

memorandum

Date: January 15, 2012

To: California Community Colleges Chancellor's Office

From: WestEd and the RP Group

Question 4: Standard Cut Scores

What does the research say about using standard cut scores? What are experiences from other states? (It is understood that statewide common assessment is a requirement of standard cut scores.)

Background

The pressure nationally to define what students need to know and be able to do if they are to be successful in college-level courses has led many states to examine assessment and placement practices and policies, which are commonly used in an effort to help determine which students are ready for college. Some states have selected one or more assessments that colleges must use to determine whether a student can enroll in college-level work. Other states have gone a step further, designating specific cut scores on those tests and dictating that, if students do not make the cut scores, they will be placed in developmental courses. A decade ago, only seven states had designated a common placement test or common cut score for entrance into college-level courses at their public institutions. This number has more than doubled in the past decade.¹

A survey conducted by the National Center for Higher Education Management Systems in 2008 found the following with regard to state policies on assessment and placement:

- Seventeen states reported having a statewide placement policy for all public institutions, and another 3 had such a policy in place for their community colleges but not for their four-year institutions.
- Fourteen of the 20 states with a statewide placement policy used a common set of placement tests (in some cases providing an approved list of tests from which the colleges can choose), and 3 more were planning to do so. One state used those common tests only for community colleges, not for four-year institutions.

¹ Jenkins, D., & Boswell, K. (2002). *State Policies on Community College Remedial Education: Findings from a National Survey*. Denver, CO: Education Commission of the States; Ewell, P., Boeke, M., & Zis, S. (2008). *State Policies on Student Transitions: Results of a Fifty State Inventory*. Boulder, CO: National Center for Higher Education Management Systems.

- Of those states with common placement tests, 12 have established mandated cut scores; an additional 4 states were developing such a policy. Some of these states allowed institutions to set higher cut scores, with notification to the state, while others set different cut scores at different institutions.²

Two major areas of concern are causing states to examine greater standardization of cut scores for placement in college-level mathematics and English coursework.

Negative consequences of existing policies. When different colleges require different scores on standardized tests in order for students to qualify for college-level courses, students who are savvy and somewhat mobile have been known to “shop around” to find the institution where they could most likely qualify for college-level work. Low rates of student success, barriers to transfer, and the inability to compare success across institutions when standards are different are other issues that have led some to call for greater standardization of cut scores for placement into college-level math and English.

Lack of alignment. There are gaps between K–12 graduation and college placement standards, as well as varying levels of quality and rigor across two-year and four-year institutions with regard to what is considered college-ready.³ Creating a consistent definition of adequate preparation may help drive greater alignment. Furthermore, when standards are different, it is not possible to compare success across institutions.⁴

Various articles and research reports have been written on this topic, and most conclude that the discussions of adopting standardized cut scores must be part of a larger debate about assessment and placement policies in general.

Scenarios for Implementation

Those who have looked extensively at states that have adopted statewide policies on assessment and placement note that there are tradeoffs that states need to consider in adopting such policies and that simply agreeing on a common placement test or cut score is not sufficient.

In his research on the struggles states face when trying to balance standardization with flexibility, Prince (2005) identifies the range of approaches that states take toward assessment policy, from requiring that assessments be done but not specifying state-approved tests or tools, to requiring that all colleges use the same placement tests and the same cut scores.⁵ Prince notes that advocates of standardization cite efficiency concerns, as well as the desire for making it clear to students as well as to high school faculty what the expectations are for success in entry-level college courses. He notes that a risk of greater standardization is that it can erect additional barriers to college success for many students, and that states need at a minimum to take steps to help those students who are placed in developmental education to be more successful in those courses. Prince argues that states need to weigh the benefits and costs of

² Ewell, P., Boeke, M. & Zis, S. (2008).

³ Collins, M. (2008). *It's Not About the Cut Score: Redesigning Placement Assessment Policy to Improve Student Success*. An Achieving the Dream Policy Brief, July 2008. Boston, MA: Jobs for the Future.

⁴ Motz, D. (2009). Shopping for Cut Scores. *Inside Higher Education*, April 14, 2009. Retrieved from <http://www.insidehighered.com/news/2009/04/14/shopping>

⁵ See Prince, H. (2005). *Standardization vs. Flexibility: State Policy Options on Placement Testing for Developmental Education in Community Colleges*. An Achieving the Dream Policy Brief, April 2005. Retrieved from www.achievingthedream.org/_.../Policy_brief-StandardFlex.pdf

standardization, with particular emphasis on how these policies will affect low-income and first-generation college students.

Hughes and Scott-Clayton (2010) discuss how standardized policies can have negative consequences, and they caution that “standardization of a fundamentally effective strategy may improve student outcomes, [but] standardization of an ineffective strategy may worsen the situation.”⁶ Specifically, the authors raise questions about the validity of placement tests and the ultimate impact of assigning students to developmental education courses, if taking basic skills classes does not increase students’ likelihood of completing a degree or certificate. Several other studies also call into question whether placement tests provide an accurate measure of students’ abilities to undertake college-level work.⁷

Studies by Calcagno and Long (2008)⁸ and Martorell and McFarlin⁹ (2009) may shed some light on this question of validity. Both studies note that students scoring just below a cut score and those who score just above it are likely to be similar in overall preparedness and ability. Therefore, the only notable difference is that those just below the cut score are referred to a lower-level course and those just above it to a higher-level course. In both of these studies, there was no evidence of a positive outcome on accumulation of college-level credits for those relegated to lower-level courses; in fact, the Martorell and McFarlin study observed a negative effect.

Some studies have noted positive effects of remediation, such as Bettinger and Long (2009) on bachelor’s degree-seeking students.¹⁰ But recent research by the Community College Research Center shows that students whose assessment results identify them as needing remediation may do better if they ignore this recommendation and enroll directly in college-level coursework.¹¹

In California, fewer than a quarter of students who enter the developmental sequence three levels below college level in math or English go on to complete a college-level course in the same subject.¹² Snell (2010) helps to explain this by pointing out the “multiplication principle” created by having several levels of remediation: given low pass rates and low persistence to the next course in the sequence, significant

⁶ Hughes, K., & Scott-Clayton, J. (2010). *Assessing Developmental Assessment in Community Colleges: A Review of the Literature* (CCRC Working Paper No. 19). New York: Community College Research Center.

⁷ Venezia, A., Bracco, K. R., & Nodine, T. (2010). *One-shot Deal? Students’ Perceptions of Assessment and Course Placement in California’s Community Colleges*. San Francisco: WestEd. Retrieved from <http://www.wested.org/cs/we/view/rs/1051>; Conley, D. (2010). *Replacing Remediation with Readiness* (An NCPR Working Paper). Retrieved from www.postsecondaryresearch.org

⁸ Calcagno, J., & Long, B. (2008). *The Impact of Postsecondary Remediation Using a Regression Discontinuity Approach: Addressing Endogenous Sorting and Noncompliance* (NBER Working Paper No. 14194). Cambridge, MA: National Bureau of Economic Research

⁹ Martorell, P., & McFarlin, I. (2007). *Help or Hindrance? The Effects of College Remediation on Academic and Labor Market Outcomes* (Working Paper). Dallas, TX: University of Texas at Dallas, Texas Schools Project. Retrieved from <http://ideas.repec.org/a/tpr/restat/v93y2011i2p436-454.html>

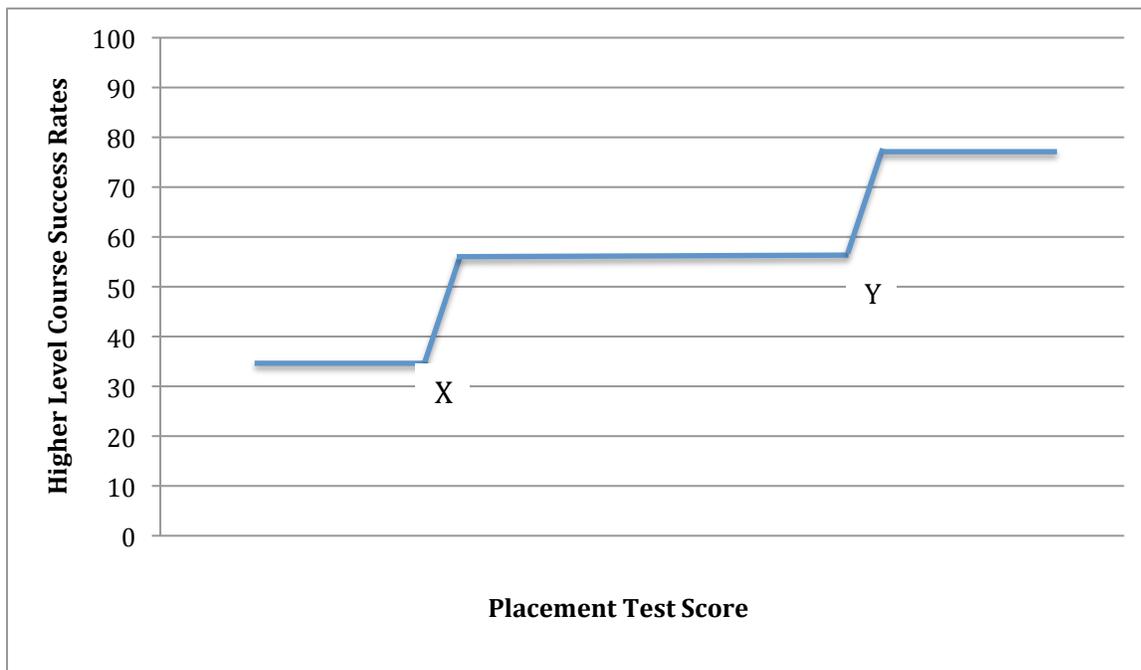
¹⁰ Bettinger, E., & Long, B. (2009). Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work? *Journal of Human Resources*, 44(3), 736–771.

¹¹ Jenkins, D., et al. (2009, November). *Promoting Gatekeeper Course Success Among Community College Students Needing Remediation: Findings and Recommendations from a Virginia Study* (Summary Report). New York: Community College Research Center. Retrieved from <http://ccrc.tc.columbia.edu/Publication.asp?UID=714>

¹² Perry, M., Bahr, P. R., Rosin, M., & Woodward, K. M. (2010). *Course-taking Patterns, Policies and Practices in Developmental Education in the California Community Colleges*. Mountain View, CA: EdSource.

numbers of students are lost from the pipeline at multiple points along the way.¹³ Even with sizable improvements in pass rates and retention, only a small number of students are likely to succeed. Curricular efforts like accelerated basic skills courses are designed to reduce the number of places where students may drop out of the developmental sequence. Early evaluations of student outcomes in accelerated courses show improvements in long-term goal attainment, such as completion of the developmental education sequence and accumulation of college-level credit.¹⁴

Another consideration when determining where to place cut scores is that there are not clean distinctions regarding students' abilities to undertake college-level coursework. Ideally, when determining cut scores for college-level math versus two levels of developmental math, the distribution of placement scores (the horizontal axis) versus course success (the vertical axis) would look like this:

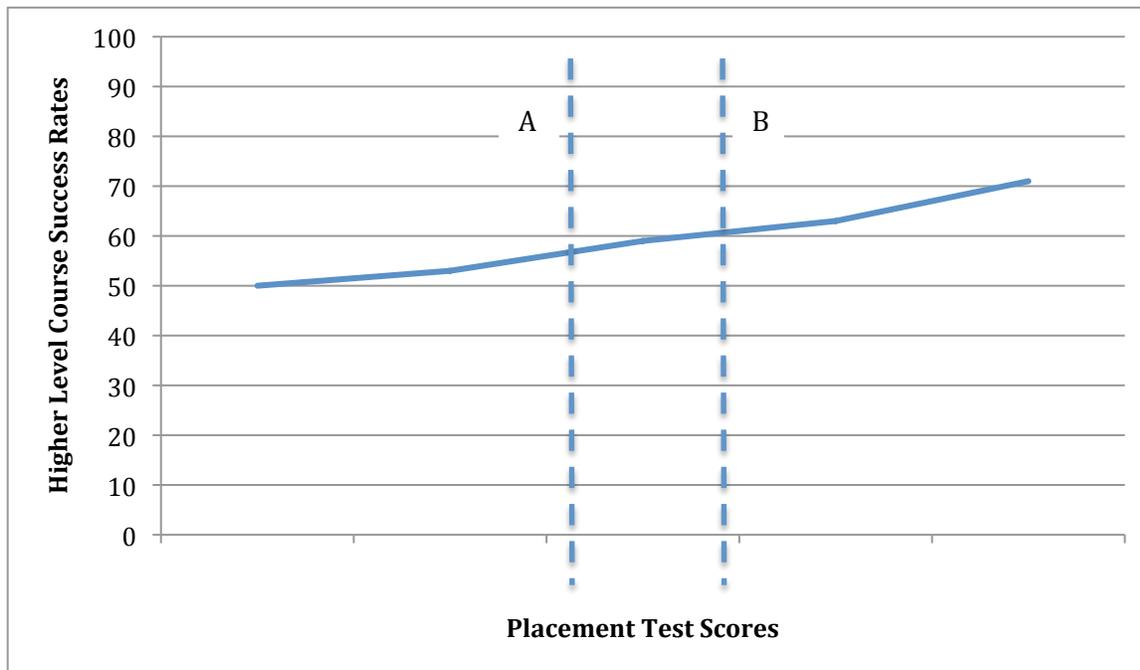


If this were the case, it would be fairly easy to set the cut scores for the first level below college level at point Y and for the second level below college level at point X, because there are significant changes in students' abilities to pass the college-level course.

However, plots of placement scores versus success rates look more like this:

¹³ In Hern, K., with Snell, M. (2010, June/July). Exponential Attrition and the Promise of Acceleration in Developmental English and Math, p.2. *Perspectives*. Berkeley, CA: RP Group. Retrieved from <http://www.rpgroup.org/sites/default/files/Hern%20Exponential%20Attrition.pdf>

¹⁴ Edgcombe, N. (May 2011). *Accelerating the Achievement of Students Referred to Developmental Education* (CCRC Brief No. 55). New York: Community College Research Center. Retrieved from <http://ccrc.tc.columbia.edu/Publication.asp?uid=920>



In this case, it is not so clear where to put the cut score for entry into the college-level course. If you set cut scores higher (at line B), you deny access to students who have only a slightly lower level of success. If you set the cut score lower (at line A), more students will be given access to the higher-level course and there will be slightly lower levels of course success — but not to a significant degree.

It also should be noted that these charts make the lines look far more definite than they are in practice — the actual scatterplots of placement test scores versus course success rates are much more chaotic in nature. The hypothetical “smoothed” lines included here are for illustrative purposes, and thus, the setting of cut scores can be even more problem-ridden than what is outlined above.

Setting cut scores can also have the unintended consequence of reifying the current curricular sequence. Cut scores, by definition, need courses that are designated above and below college level into which students will be placed. This requirement is nearly always met using the current suite of developmental education courses, which in California has been broken into three levels of pre-collegiate coursework. This may have the effect of stifling promising innovative approaches, such as contextualization and acceleration, which could have a larger positive effect on students’ abilities to complete the developmental education sequence and attain such long-term goals as graduation or transfer.

Based on his research with *Achieving the Dream* states, Collins¹⁵ makes several recommendations for states that are considering revising statewide assessment policies or adopting standardized cut scores:

- States should examine the impact on student success of existing policies. Cut score validation studies and examinations of internal variations in policies have led some states to take steps toward developing an optimal placement policy.
- English and math faculty should establish common standards for college-level work and common standards for success in entry-level courses.

¹⁵ See Collins, M. (2008).

- States should communicate those standards to high school students and other relevant audiences.
- States and institutions must enhance data capacity to ensure better measurement of student outcomes.
- States should strive to build consensus in the quality-versus-access debate.
- States should recognize that the process should really be about developing a common understanding of what it means to be college-ready, not just about what the cut scores should be.

This last recommendation underscores the importance of placing cut scores in context. Discussions about standardization need to be conducted as part of a larger analysis of what students need to know and be able to do in order to be successful in college-level courses, as well as of how best to help students achieve their goals.

Examples of States with Common Cut Scores

In a brief written for the Achieving the Dream Initiative, Collins presents case studies of three states — Connecticut, North Carolina, and Virginia — that had recently revised their assessment and placement policies.¹⁶ While setting common cut scores was the initial goal in these states, the case studies emphasize that in the end the discussion widened significantly and became much more about the questions underlying broader assessment policy. In **Connecticut**, while standardized cut scores were agreed upon fairly quickly, the implementation of the new policy had sizable fiscal and staffing implications because significantly more students were diverted into developmental education. In **North Carolina**, decisions about where to set the cut score created some concerns about whether quality and rigor would be satisfied if the cut scores were set too low. In **Virginia**, discussions about setting cut scores quickly revealed inconsistencies in assessment.

One significant aspect of Virginia's use of cut scores is that the state has simultaneously established common assessment and cut scores and rebuilt its developmental education curriculum. Beginning in spring 2013, basic skills mathematics will be taught as a series of nine one-credit modules, with students taking only the modules they need. Basic skills English will be taught in tiers that integrate academic reading and writing, with the opportunity to co-enroll in a developmental class that is linked to a college-level English course. The state's placement test has been redefined to align with the learning outcomes for the redesigned developmental education courses, so that the test has a strong predictive value for course success.¹⁷

Case study research in **Maryland** and **Minnesota** found that standardizing cut scores led to increases in the number of students who needed developmental education, but also allowed for more consistent messaging to the K–12 system regarding the math, reading, and writing skills that would be necessary for success in college.¹⁸

Florida has a statewide placement-testing program to determine college readiness that dates back to 1992. In 2008, as part of the American Diploma Project, Florida began working again on a common

¹⁶ Collins, M. (2008).

¹⁷ Asera, R. (2011). *Innovation at Scale: How Virginia Community Colleges Are Collaborating to Improve Developmental Education and Increase Student Success*. Boston: Jobs for the Future. Retrieved from <http://www.jff.org/publications/education/innovation-scale-how-virginia-community-/1318>

¹⁸ Prince, H. (2005).

definition of college readiness.¹⁹ As part of this process, K–12 and higher education faculty teams identified competencies that were then used to create a test blueprint. The result of these efforts was a new customized statewide placement test, the Postsecondary Education Readiness Test (PERT), rolled out in 2010.

The PERT is used for all entering students, as well as for 11th graders whose high school assessments indicate that they may not be college-ready. Common cut scores on the test were initially determined by matching the distribution of students in courses based on the previous statewide placement test. The state intends to revisit the cut scores once data are available to determine how well students are doing in entry-level courses. Those 11th graders who are unable to attain the cut scores receive remediation in 12th grade to help them increase their skills. Florida will also use a diagnostic test for entering students who are placed into developmental courses to determine their specific deficiencies and help guide instruction.

Research and writing by Kathy Reeves Bracco, WestEd, and Rob Johnstone and Kathy Booth, RP Group.

¹⁹ Additional information on Florida can be found in Hughes, J. (2011). Guest Post: Florida Remakes Placement Test, in *Accelerating Achievement*, Achieving the Dream Developmental Education Initiative Site, July 19, 2011. Available at <http://deionline.blogspot.com/2011/07/guest-post-florida-remakes-placement.html>; The Florida College System, *Postsecondary Education Readiness Test (P.E.R.T.) Frequently Asked Questions*. Available at http://www.mdc.edu/testing_information/PERT/FCS-PERT_FAQ.pdf; and Bilsky, J. (2011). Crossing Boundaries: Postsecondary Readiness Assessment in Florida. *Change Magazine*, July-August 2011. Available at <http://www.changemag.org/Archives/Back%20Issues/2011/July-August%202011/crossing-boundaries-full.html>