

HOW ARE ASSESSMENT AND PLACEMENT POLICIES FOR DEVELOPMENTAL MATH DESIGNED AND IMPLEMENTED IN CALIFORNIA COMMUNITY COLLEGES?

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This brief is a product of a larger study, the main objective of which is to evaluate the effectiveness of math placement policies in the Los Angeles Community College District (LACCD) for entering community college students. The research was funded by a grant from the U.S. Department of Education's Institute of Education Sciences (IES)

SUMMARY

This policy brief describes how LACCD college administrators and math faculty design and implement assessment and placement policies for developmental math in a decentralized governance structure. In this description, we call attention to the complexities of designing effective assessment and placement policies.

The majority of students who start their higher education at a community college enroll in one or more developmental education courses to prepare for college-level work. Across the nation, six out of ten community college students are assigned to either developmental math or English courses or both (NCPPE & SREB, 2010). Although a large percentage of students are placed into developmental coursework, a significant proportion of them do not actually enroll in these courses and many others do not ultimately succeed in college-level work in spite of their efforts in development education (Fong, Melguizo, & Prather, 2013). Researchers and policymakers are thus seeking to ensure that developmental education works to promote college success rather than impede students' progress through college.

To improve the efficiency and the effectiveness of developmental education, some studies suggest that the way students are assessed and placed into developmental education is an area where reform can take place. In this brief, we argue that understanding how these policies are designed and implemented, especially in states where decision-making occurs at the local level, is important to properly account for the multiple pressures and challenges community colleges face when determining whether a student should take a developmental education course.

This policy brief answers two questions: How are assessment and placement policies for math designed when decision-making power is given to local college administrators and faculty? What

consequences result from leaving decision-making power over assessment and placement policies to local colleges? We use the Los Angeles Community College District (LACCD) to answer these questions for three reasons. First, local college administrators and faculty make decisions over how students should be assessed and placed into developmental education. Second, LACCD places roughly 60 percent of its students in at least one developmental education course. Finally, the district collects student placement records for all nine colleges, making it possible to link each college's assessment and placement policies with information on where a student was placed in the developmental math sequence.

METHODOLOGY

We drew on three types of data for our analysis. First, we conducted twenty-five interviews with math faculty, directors of institutional research, and matriculation coordinators to understand the thinking behind the selection of placement instruments, the setting of cut scores, and the choice of multiple measures. Second, we reviewed college documents to identify cut points used to assign students to different developmental math courses. Third, we analyzed student academic records to determine where students were placed in the developmental math sequence in each of the nine colleges. All data stem from the 2005-06 to 2007-08 academic years.

SELECTING THE PLACEMENT INSTRUMENT

In California, administrators and faculty have considerable autonomy in determining which instrument is used to assign students to developmental math education. In the 2011 Matriculation Handbook, the California Community College Chancellor's Office states that colleges can use a wide range of tools, among them student interviews, standardized tests, attitude surveys, as well as high school and college transcripts to determine developmental education placement. Colleges using standardized tests must prove their test's validity or select one of the following commercially-available instruments: College Board's ACCUPLACER/Companion test, ACT's COMPASS, UC/CSU's MDTP (Mathematics Diagnostic Testing Project), or CASAS (Comprehensive Adult Student Assessment Systems). During the period of our study, five of the LACCD colleges used ACCUPLACER, two used COMPASS, and two used MDTP.

SETTING CUT POINTS

Colleges also have the flexibility to set cut points that sort students into different courses in the developmental education sequence. Faculty and administrators must set cut points for each course in more than one subtest since different subtests can be used to assign students to the same course. While cut points are used to place students into a particular course, they can also be used to refer students to a subtest that is more appropriate for their skill set. For example, students who score high on the least academically rigorous subtests may be referred to a more rigorous, more discriminating one provided their score exceeds the cut point. All but one of the LACCD colleges used such a test level referral process for placement in math coursework during the period of our investigation.

STANDARDIZED PLACEMENT TESTS

ACCUPLACER and COMPASS are placement tests developed by the College Board and the ACT, respectively. The MDTP is a diagnostic test developed jointly by the University of California and California State University systems. All three tests are made up of multiple subtests that differ in their academic content and rigor. They are also equipped to move students across subtests to determine which course best matches a student's academic abilities and skill set. Because ACCUPLACER and COMPASS are computer-adaptive, students are navigated seamlessly between multiple subtests and feel like they are taking a single test. Students who take the MDTP may have to schedule a second test appointment if their initial test cannot adequately measure their math knowledge. Even though students may answer questions from multiple subtests, placement is based on how well a student performs on the last test.

SELECTING MULTIPLE MEASURES

As a result of a lawsuit against the California Community College Chancellor's Office community colleges are required to consider information other than a student's assessment score to determine course placement¹. "Multiple measures" were adopted to ensure that minority students are not disproportionately placed into the lowest levels of the math sequence because of possible cultural bias in placement test instruments. Essentially, multiple measures give weight to other cognitive and non-cognitive factors that may contribute to student success. Among other measures, colleges can consider these types of factors for assignment to developmental education: scores from additional standardized placement tests, writing samples, performance-based assessments, surveys and questionnaires, and past educational experience (CCCCO, 2011).

Multiple measures are created from selected questions on a student background questionnaire. The inventory of questions and the specific wording of similar questions varied across the colleges in the district. The most commonly used in math placement were those asking about the highest-level math course students completed in high school and how recently they completed that course. A few colleges used questions about students' academic and life goals or non-cognitive abilities in making placement decisions (see Ngo, Kwon, Melguizo, Prather, & Bos, 2013 for more details).

THE COMPLEXITY OF THE PROCESS MAKES IT DIFFICULT TO DESIGN POLICIES THAT MAXIMIZE SUCCESS

Reliance on Standardized Placement Tests

All nine colleges selected a standardized placement test from the state approved list to assess students for developmental math, a practice that has existed for nearly three decades. Since high

¹ In 1991, the Mexican-American Legal Defense and Educational Fund (MALDEF) challenged the inequity of the Matriculation Act of 1986, which mandated placement testing as a part of enrollment and matriculation services in community colleges. The lawsuit claimed that the California Community College Chancellor's Office failed to monitor appropriate use of placement tests, resulting in large proportions of Latino students being placed in remediation. The lawsuit was settled outside of court, but Title 5 of the California Code of Regulations was soon revised to mandate the use of multiple measures in placement decisions. The goal was to reduce the "disproportionate impact" of placement tests on different racial and ethnic groups.

school transcripts are not required for admission, their use for placement purposes was not practically feasible.² Unlike other placement approaches (e.g. reviews of high school course-taking patterns and grades or self-placement), the design of standardized placement tests facilitates quick enrollment, so much so that in most cases a student is able to enroll in the assigned course on the same day as he or she takes a placement test. Faculty and administrators consider this feature attractive during periods of both declining and even stable enrollment, since enrollment growth leads to increased funding. From our interviews, LACCD colleges have not seriously considered alternative placement approaches that might dramatically disrupt this seamless flow from placement to enrollment or the current distribution of course offerings. On the whole, faculty perceived standardized placement tests to be an inadequate mechanism to accurately place students because they fail to capture other factors (e.g. effort, motivation) that may also impact student progress and success. Many expressed openness about including additional factors besides a placement score into placement decisions but voiced concern that such an undertaking would have to be done efficiently. A small contingent of faculty preferred using the MDTP instrument over the ACCUPLACER and COMPASS because it can provide diagnostic information on a student’s abilities at no cost to the institution.

Identifying the Appropriate Cut Points

The standard for evaluating the effectiveness of placement rules is whether they create a class of students sufficiently prepared to succeed in the assigned course. This is a requirement of the state matriculation regulations, which decree that placement tests have a specific correlation with student success. The regulations also outline several procedures that may be used to assist faculty and administrators in establishing the appropriate cut points.

Colleges reported using several of these procedures. The most common approach employed by math faculty members was to take the placement tests themselves and then come to an agreement about which scores would indicate a student’s readiness for each course in the sequence. Even though the state requires community colleges to periodically evaluate cut points, this requirement is rarely enforced because of budget shortfalls.

Still, the colleges we visited tweaked the cut points they used to place students from time to time to better adjust the placement of students to changes in the curriculum and in the overall composition of the student body. One frequently cited motivation was faculty dissatisfaction with the preparation level of students enrolled in their particular courses. Other institutions examined outcome data; they compared the success of students placed into a given level with those who progressed to that level from the level below. Some also reported looking at the cut points used by other colleges in the district to develop their own.

Choosing and Validating Multiple Measures

No regulation exists on the amount of weight community colleges should attribute to multiple measures when determining a student’s placement. These decisions are left to college faculty and administrators. It is perhaps unsurprising that most faculty and administrators perceived multiple measures to be insignificant in determining placement, and as a result, giving students five points

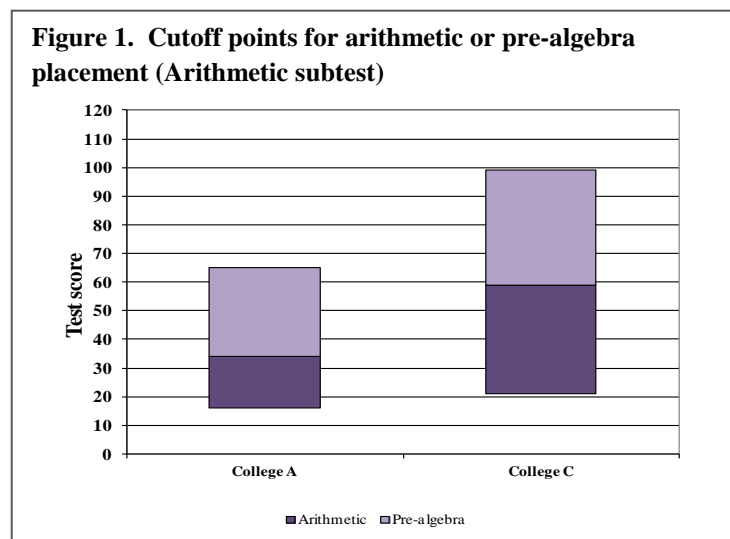
² Most colleges use a self-report of high school GPA and math success as a possible “multiple measure”.

at most based on their answers to multiple measures questions.³ Although the questions used to capture student background information for the multiple measures have occasionally been revised and do vary across the colleges, systematic evaluation of their effects is rare. Evidence from Ngo, Kwon, Melguizo, Bos and Prather (2013) suggest that even though community colleges attributed little weight to multiple measures, they nevertheless boosted a modest proportion of students to a higher math level, contradicting the perception shared by faculty that multiple measures do not impact placement.

THE CONSEQUENCES OF DECENTRALIZED AUTHORITY OVER ASSESSMENT AND PLACEMENT POLICIES

Students with similar math abilities are being placed differently

An inevitable consequence of granting autonomy to colleges in determining placement rules is that students with similar academic abilities may be placed differently into courses of the developmental math sequence. Figure 1 shows that students who scored a 40 on the Arithmetic subtest were placed into pre-algebra in College A; however those same students would have been placed in arithmetic had they been tested in College C. This variation in placement rules between two colleges in the same district raises questions of equity for the students they serve, but also about whether such placement decisions reflect differences in curriculum and student needs across the colleges.



Systematic comparison is difficult in a highly decentralized context

The multiple subtests in the assessment batteries, along with the use of three different testing instruments across the district and much of the state, make it difficult to systematically compare the distribution of student preparation within and across colleges. The jury is out but the cross-college differences in student composition and preparation may not be large enough to justify the considerable differences in placement rules that we observed. Employing a single standard and a single placement instrument that determine who is college-ready may help the State and districts alike identify the extent to which students across California are prepared for college. Unfortunately, this is a determination that should be made based on evidence that does not now exist.

³ Score ranges for each ACCUPLACER subtest is 120; COMPASS is 100; MDTP is 50.

CONCLUSIONS

LACCD faculty and administrators have a complex task in designing, implementing, and evaluating assessment and placement policies for developmental math. The complexities are amplified in California's decentralized governance context. Not only do faculty and administrators need to select proper placement instruments, they must also set and adjust cut scores, and choose valid multiple measures. Some consequences of decentralized authority are evident: students of similar ability levels may be placed in different level courses at different colleges, and system-wide comparison of student preparation and success is difficult.

Work toward a common placement instrument for California community colleges has begun. Use of the placement instrument would be voluntary, but the costs would be borne by the state and financial incentives for adoption would be substantial. It is anticipated that a statewide database of assessment results would accompany the common testing instrument. In the selection of the common instrument we would recommend that one criterion be the ability to calibrate scores on individual subtests to a continuous scale across all subtests so that comparison of the distribution of student preparation levels can be made.

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