



*An Early Alert System for Remediation Needs  
of Entering Community College Students:  
Leveraging the California Standards Test*

A report by  
the California Partnership for Achieving Student Success

Executive Summary

July 2008

## Executive Summary

A majority of students entering California community colleges require remediation in either math or English. In addition to being costly, remediation at college level doesn't always translate into academic success for students. Several studies have shown that there may be ways to identify students who will need remediation at college and correct that path before they have completed high school, thereby giving them stronger skills at college entry and better positioning them for college success. This study examines the relationships between California students' high school achievement in math and English, measured by statewide standardized tests and grades, and the levels of and grades in their first attempted math and English courses at community college. If high school standardized test results or course grades predict college preparedness, the need for remediation in college may be reduced by putting students on a corrective trajectory before they leave high school.

California's 110 community colleges do not use a statewide placement assessment system. They are governed by 72 independent, local governing boards, and each district has the right to establish appropriate methods to determine student placement. Colleges are required to consider multiple measures in placing students, using test scores as well as other sources of information about students' skills, abilities, motivations, and social support. Despite the variation in approaches to assessment, they all point to the same conclusion: Many students entering community colleges are not prepared to perform at college level in English and math. Remediation rates could be as high as 75 percent to 90 percent at some colleges (Johnstone, 2004).

In addition to raising doubts about the likelihood of academic success among these students, remedial education comes with a significant price tag. One conservative estimate for California community college remediation is \$135 million (Alliance for Excellent Education, 2006). Approximately 10 percent of the 2006-2007 community college teaching load was dedicated to remedial English and math courses (California Community College Data Mart). This represents about \$600 million of the \$6 billion California community college budget from Proposition 98 funds (Legislative Analyst's Office, 2008; P. Steenhausen, personal communication, April 24, 2008).

## The Data

California Partnership for Achieving Student Success was the source for this report's data. Cal-PASS is a publicly-funded initiative that collects information from regionally-based partnerships of high schools and post-secondary institutions. The database includes over 200 million student records from participating K–12 districts, community colleges, and universities. Data include demographics, coursework, awards, and California Standards Test (CST) scores. The database has some limitations. It does not have data for all California schools, and the period covered for most schools is five years (2001–2006). Because each community college uses a separate assessment system, Cal-PASS data do not include placement test scores. In fact, no statewide set of assessment data exists.

This study began by matching high school and community college student records. Of 41,560 students with a math CST score, 3,743 had received a grade in a math course at a community college by the end of the 2006 fall semester. For the English data set, 44,939 students with an English CST score were identified. Of these, 4,700 had received a grade in a community college English course by the end of the 2006 fall semester. The final analyses included students from 31 community colleges in math and 47 in English.

---

## Research Questions

### *Can the CST Be Used for Placement and Assessing Readiness for College?*

The California Standards Tests measure how well students are mastering specific skills defined for each grade by the state. The test is given to all public school students in grades 2 – 11. The universality and uniformity of the CST is the key to its potential value a predictor of college preparedness. Test scores range from 150 to 600, and student scores are compared to preset criteria to determine if the student performance on the test is advanced, proficient, basic, below basic, or far below basic. Eleventh graders take one English CST and one of seven math CSTs, corresponding to the math course in which they are currently enrolled.

Overall, 11th grade math CST scores were better predictors than class grades of both the level of and grade in the first attempted community college math course. The study found a moderately strong correlation between scores for most forms of the math CST and college course levels and grades. In English, CST scores were moderately strong predictors of the level of the first attempted college English course.

The researchers were particularly interested to see if there was a specific CST score above which students were highly likely to succeed in transfer-level coursework. An example cut score model is presented but exploratory analyses suggest that useful cut scores must be validated to incorporate local factors such as differences in course content between high schools and community colleges.

### *Can 11th Grade Achievement Be Used to Assess College Readiness?*

Researchers found a moderately strong correlation between grades in 11th grade math and English and the level of students' first attempted community college math and English courses. The correspondence was stronger for students in Geometry, Algebra 2, Integrated Math 3 and Summative Math. High school grades in math and English were moderately strong predictors of college grades in those subjects.

---

## **What Does This Tell Us?**

Understanding the predictive value of CST scores and high school grades can provide early feedback to 11th grade students on their preparedness for various levels of community college English and math coursework. In a similar fashion, the California State University's (CSU) Early Assessment Program (EAP) uses an augmented version of the CST to inform students of their readiness for CSU English and math coursework (<http://www.calstate.edu/EAP/>). This report also suggests that 11th grade English and math CST scores and grades, in conjunction with other quantitative and qualitative information about student preparation, may also assist community colleges in making placement recommendations. Further, the value of using high school test scores and grades in placement would improve greatly with increased alignment of math and English course content between high schools and community colleges. Improving entering student's placement levels in math and English by even one course will shorten their pathway to transfer and degree completion; as a result more community college students should be able to earn credentials or enroll in four-year colleges and graduate.