGE PARTNERSHIPS

Asheville-Buncombe Technical Community College — North Carolina

In 2010, Asheville-Buncombe Technical Community College (A-B Tech) set a goal of better aligning high school curricula to college requirements and to employers’ current needs. The college invited the participation of three local public school systems — those in the city of Asheville and in Buncombe and Madison counties — to partner with them in this effort.

Creating a dialogue about math

A-B Tech began by creating a math consortium that brought together 75 public school educators, in addition to A-B Tech math and developmental education faculty members. Participants quickly focused on ACCUPLACER placement data showing a high need for developmental math: 72 percent of the service area’s 2007–2008 college “tech prep” high school graduates who enrolled in A-B Tech upon graduation placed into at least one developmental math course.

The consortium began a rich dialogue about how students could be further supported in high school so they would be better prepared for college-level work. Sharing ideas across systems led A-B Tech to provide the high schools with math materials they could use to prepare their students for college-level math. One school system developed Moodle instruction (an online learning platform) based on the A-B Tech materials and then shared it with the other school systems.

Using ACCUPLACER Diagnostics to improve outcomes

In 2010, A-B Tech and eight area high schools administered ACCUPLACER placement tests to high school math students. Students who did not meet the college-ready threshold took ACCUPLACER Diagnostics.

Based on the test results, the high schools offered various treatments with the students to strengthen math knowledge. Each high school determined its own intervention strategies.

Following the intervention, students retook the ACCUPLACER placement test. Results showed that students who had the lowest scores on the initial placement test showed the greatest gains after the intervention.

“With ACCUPLACER Diagnostics, we are able to pinpoint areas of deficit on the class level as well as on the individual student level. The class-level data gave us opportunities to share best practices within schools and across school systems. The student-level data gave teachers insights on the specific needs of individual students so they could work with them using our fast-track technology or more drills.”

— **Deborah Harmon, Executive Director of Counseling/Advising, A-B Tech**

Improving collaboration among teachers

All of the participating high school teachers also took the ACCUPLACER Diagnostics test themselves, and nearly 100 percent found it more rigorous than they expected it to be. This helped provide a meaningful context and increased the dialogue between the Career Technical Education (CTE) teachers and the math teachers. CTE teachers frequently teach specific applied math within their programs. Using ACCUPLACER scores that correlate to the individual programs can get more students placed correctly initially, while the Diagnostics give an in-depth look at specific skills needed by students. Engaging in this process created the opportunity for CTE teachers and math instructors to talk about their common goals.

As a result, CTE teachers redesigned curricula — from car repair to carpentry, food preparation and medicine — to be more mathematically relevant. This change increased student engagement in math. Teachers also recognized the value of spending more time with each other in professional development.

Executive Summary

Asheville-Buncombe Technical Community College partnered with other institutions to redesign curricula and address student needs based on ACCUPLACER placement and diagnostic results. They brought together 75 public school educators with college math and developmental education faculty members to dialogue about how students could be better prepared for college-level work. A.C. Reynolds was one of eight participating high schools in the pilot program. A total of 128 students in grades 10–12 who were enrolled in Technical Math I, Technical Math II, or Introductory Math/Algebra took the ACCUPLACER placement test, and then received approximately 35 hours of mathematics instruction. Following the intervention, students who scored lowest on initial placement test show the greatest gain.

A.C.Reynolds High School — A Few Findings

- Students who scored lowest on the initial placement test showed the greatest gain after targeted intervention.
- Aggregate data for these classes show that 39 of the students who received the intervention tested into the next higher-level course, and eight students tested up two levels following the remedial instruction.
- Testing ninth-graders on arithmetic skills with a message about math skills needed for college readiness is a good idea.

Lessons Learned

The partnership between high schools and A-B Tech opened lines of communication so high school teachers and college faculty could work together to better serve students. Among the outcomes of the partnership include:

- Better understanding of the content of ACCUPLACER Diagnostics as a tool to reduce the need for remediation and help more students succeed
- Improved instruction and better integration of math into CTE curricula
- Rethinking structures to improve collaboration between CTE and math teachers, including relocating classrooms so CTE and core teachers are in the same area of the school
- Recognizing the need for joint professional development for CTE and math teachers



CREATING A K–20 EDUCATIONAL CONSORTIUM

El Paso Community College — Texas

El Paso Community College (EPCC) is one of the fastest-growing community colleges in Texas and the largest grantor of associate degrees to Hispanic students in the nation. In the last decade, EPCC has instituted a college-going culture in a metropolitan border area where 82 percent of residents are Hispanic, 27 percent are low income, and 54 percent of adults have a high school diploma or less.

Much of EPCC’s success stems from the K–20 educational consortium it developed with the University of Texas at El Paso (UTEP) and the 12 local independent school districts in the El Paso area. UTEP and the others share a comprehensive working partnership that addresses the needs of students and the community in economically challenged southwestern Texas. The collaboration involves a wide variety of programs, including cooperative academic and scholarship programs, research projects, joint committees and other collaborative arrangements.

Early college testing and dual credit

The consortium uses ACCUPLACER and ACCUPLACER Diagnostics in a number of ways, primarily to begin testing earlier so students can identify and address weaknesses, and they can begin taking college classes while they are in high school. Students who score well can enroll in dual credit courses. Additionally, the formation of Early College High Schools (ECHS) has contributed to a culture that creates an incentive for students to rise to the challenge. Between 2003 and 2009, dual credit enrollments have risen a whopping 286 percent. Graduation rates have increased as a result of the college-readiness initiative. Review detailed data points on page 25.

Centralizing placement testing and data

Initially, EPCC brought ACCUPLACER into the region’s 19 high schools, trained their staffs and set up the ACCUPLACER testing sites. Now, however, all testing data are centralized, so everyone can get the data they need quickly and easily. Having a central data source is essential for this region because its students often move from one school district to another, and its military personnel often are in transition. Centralized data make students’ scores accessible (with student authorization) and eliminate the need for retesting.

ACCUPLACER simplifies sharing of data by inviting testers to ask background questions specific to their needs. EPCC asks students if they want their test scores sent to EPCC and UTEP. When students say, “yes,” they authorize the transfer, and both institutions can access the data. The centralized system also provides for long-term storage of data.

“We’ve had a very high success rate using ACCUPLACER for placement purposes ... and each time faculty members have used ACCUPLACER Diagnostics for pilot test studies, most of their students have ended up taking at least one less developmental course.”

— Carolyn Buntyn, Director of Testing Services, El Paso Community College

Diagnostics introduce a new dynamic — and results

ACCUPLACER Diagnostics help faculty better design classes and instruction to meet student needs. And the diagnostics-driven instruction works. “Each time faculty members have used ACCUPLACER Diagnostics for pilot test studies, most of their students have ended up taking at least one less developmental course,” says Carolyn Buntyn, director of testing services at El Paso Community College. “ACCUPLACER helps us support faculty who are working to improve outcomes. It helps us better manage instruction.”

The effective educational collaborations initiated by EPCC have had significant results.

- Placements in developmental English decreased by 37 percent, and by 24 percent in reading from spring 2006 to spring 2008 while overall enrollments grew.
- Math completion rates improved during the period while reading completion rates held steady despite an increase in the number of students in developmental reading.
- With as little as six hours of math refresher, 49 percent of students were able to advance one or two levels of course placement during this time period, reinforcing the idea that students who review what they have learned are able to successfully recall knowledge when they are tested.

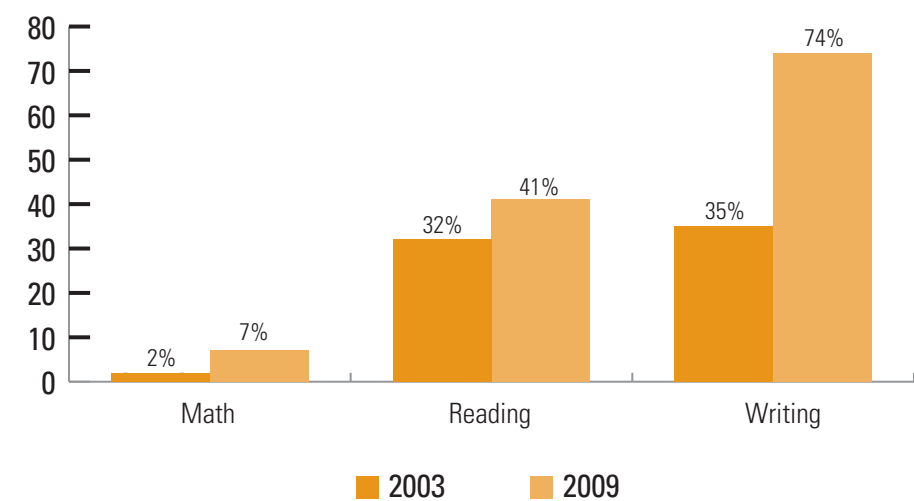
EPCC also increased students’ enrollment in gateway English and math courses and the proportion of students who completed those gateway courses from 2003 to 2008. While overall enrollments at EPCC grew during the period, fewer first-time-in-college students placed in three developmental education courses, and a greater proportion of students needed just one developmental education course.

Executive Summary

At El Paso Community College, student performance improves considerably as a result of the institution’s engagement with an educational consortium, diagnostic-driven instruction, pilot test studies, use of centralized data and other factors. Students who score well can enroll in dual credit courses. Between 2003 and 2009, dual credit enrollments have risen a whopping 286 percent, and graduation rates have increased dramatically as a result of the college-readiness initiative. Using ACCUPLACER and ACCUPLACER Diagnostics, the idea is to test early, address needed skills and get students who qualify enrolled in dual enrollment programs. Placements in developmental English and math have continued to decrease from 2003 to 2009.

Figure 4.

Increasing percentage of graduation through college-readiness initiative



Lessons Learned

Through its work with ACCUPLACER, ACCUPLACER Diagnostics and the K–20 educational consortium, El Paso Community College has:

- Reduced the number of students who need developmental courses
- Improved the performance of students who place in developmental courses
- Increased enrollment in gateway (introductory and prerequisite) courses
- Improved completion rates in gateway courses
- Raised graduation rates

THE ENHANCED ACCUPLACER SUITE FOR HIGH SCHOOL AND COLLEGE INTERVENTIONS

- **Use local background questions and multiple measures to understand student performance:** University of Houston–Downtown uses “lbqs” to assess multiple measures, going beyond a single score for placement decisions. Integrating GPAs, course completion rates and other elements allows the university to customize placement options for students and improve their chances of success.
- **Take advantage of WritePlacer® with automated scoring to ensure correct placement:** The WritePlacer with automated scoring is the sole writing assessment used by Ramapo College (N.J.), and results are quickly available. Data showed a 90 percent correlation between the placement score and students who achieved a “C” or higher in college-level English.
- **Effectively use ACCUPLACER Diagnostic data reports to meet college-readiness standards:** The Massachusetts Department of Higher Education and GEAR UP Massachusetts piloted the ACCUPLACER Diagnostics tests to identify students who did not meet college-readiness benchmarks. Diagnostic data were used to help drive instruction and provided an aggregate report of skills students needed to meet college-readiness standards.





ACCUPLACER TOOLS ASSESS MULTIPLE MEASURES

University of Houston–Downtown — Texas

Like many colleges and universities, the University of Houston–Downtown (UHD) uses ACCUPLACER to place students into the appropriate courses. But that is just the beginning. UHD also uses ACCUPLACER tools and customization to predict which students have the best chances of surviving the first year at the university.

“By customizing ACCUPLACER using the *local background questions*, it is possible to compare student groups and make valid conclusions about their potential for success,” says UHD Assistant Dean Gary Greer. “ACCUPLACER’s facility for accessing data in the form of scores — and data in the form of groupings — provides great research opportunities.”

Colleges can, for example, assess the performance of student groups of interest, such as first-generation students, minority males, financial aid students or first-year college students. The researcher identifies the groups, and ACCUPLACER retrieves scores for each group.

A Finer Analysis

ACCUPLACER placement tests are very good at providing a limited set of data: students meet the cut score or they don’t. Additional ACCUPLACER tools and customization allow colleges to assess *multiple measures* to better understand student performance. For example, ACCUPLACER scores can help identify equally capable students, and colleges then can compare their GPAs, course completion rates, or re-enrollment rates, to name a few. The college or university has the student performance data; ACCUPLACER tools and customization allow for a new way to organize it.

Researchers can do this assessment themselves or they can work with ACCUPLACER to get the information they need.

“Half of UHD students are first-generation, which makes understanding this group very important to us,” Greer explains. “When we compare a large group of first-generation students to non-first-generation students, we may find some differences in outcomes. But when we drill down — and ACCUPLACER allows me to do this — and we begin to compare equally able first-generation students with equally able non-first-generation students, we may find that a particular tutorial eliminates the gap.”

“By customizing ACCUPLACER using the local background questions, it is possible to compare student groups and make valid conclusions about their potential for success.”

— Gary Greer, Assistant Dean, University of Houston

In this way, researchers can identify specific skills students need to improve and then provide services that address the need. For example, if students need to improve time management and study skills, colleges might require them to take a student success course.

“ACCUPLACER gives researchers so much power to confirm or dispel assumptions,” Greer adds. “We can now determine where to apply our resources for the maximum benefit.”

Executive Summary

University of Houston–Downtown uses “lbqs” to assess multiple measures, going beyond a single score for placement decisions. Integrating GPAs, course completion rates and other elements allows the university to customize placement options for students and improve their chances of success. Using this rich information, equally capable students can be placed more accurately and, if needed, offered additional tools, such as tutorials, student success courses or other valuable college success tools.

Customizing Course Placement with Local Background Questions		
Multiple Measures = Placement Scores + Other Information	Use Data to Develop Customized Placements	Customize Placements to Maximize Student Success
<ul style="list-style-type: none"> Use ACCUPLACER to assess academic skills Add ACCUPLACER “LBQs” such as GPA, course completion rate, re-enrollment rates, other 	<ul style="list-style-type: none"> Use “LBQs” to assess students’ potential for success Use data to develop predictions 	<ul style="list-style-type: none"> Student services Tutorials Student success course Time management Study skills



CONFIRMING THE RELIABILITY OF AUTOMATED SCORING

Ramapo College of New Jersey — New Jersey

Ramapo College of New Jersey has been using WritePlacer with automated scoring since 2001, and the college has conducted several research studies to make sure the automated scoring — and the cut scores — are reliable.

“We started using WritePlacer because we needed quicker turnaround for our scores,” says Wanda Kosinski, the college’s coordinator of testing. “Computer scoring takes just a minute or two. We ask students to wait outside in the reception area, we run the score report, and we bring it out to them. Students then take it straight to orientation and registration.”

Ramapo looked at data for the 690 students who placed into college-level English in fall 2009. Of these students, 90 percent achieved a grade of C or higher. (This data point excludes 38 students who withdrew or received incompletes.)

The college also looked at data for 238 students who were required to write a WritePlacer essay as part of their placement test. According to the English faculty who taught the students, 87 percent were correctly placed.

Why does automated scoring work?

The automated grading system is trained on several hundred hand-scored student responses. It learns to score based on the collective wisdom of many skilled human scorers and measures different aspects of the responses as appropriate for a range of dimensions.

The College Board collects some 500 student responses for each essay prompt. This sampling provides a good representation of different writing abilities and different ways students cover the content of the question. Each essay is hand-scored by at least two trained human scorers.

The system uses various noncoachable measures: There are no counts of total words, syllables or characters, and no tracking of surface features, such as “thus” and “therefore.” It also uses Latent Semantic Analysis (LSA) to know what words mean and how they relate to one another. With this capability, the automated scoring can evaluate the content of what is written rather than just match key words. Finally, the system detects off-topic or highly unusual essays, nonstandard language constructions, and whether essays are too long or too short.

“I trust WritePlacer and its automated scoring because I believe in the College Board and because we are validating results with our faculty.”

— **Wanda Kosinski, Coordinator of Testing, Ramapo College of New Jersey**

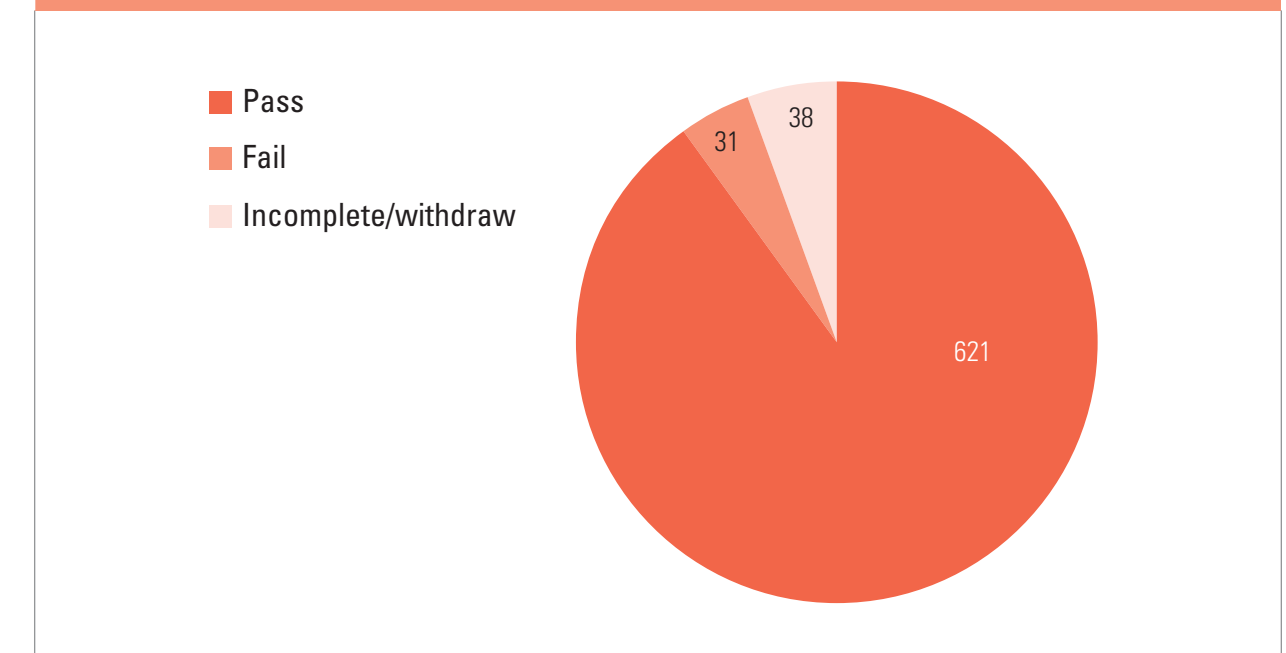
Each September, 5 percent of the essays scored electronically in the previous year are audited by human scorers to measure scoring accuracy and consistency. The target is 90 percent or more perfect or adjacent agreement. An expert human scorer is brought in for resolution of any issues. The computer-based scoring system may be recalibrated to maintain the highest scoring quality.

Executive Summary

The WritePlacer with automated scoring is the sole writing assessment used by Ramapo College (N.J.), and results are quickly available. Though English faculty members were initially skeptical, they became supportive once they understood the human scoring behind the automated scoring and the rich samples of student responses that go into developing each prompt. Data showed a 90 percent correlation between the placement score and students who achieved a “C” or higher in college-level English. Ramapo College now uses only the WritePlacer with automated scoring for placement into writing courses.

Figure 5.

Successful Completion of College English after ACCUPLACER Assessment





PROVIDING STRONG RESULTS FOR A FEDERAL PROGRAM

Massachusetts Department of Higher Education — Massachusetts

The Massachusetts Department of Higher Education’s Office of Student Financial Assistance (OSFA) promotes and enhances access to higher education. Its work includes managing the statewide, federally funded initiative GEAR UP Massachusetts.

GEAR UP Massachusetts (the name is an acronym for Gaining Early Awareness and Readiness for Undergraduate Programs) helps disadvantaged students obtain access to higher education. The program serves more than 6,000 students annually by providing school-based services in urban districts. Its coordinators provide college and career readiness services to students and their families so the GEAR UP students will be more likely to persist, graduate from high school and begin college without the need for remediation.

An intervention to minimize developmental education

In 2010, GEAR UP Massachusetts piloted a project in which high school seniors took Worcester State University’s developmental math course. The hope was that this intervention would teach the high school students what the college wanted them to know — and decrease the students’ need for developmental education when they got to college.

GEAR UP Massachusetts began by screening approximately 300 high school seniors with the ACCUPLACER Elementary Algebra placement test. The goal was to identify a cohort of students who did not meet college-readiness benchmarks and were deemed likely to benefit from an intervention.

Next, 30 students were designated as the control group while 43 were assigned to the treatment group. Students in the treatment group took the one-semester Worcester State developmental math course. ACCUPLACER Diagnostic data was used to help drive instruction at some sites. The Diagnostics provided individualized reports, as well as an aggregate report of the skills that students needed to develop in order to meet the college-readiness standard. In turn, the instructor was able to use the information to tailor the curriculum to emphasize these areas of need.

At the end the course, students retook the ACCUPLACER placement test. Using Worcester State’s cut scores, 50 percent of students in the treatment group were college ready. In the control group, 0 percent of students were college ready.

If funding is available, GEAR UP will expand the program to other subject areas to see if similar results can be achieved.

Executive Summary

The Massachusetts Department of Higher Education and GEAR UP Massachusetts piloted the ACCUPLACER Diagnostics tests to identify students who did not meet college-readiness benchmarks. Students in this treatment group took a one-semester developmental math course from Worcester State University. Diagnostic data were used to help drive instruction and provided an aggregate report of skills students needed to meet college-readiness standards. Data reports on students’ skills based on the Diagnostics are a rich source of information for the high school and college partners and the Department of Higher Education.

“The results were dramatic. In the treatment group, 50 percent of students met the cut score and were considered college ready. In the control group, 0 percent of students were college ready.”

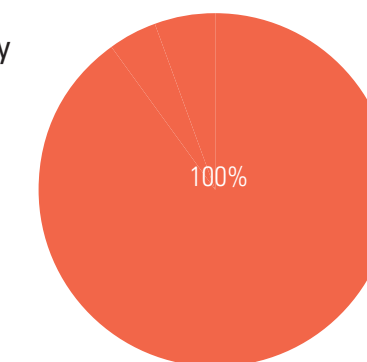
— Robert Dais, Director, GEAR UP Massachusetts

Figure 6

Students testing college ready after one-semester intervention

Control Group: 30 students did not receive treatment: post-test results

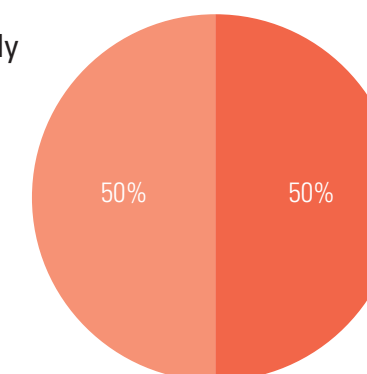
■ Not College Ready



Treatment Group: 43 students received treatment: post-test results

■ Not College Ready

■ College Ready



MAKING TESTING SUCCESSFUL

In years past, ACCUPLACER was primarily used to assess incoming freshmen between 18 and 24 years of age. Today, it is used to assess everyone from high school students to baby boomers.

ACCUPLACER administrators need to consider the following practices to make testing successful for all participants.

Make testing more convenient for more test-takers

- Offer a wide range of testing times to accommodate both traditional and nontraditional students who often work and attend college.
- Provide clear procedures for distance testing, including a request form for students living in another location who need to take ACCUPLACER placement tests for your institution. Post the form on your website with instructions for the candidates.
- Create a separate off-site testing area on your ACCUPLACER site with temporary proctor rights and email score reporting to be used with high schools or other off-site testing needs.

Help students prepare for tests

- Offer practice materials for examinees to review before testing.
- Announce the official College Board ACCUPLACER study app for iPhone on your test center's website and Facebook page.
- Offer a skills review course for nontraditional students who wish to return to school or change careers. Provide computerized diagnostic testing on ACCUPLACER as part of the course.
- Provide students with a handout that clearly explains your retest policy.

Create a friendly test-taking environment

- Review your test center's layout and setup to ensure that it is comfortable and nonthreatening for both traditional and nontraditional students.
- Establish a student advisory group consisting of both traditional and nontraditional students to make recommendations about creating optimal testing conditions and present this information to administrators in charge of your unit.
- Create an electronic discussion group for advisers, admission staff, counselors and others who interact with test-takers. Keep groups informed about test-related issues.
- Be sensitive to students who have been educated at home or who have not used computerized testing in the past.
- Create a warm testing environment.
- Interpret ACCUPLACER scores in a positive way to students who have scored into remedial courses, assuring them of the value of mastering these skills for college success.

Be alert to new technology and how it may be used for cheating

- Train staff to be aware of smart phones, iPhones, programmable calculators, watches, cameras, recording devices and other technology that could be used for cheating or accessing outside resources during testing.
- Establish clear and uniform policies for proper identification so all students are treated equally. Make policies easily accessible on your website and in handouts.
- Require proper identification before you allow the student to enter the test room. When the student finishes testing, check the name on the score report to be certain it matches the identification.
- Give each student a sheet of yellow or other easy-to-spot scratch paper. If the student needs an additional sheet, pick up the used one and then hand him or her a clean sheet. Whiteboards and dry-erase markers can be used instead for security reasons.

Bring ACCUPLACER to high school students

- Work out a cooperative agreement to test your local high school's 10th- and 11th-grade students. Provide an informational training session to high school counselors prior to testing to establish the meaning of ACCUPLACER scores and goals for testing in the 10th and 11th grades (opportunity to continue developing college-level skills prior to entering college, which can save tuition dollars and ensure a stronger start in college).
- Provide each student with an Individual Score Report (ISR) and share a copy with high school counselors.
- If testing a large number of students, create back-to-back testing sessions, allowing two-hour time slots for each group.

Be Aware of Generational Differences

- Train staff to be sensitive to diverse populations and generational differences.
- Older students may be more concerned about using the computer than taking the test. Give them easy-to-follow instructions, such as handouts, and review instructions verbally.
- Encourage students to take as much time as they need and not rush through testing.

"ACCUPLACER has outstanding customer service and when technical problems arise, they are prompt, supportive and knowledgeable."

— Leticia Martinez, Testing Services Director, Arizona Western College

About the College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT[®] and the Advanced Placement Program[®]. The organization also serves the education community through research and advocacy on behalf of students, educators and schools.

For further information, visit www.collegeboard.org.