Remedial Screening Tests, High School Grades, and College Success

Zun Tang and Sarah Truelsch
Office of Policy Research, City University of New York

Improving Remedial Placement

Objective: evaluate alternative remedial placement options using multiple indicators of college-readiness

Current CUNY screening for remedial math placement relies on test scores only: SATs, State Tests, or College Placement Test (COMPASS)

Accuracy: improve pass rates in credit-bearing courses

Volume: reduce the number of students placed in remediation

Alternative 1: Use COMPASS test scores primarily, but use placement index built on regression-weighted high school credentials for students who score just below cut points on the test

Alternative 2: Use placement index built on regression-weighted high school credentials to place all students

Alternative 3: Use placement index built on regression-weighted high school credentials and COMPASS test scores to place all students

Results

Students Placed Into Remediation

<table>
<thead>
<tr>
<th></th>
<th>Students Placed</th>
<th>Percent Change</th>
<th>Percent to Actual Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compass Test Only</td>
<td>52,612</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative 1</td>
<td>52,008</td>
<td>-1.1%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>50,957</td>
<td>-3.1%</td>
<td></td>
</tr>
<tr>
<td>Alternative 3</td>
<td>52,419</td>
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</tbody>
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Discussion

No clear winner among alternatives; impact of each relative to current practice is small.

Accuracy

- All three alternatives place students more accurately than relying on COMPASS only
- Alternative 3 places students most accurately

Volume

- All three alternatives place fewer students in remediation than relying on COMPASS test only, but the differences are very small
- Alternative 2 places the fewest number of students in remediation

Methods

Constructing placement index based on high school credentials

Step 1: Run logistic regression on passing first basic college math course against high school math average and high school math units, controlling for covariates – exemption status, high school type, cohort year, college, course term, and course type

Step 2: Create index with coefficients of high school credentials obtained in Step 1

Index = \text{b}_{\text{hsma}} \times \text{high school math average} + \text{b}_{\text{hsmu}} \times \text{high school math units}

Step 3: Determine cut point on the index

a. Lowest predicted probability of passing > .5
b. Average predicted probability of passing > actual pass rate

To better communicate with students, faculty, and administrators, we can convert the index to a score on 0-100 scale

Data

Size: 82,260 students

- All students from five cohorts of associate degree-seeking first-time freshmen: fall 2007 to fall 2011
- Six CUNY community colleges

Source

- Application data: high school credentials, SAT, NY State Regents exam scores
- Testing data: COMPASS scores
- Enrollment data: remedial and college math course taking
- Performance data: grades in first basic college math course

Implementation Challenges

High administrative costs for small impact on students

- Need to redesign admissions system to integrate placement index into admission process
- Improve high school data quality, e.g. missing data on high school credentials for foreign students

Faculty resistance

- Given low rates of passage in college math courses, math faculty has recently supported raising remediation standards, i.e. COMPASS cut points, and placing more students in remediation
- The index would allow, in some cases, students who score far below current COMPASS cut points to bypass remediation

Alternative strategies to improve remediation outcomes have the potential to impact much greater numbers of students