Understanding Two Common Postsecondary Reforms: Multiple Measures and Corequisites

Alexandros M. Goudas
Associate Professor of English
NADE Research Committee Chair
Monroe Community College Presentation
6 June 2019
communitycollegedata.com  @ccollegedata
Monroe Community College

• Thank you for having me!
• Communitycollegedata.com and @ccollegedata (see Resources page for PDF of this PPT)
• You are very important people; you have an exponential effect on the lives of thousands of students, the economy, the country, and the world
• I have been invited here to share more data on two common postsecondary reforms, multiple measures and corequisites, so that policymakers and practitioners may make better decisions
Why are We Discussing These Reforms?

- Lower state funding since 2000 and loss of revenue from students (postrecession) caused institutions to cut costs
- The Obama administration started completion agenda (2009)
- The Community College Research Center (CCRC) responded to the completion agenda; they studied means by which to reduce remediation because they view it as ineffective
- In 2012, interest groups (Complete College America, ECS, JFF) began using CCRC data to persuade institutions, legislators, and state systems to eliminate or severely restrict remediation
Why are We Discussing These Reforms?

• Among many other reforms, two of the most popular policymakers are implementing are:
  1. Multiple Measures
  2. Corequisites

• Some people believe these reforms place students better and allow them to perform better in college; others believe these are simply reforms designed to eliminate remediation; the reality is more complicated
Understanding multiple measures and HSGPA for placement
What are Multiple Measures for Placement?

• There are two different definitions of *multiple measures*:
  1. *Mixed measure*: Two or more measures combined for a single placement result
  2. *Multiple single measures*: An institution can choose any single measure (from as many as six or seven) to place students into college-level courses (they typically choose the highest score of many single measures)
Why Utilize Multiple Measures?

• Institutions use instruments (i.e., Accuplacer) or metrics to place students into remedial or college-level courses

• These instruments are not perfect (SEM, bias, etc.):
  • Overplacement: placed too high (college-level)
  • Underplacement: placed too low (remediation)
  • 14-28% of students are misplaced (Scott-Clayton & Stacey, 2015)

• The use of multiple or mixed measures may decrease severe misplacement depending on how they are used
The History of Multiple Measures

- In 2012, CCRC conducted two studies on misplacement (Belfield & Crosta, 2012; Scott-Clayton, 2012)
- CCRC concluded placement tests such as Compass© and Accuplacer© performed relatively poorly placing students (Compass was discontinued due to these articles)
The History of Multiple Measures

• Between 2012-2016, the CCRC recognized that using mixed measures was impractical, costly, and difficult for institutions to implement.

• CCRC also realized that the use of HSGPA alone resulted in similar reductions in severe misplacement.

• CCRC began recommending HSGPA alone (Smith, 2016).\(^4\)

• In 2017, CCRC recommended options, better described as *multiple single measures* (Barnett & Reddy, 2017).\(^5\)
The History of Multiple Measures

• CCRC argued that HSGPA alone is a mixed measure: “‘The bottom line is that high school GPA is a better predictor than anything else,’ said Barnett. ‘It’s not really a single measure. It’s a compilation of course grades over time’” (Smith, 2016, para. 17)

• Unfortunately, numerous potential issues exist when using HSGPA alone for placement; many of these are in CCRC research but are not being highlighted during their numerous and widespread consulting and presentations
Potential Problems with Using HSGPA

1. Using HSGPA alone may increase racial disparities:

   More White and Asian students will likely be placed into college-level courses; more Black and Hispanic students will likely be placed into remedial courses.
USDOE NAEP Average HSGPA Data (2011)

FIGURE 30. Trend in average GPAs, by race/ethnicity: 1990–2009

- White
- Black
- Hispanic
- Asian/Pacific Islander

* Significantly different ($p < .05$) from 2009.

Potential Problems with Using HSGPA

CCRC Scott-Clayton & Stacey (2015):

“...in the urban system, using high school information alone would increase the rate at which Black students are assigned to English remediation and substantially decrease their representation in college English. One way to avoid differential impacts on subgroups would be to allow students to test out of remediation based on either test scores or high school achievement” (p. 3).
Black college-level placement decreases by half using HSGPA alone.
Potential Problems with Using HSGPA

2. More students overall will be placed into college-level courses because typically institutions add HSGPA as an option (i.e., multiple single measures):

There is no guarantee they will be successful there; in fact, research suggests many will be less successful.\(^7,8\)

*Note: The reason is because the cutoff is going to be lowered by institutions using an “or”*
We need to determine the level of your reading, writing and math skills in order to place you in the appropriate classes. We can measure this in several different ways, including previous college credit you’ve earned, SAT/PSAT or ACT scores, high school GPA or through an assessment tool called Accuplacer.

You can complete assessment in any of the following four ways:

- **ACT, SAT, or PSAT Scores**
  Have you already taken the ACT, SAT or PSAT? Generally scores of 460 or higher on each section of the SAT, 26 in writing, 25 in reading and 24.5 in math or higher on each section of the PSAT*, or 17 in English, 18 in reading, 18 in math or higher on each section of the ACT can be accepted for your assessment if they were completed within the last four years. Click here for more information on the scores you need to complete the assessment requirement. Send a copy of your ACT, SAT or PSAT scores to the address listed below. *PSAT scores based on tests taken 2015 and beyond. Older test scores may also be accepted. Click here for older PSAT score ranges.

- **High School GPA 2.5+**
  Generally, a high school cumulative GPA of 2.6 or higher on a 4.0 scale will meet the assessment requirement if this was your final GPA at the time of graduation and if you completed high school within the last four years. You must have graduated with a Core 40, Technical Honors, or Academic Honors diploma or equivalent. High school seniors who have not yet graduated can use the cumulative GPA after six high school semesters have been completed. Send a copy of your high school transcripts to the address listed below.

- **Previous college courses or Associate degree**
  Have you already earned college credits or an Associate degree at another college or university? If so, see below for information on where to submit your college transcripts. General education courses taken at another regionally accredited institution, with a grade of “C-” or higher, may be used to complete the assessment requirement. Send a copy of your transcripts to the address listed below. Please note, that if you would like to have your transcripts evaluated for transfer credit also, once you are admitted you will need to submit an official copy to your regional Registrar’s office for evaluation.

- **Accuplacer assessment**
  If you do not have previous college credit, an ACT, SAT or PSAT score, or a cumulative high school GPA that satisfies the assessment requirement, you will need to take the Accuplacer skills assessment. Your scores on the Accuplacer determine which writing, reading and math classes you’ll take first. You must meet certain scores in order to place into college-level classes. The Accuplacer is free, and after the initial assessment in reading, writing and math, you may retake two additional times per year free of charge to try and increase your score. Your score will be accepted up to four years after you take the assessment. To prepare for the Accuplacer assessment, please click here. To schedule an appointment to take the Accuplacer, scroll down and click on your campus below.
### Miami-Dade College

#### Developmental Education Enrollment

<table>
<thead>
<tr>
<th></th>
<th>Math</th>
<th>Writing</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13 to 2014-15</td>
<td>-42%</td>
<td>-44%</td>
<td>-46%</td>
</tr>
</tbody>
</table>

#### College-level Enrollment

<table>
<thead>
<tr>
<th></th>
<th>Math</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13 to 2014-15</td>
<td>+30%</td>
<td>+10%</td>
</tr>
</tbody>
</table>

#### Pass Rates

<table>
<thead>
<tr>
<th></th>
<th>Math</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>55.7%</td>
<td>74%</td>
</tr>
<tr>
<td>2014-15</td>
<td>46.8%</td>
<td>70.3%</td>
</tr>
</tbody>
</table>
Potential Problems with Using HSGPA

3. Students will be placed into cognitive-based courses with noncognitive assessments and then will not receive noncognitive supports:

When students are placed into remedial or college-level courses using a metric (HSGPA) that combines cognitive and noncognitive aspects, we should then remediate and teach both; while many remedial/college-level instructors and curricula try to address noncognitive factors, many do not

*Holistic developmental education works well to address this issue (ASAP)*[^9]
Potential Problems with Using HSGPA

4. Many students who have a HSGPA transcript will be placed incorrectly before it is processed properly:

Due to some institutions’ admissions processes, some students will not be placed properly because an Accuplacer score will allow them to register before their HSGPA placement information is submitted; in other words, open admissions institutions are hesitant to mandate HSGPA transcripts and step-based intake processes for fear of reduced enrollment.
Potential Problems with Using HSGPA

5. More staff, money, and time will be needed:

Holistic intake processes require much more investment of money and staffing for receiving and entering official HSGPA transcript information, and notifying students, especially if HSGPA is required.

(Again, additional staffing and time will be needed for making students aware of a different placement than their Accuplacer score if they register out of order)
Potential Problems with Using HSGPA

5. More staff, money, and time will be needed: If you wish to use a guided pathways intake system:

“...improvements in intermediate milestones and eventual completions...may affect colleges’ ongoing operational costs. In addition to these basic ongoing costs, guided pathway reforms typically require additional upfront and transitional costs” (Bailey, Jaggars, & Jenkins, 2015, p. 182).
Potential Problems with Using HSGPA

6. Only ~40% of community college students would actually be able to submit an actual HSGPA:

Recent research from CCRC (CAPR) at five SUNY community colleges shows that only 40% of students in the RCT for multiple measures placement had a HSGPA to use for placement (Barnett et al., 2018, p. 64)\textsuperscript{11}

Also, as shown in an ACT study, HSGPA works best with ages 18-19\textsuperscript{12}; 20% to 33% of incoming students are nontraditional age
Potential Problems with Using HSGPA

6. Only \(~40\%\) of community college students would actually be able to submit valid and useful HSGPA:

Moreover, the two original CCRC studies which have been used to promote the current trend in using HSGPA (Belfield & Crosta, 2012; Scott-Clayton, 2012) showed only 50% to 70% of students even had a HSGPA to analyze, and most of the samples were traditional aged.

Therefore, who exactly would benefit from HSGPA placement? Will this simply benefit higher SES students and traditional-aged students?
Potential Problems with Using HSGPA

7. Using HSGPA alone still shows limited results:

“Our calculations suggest that out of 100 students tested, 4 to 8 fewer students would be severely misplaced, representing up to a 30 percent reduction in severe errors compared with test-based placements” (Belfield, 2014, p. 2)\textsuperscript{13}.
What About Self-Reported HSGPA?

• Proponents of single-measure HSGPA for placement argue that for the 30-60% of students who do not have a HSGPA to place with, they can self-report their HSGPA.

• There are several problems with self-reported HSGPA reliability and its application to remedial placement.

• Most importantly, reliability estimates range from 34% to 82%, depending on level of HSGPA\textsuperscript{14,15}

• Lower HSGPA = more unreliable self-reporting.
### Citrus College in California, a Study on Self-Reported HSGPA (2017)\textsuperscript{14}

**Table 4**

<table>
<thead>
<tr>
<th>GPA range</th>
<th>Count</th>
<th>Self-reported GPA Mean</th>
<th>School-reported GPA Mean</th>
<th>Mean diff.</th>
<th>% within +/-0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-reported GPA range</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0-1.4</td>
<td>5</td>
<td>1.9</td>
<td>1.3</td>
<td>0.6</td>
<td>40%</td>
</tr>
<tr>
<td>1.5-1.9</td>
<td>53</td>
<td>2.2</td>
<td>1.8</td>
<td>0.4</td>
<td>34%</td>
</tr>
<tr>
<td>2.0-2.4</td>
<td>180</td>
<td>2.6</td>
<td>2.2</td>
<td>0.4</td>
<td>38%</td>
</tr>
<tr>
<td>2.5-2.9</td>
<td>216</td>
<td>2.9</td>
<td>2.7</td>
<td>0.2</td>
<td>64%</td>
</tr>
<tr>
<td>3.0-3.4</td>
<td>138</td>
<td>3.3</td>
<td>3.2</td>
<td>0.1</td>
<td>74%</td>
</tr>
<tr>
<td>3.5-4.0</td>
<td>38</td>
<td>3.7</td>
<td>3.7</td>
<td>0.0</td>
<td>79%</td>
</tr>
<tr>
<td>Total</td>
<td>630</td>
<td>2.877</td>
<td>2.642</td>
<td>0.235</td>
<td>58%</td>
</tr>
</tbody>
</table>
What About Self-Reported HSGPA?

• Self-reported data is less reliable for remedial students:

“Kuncel et al. did not find large differences in the validity of self-reported HSGPA between females and males (0.82 versus 0.79, respectively); however, they did find that the validity of self-reported HSGPA was greater for white students than for nonwhite students (0.80 versus 0.66, respectively)” (as cited in Shaw & Mattern, 2009, p. 2).
What About Self-Reported HSGPA?

• Self-reported data is less reliable for remedial students:

“Kuncel et al. argued that self-reported grades may be valuable and accurate reflections for academically higher-performing students but are of much less use for academically lower-performing students” (as cited in Shaw & Mattern, 2009, p. 1)\textsuperscript{15}. 
What About Self-Reported HSGPA?

• Self-reported data is less reliable for remedial students:

“Freeberg noted that there were only very slight differences in overreporting or underreporting by gender and by race/ethnicity when controlling for prior academic performance; however, students with a lower actual HSGPA were far more likely to overreport their HSGPA than were higher-performing students” (as cited in Shaw & Mattern, 2009, p. 2).
The Dunning-Kruger Effect (Novella, 2019)
What About Actual Mixed Measures?

• As stated, CCRC’s Barnett et al. (2018) ran an RCT using mixed measures in five SUNY 2-year colleges.
• CAPR (a related CCRC organization) published preliminary results about how the treatment affected enrollment and completion of college-level math/English.
• There are several important takeaways from this study.
• First, it is important to note that they did NOT use HSGPA alone for placement; in fact, 60% of students in the five 2-year colleges in the study did not have HSGPA (p. 64).
What About Actual Mixed Measures?

• Second, CAPR stated it was much more complex than they anticipated: It cost $110 per student in initial costs and $40 per student in ongoing costs per year (Barnett et al., 2018, p. iv)11

• Third, several colleges already had their own placement tests, which CAPR’s researchers used as a part of the multiple measures RCT; therefore, if you create and utilize your own assessments, the CCRC would support using them in addition to other measures

• Finally, this study promotes mixed measures over HSGPA alone
What About Actual Mixed Measures?

• Even actual mixed measures show limited results:

“In math, 14 percent of program group students placed higher than they would have under a test-only system (i.e., in college-level), while 7 percent placed lower (i.e., in remedial). In English, 41.5 percent placed higher, while 6.5 percent placed lower. Program group students were 3.1 and 12.5 percentage points more likely than control group students to both enroll in and complete (with a grade of C or higher) a college-level math or English course in the first term” (Barnett et al., 2018, p. 2).
A Word of Caution About Biased Interpretations of Research

• One of the interest groups mentioned earlier is the Education Commission of the States (ECS)
• ECS’s purported mission is laudable; they claim to work to support at-risk students; however, they are overtly biased against remediation
• ECS created a site entitled “Strong Start to Finish” (Strongstart.org)\textsuperscript{17}
• On it, they mischaracterize the recent multiple measures data by Barnett et al. (2018)\textsuperscript{11}
Bias in Interpreting Barnett et al. (2018)\textsuperscript{11,17}

RIGHT NOW, A FIRST-YEAR STUDENT SITS IN A COLLEGE CLASSROOM BEING ILL-SERVED BY DEVELOPMENTAL MATH.

Students must be set up for success in their first year at college. Developmental math and English courses can stand in the way of their path to a degree. Strong Start to Finish is shifting that path so that every student can start strong, to finish strong.

Why Change is Needed

EVERY STUDENT DESERVES A STRONG START TO FINISH. WE ARE HERE TO MAKE IT HAPPEN.
Improved Gateway Course Placement Rates

*Multiple Measures boosts math placement for Pell Grant recipients*

Bias in Interpreting Barnett et al. (2018)\textsuperscript{11,17}

**Figure 4.6**

Placement in College-Level Math (Among Enrolled Students)

<table>
<thead>
<tr>
<th>Group</th>
<th>Control Group</th>
<th>Program Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>35.7</td>
<td>43.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>48.1</td>
<td>57.8</td>
</tr>
<tr>
<td>White</td>
<td>49.3</td>
<td>58.9</td>
</tr>
<tr>
<td>Pell</td>
<td>38.5</td>
<td>45.6</td>
</tr>
<tr>
<td>Non-Pell</td>
<td>54.0</td>
<td>58.4</td>
</tr>
<tr>
<td>Female</td>
<td>41.4</td>
<td>51.1</td>
</tr>
<tr>
<td>Male</td>
<td>50.0</td>
<td>52.0</td>
</tr>
</tbody>
</table>

\(***p < .01, **p < .05, *p < .10.\)
Bias in Interpreting Barnett et al. (2018)\textsuperscript{11,17}

• Contrary to what the ECS\textsuperscript{17} research summary suggests, Barnett et al. (2018)\textsuperscript{11} actually interpret these results in the opposite manner:

“...\textit{gaps} in placement, enrollment, and completion rates in math between subgroups (other than gender subgroups) may not have been affected by the treatment. Stated another way, the statistically insignificant interactions suggest that the treatment may not have differentially impacted students by race/ethnicity or Pell Grant status” (p. 41)\textsuperscript{11}.
Understanding remediation and the corequisite reform movement
Why Remediation is Being Reduced and Eliminated

• CCRC definition of remediation’s goal in 2008 (Calcagno & Long, 2008)_{18}:

“This would be expected that after successfully learning the skills needed for college-level work, a remedial student would be more likely than an academically-equivalent nonremedial student to complete [college-level] courses” (p. 16).
Why Remediation is Being Reduced and Eliminated

• CCRC definition of remediation’s goal in 2018 (Jaggars & Bickerstaff, 2018): 19

“To be effective, a developmental education program would need to demonstrate that it helps just-below-cutoff students perform better than their just-above cutoff peers who directly entered college-level coursework. That is, those referred to a developmental course should overcome the semester lost in developmental education by earning better grades and proceeding more quickly toward a degree” (p. 471).
Why Remediation is Being Reduced and Eliminated

• Practitioners’ definition of remediation’s intended outcome:
  • Designed to get students to college-level starting line so they perform the same as nonremedial students in college-level courses and other subsequent metrics

• CCRC’s definition contrasts widely from experts in the field (Goudas & Boylan, 2012)
CCRC Repeatedly Calls Remediation Ineffective

• The CCRC’s premise is that remediation should allow students to perform *better* than nonremedial students after the intervention (i.e., credits, retention, pass rates, completion)

• CCRC conducted 79 regression discontinuity design (RDD) studies to show causation

• CCRC decided that almost all had null effects (no effect of remediation); therefore, they conclude it is *ineffective*
CCRC Repeatedly Calls Remediation Ineffective

• Out of 79 separate RDD analyses of math, reading, and writing remedial outcomes by the CCRC\textsuperscript{18}:
  • 7 Positive
  • 52 Null
  • 20 Negative

• The CCRC counts the “null” findings as negative, according to their definition of success.
## Developmental Math Students

<table>
<thead>
<tr>
<th>Study</th>
<th>Level</th>
<th>Persistence</th>
<th>Passed College-Level Math</th>
<th>Grade in College-Level Math</th>
<th>Medium- &amp; Long-Term Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>TENNESSEE</td>
<td>UPPER</td>
<td>NEG</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NEG (credential)</td>
</tr>
<tr>
<td>TEXAS</td>
<td>UPPER</td>
<td>NULL</td>
<td></td>
<td></td>
<td>NULL</td>
</tr>
<tr>
<td>OHIO</td>
<td>UPPER</td>
<td>NULL</td>
<td></td>
<td></td>
<td>NEG (transfer)</td>
</tr>
<tr>
<td>LUCCS</td>
<td>UPPER</td>
<td>NEG</td>
<td>NEG</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>FLORIDA</td>
<td>UPPER</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>VIRGINIA</td>
<td>LOWER vs. MIDDLE</td>
<td>NULL</td>
<td>NULL</td>
<td>NULL</td>
<td>NEG (credential)</td>
</tr>
<tr>
<td>TENNESSEE</td>
<td>LOWER vs. MIDDLE</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL</td>
<td>POS (credential)</td>
</tr>
</tbody>
</table>
## Developmental Reading Students

### Short-Term Impacts

<table>
<thead>
<tr>
<th>Study</th>
<th>Level</th>
<th>Persistence</th>
<th>Passed College-Level English</th>
<th>Grade in College-Level English</th>
</tr>
</thead>
<tbody>
<tr>
<td>TENNESSEE</td>
<td>UPPER</td>
<td>POS</td>
<td>NULL (conditional)</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>TEXAS</td>
<td>UPPER</td>
<td>NULL</td>
<td>False</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>OHIO</td>
<td>UPPER</td>
<td>NULL</td>
<td>False</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>LUCCS</td>
<td>UPPER</td>
<td>NEG</td>
<td>NEG</td>
<td>NEG (conditional)</td>
</tr>
<tr>
<td>FLORIDA</td>
<td>UPPER</td>
<td>NULL</td>
<td>NEG</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>VIRGINIA 2</td>
<td>UPPER</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>VIRGINIA 2</td>
<td>LOWER vs. UPPER</td>
<td>NEG</td>
<td>NULL (conditional)</td>
<td>NEG (conditional)</td>
</tr>
<tr>
<td>TENNESSEE</td>
<td>LOWER vs. MIDDLE</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>POS (conditional)</td>
</tr>
</tbody>
</table>

### Medium- & Long-Term Impacts

<table>
<thead>
<tr>
<th>Study</th>
<th>Persistence</th>
<th>College-Level Credits Earned</th>
<th>Credential and/or Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>TENNESSEE</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL (credential)</td>
</tr>
<tr>
<td>TEXAS</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL</td>
</tr>
<tr>
<td>OHIO</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL</td>
</tr>
<tr>
<td>LUCCS</td>
<td>NEG</td>
<td>NEG</td>
<td>NEG (credential)</td>
</tr>
<tr>
<td>FLORIDA</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL</td>
</tr>
<tr>
<td>VIRGINIA 2</td>
<td>NULL</td>
<td>NULL (conditional)</td>
<td>NULL</td>
</tr>
<tr>
<td>VIRGINIA 2</td>
<td>NEG</td>
<td>NEG</td>
<td>NEG</td>
</tr>
<tr>
<td>TENNESSEE</td>
<td>POS</td>
<td>POS (conditional)</td>
<td>NULL (credential)</td>
</tr>
</tbody>
</table>
### Developmental Writing Students

<table>
<thead>
<tr>
<th>Study</th>
<th>Level</th>
<th>Short-Term Impacts</th>
<th>Medium- &amp; Long-Term Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Persistence</td>
<td>Passed College-Level English</td>
</tr>
<tr>
<td>TENNESSEE</td>
<td>UPPER</td>
<td>NEG</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>VIRGINIA 2</td>
<td>UPPER</td>
<td>NULL</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>LUCCS</td>
<td>Writing &amp; Reading vs. Reading Only</td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>VIRGINIA 2</td>
<td>LOWER vs. UPPER</td>
<td>NEG</td>
<td>NULL (conditional)</td>
</tr>
<tr>
<td>TENNESSEE</td>
<td>LOWER vs. UPPER</td>
<td>POS</td>
<td>POS (conditional)</td>
</tr>
</tbody>
</table>

Note. “Conditional” signifies that only outcomes for students who enrolled in college-level courses, or persisted in college, were compared. LUCCS stands for large urban community college system.
CCRC Repeatedly Calls Remediation Ineffective

• Before almost all of these RDD studies were conducted, CCRC’s Bailey, Jeong, and Cho (2010)\textsuperscript{22} had come to the conclusion that remediation was ineffective (in 2008)

• CCRC (Bailey, Jeong, & Cho, 2010)\textsuperscript{22} proposed a solution: “Given the confusion and ineffectiveness of the developmental system, one possible objective would be to reduce the length of time before a student can start college courses—to accelerate the remediation process” (p. 6).
CCRC Repeatedly Calls Remediation Ineffective

• They sought out examples of successful acceleration and then studied and highlighted those examples in their research and presentations

• One of the CCRC’s chosen examples was the Accelerated Learning Program (ALP) of the Community College of Baltimore County (pioneered by Dr. Peter Adams)

• CCRC studied it and concluded it was an effective model to promote (Cho, Kopko, Jenkins, & Jaggars, 2012)23

• Then interest groups heavily promoted it (CCA, 2012)24
What are corequisites?
What are Corequisites?

• Understanding the corequisite model:
  • Instead of students taking remedial courses as prerequisites (completing them before corresponding college courses), the corequisite model places remedial students in college-level courses with additional supports.
  • These supports vary: Some are an entire course taught by the same instructor; others could be as little as the requirement of one hour (self-administered) at a tutor or writing center per week.
  • Mostly implemented in English and math, but there are studies with other disciplines (chemistry and sociology).
English
corequisite model
ALP at CCBC: New Model Beginning Fall 2016

- Reduces stigma
- Improves attachment
- Provides stronger role models
- Encourages cohort effect
- Changes attitude toward the developmental course
- Allows more individual attention
- Allows time for dealing with non-cognitive issues
- Allows students with dev. placements in writing and reading to participate

ENG 101

ACLT 053

The Accelerated Learning Program
Important Components of the Accelerated Learning Program

• Components (studied by Cho et al., 2012):
  1. Student participants from just beneath college cutoff
  2. Same instructor teaches college-level English course and companion course ("remedial" course)
  3. Students volunteered to take ALP in the original research, which confounds results
  4. Strong focus on noncognitives; companion course is a “deep” version of college-level English course
Benefits of Accelerated Learning Program

• Benefits (according to Cho et al., 2012):

1. Higher passrates in college-level English (comp 1)
2. Slightly higher enrollment and passrates in comp 2
3. Slight increases in persistence (10.5%pts more), college courses completed (1/2 a course more), and college credits completed (1.6 credits more)
4. (ALP site argues increased positive noncognitive results, but this is not in research)
Drawbacks of Accelerated Learning Program

• Drawbacks (according to Cho et al., 2012)\textsuperscript{23}:
  1. Costs double and large investment in initial training
  2. Negatively affects nonremedial students (credits, etc.)
  3. No increase in graduation rates overall
  4. In fact, negative effect on one completion metric: There was a statistically significant decrease in ALP student certificate attainment rate (p. 20)
  5. All results potentially due to study flaw: volunteers
Mathematics corequisite model
What is the Math Corequisite Model?

• Two studies sum up the most common math corequisite model:

1. Tennessee implemented corequisites statewide and it was studied using a pre-post observational design (Belfield, Jenkins, & Lahr, 2016)25

2. Logue, Watanabe-Rose, and Douglas (2016)26 implemented an RCT using prealgebra and statistics

3. Both used prealgebra courses in the control and statistics courses in the intervention
Logue, Watanabe-Rose, & Douglas (2016)²⁶

**FIGURE 2.** Course pass rates.
Benefits of the Math Corequisite Model

• Benefits (according to both studies):
  
  1. More students (sometimes double or triple) pass the college-level class when compared to traditional track (end of semester 2 results compared to end of semester 1 results; a confounding factor is that attrition is included in comparison group)

  2. Slightly more college-level credits obtained (+3 after 1.5 years) (Logue, Watanabe-Rose, & Douglas, 2016)
Drawbacks of the Math Corequisite Model

• Drawbacks (according to both studies):
  1. Costs more due to supplemental instructors, more students taking college-level courses, etc.
  2. No increase in graduation rates
  3. Doubles or triples fail rates in college-level courses*
  4. Unclear whether students are harmed or helped taking statistics instead of algebra; this is a philosophical decision (a discussion on standards) on which math faculty vehemently disagree
*College-level fail rate is double*
The CCRC’s overall conclusions on these two reforms
Important CCRC Conclusions on Corequisites and Multiple Measures

• CCRC’s conclusions on developmental education and corequisites (Bailey, Jaggars & Scott-Clayton, 2013):

“...while our research does conclude that the current system of developmental education does not work very well for many students, we do not advocate—nor do we believe that the results of our research support—the elimination of developmental education, the placing of all students into college courses, or the wholesale conversion of developmental education into a co-requisite model [emphasis added]” (p. 2).
Important CCRC Conclusions on Corequisites and Multiple Measures

• CCRC’s conclusions on recent popular reforms (Jaggars & Bickerstaff, 2018): 19

“…research suggests that the most popular reform models (including multiple measures assessment and placement, math pathways, and the co-requisite approach) will indeed improve students’ rate of success in college-level math and English, but they are unlikely to substantially improve graduation rates” (p. 496).
Is prerequisite remediation actually ineffective?
Remedial Coursertaking at U.S. Public 2- and 4-Year Institutions: Scope, Experience, and Outcomes
Statistical Analysis Report
Chen (2016) shows high remedial grad rate

- Chen (2016) used a sample size of approximately 9000 students, half of which were remedial students (tracked from 2003-2009, same starting year as Bailey et al.)
- Chen divided remedial students into three groups: completers, partial completers, and noncompleters
- Chen has been the only researcher to view remedial students in this way; this is a type of bias in research:
  
  If you ask a different question, you will get a different answer from the data

Copyright A. Goudas 2019
Chen (2016) shows high remedial grad rate

- Forty-nine percent (49%) of all remedial students in Chen’s sample completed all their remedial courses.
- These students went on to graduate at a higher rate than nonremedial students after six years:
  - Nonremedial student graduation rate: 39%
  - Remedial completer graduation rate: 43%
  - Overall remedial graduation rate: 33%
USDOE “Remedial Coursetaking” (2016)

Remedial Completers (49%)  
6-Yr Grad Rate: 43%

Nonremedial Grad Rate: 39%

Overall Rem. Grad Rate: 33%

Copyright A. Goudas 2019
Chen (2016)\textsuperscript{27} Shows High Remedial Grad Rate

• These students participated in traditional remediation
• These students were sampled before any of the latest reforms changed the landscape
• The sample came from the same time as the Bailey et al. (2010)\textsuperscript{22} ATD study (samples started in 2003)
• Chen (2016) results directly contradict the CCRC’s claims
• Bailey et al. (2010) only tracked ATD students for three years and included non-enrollees
Chen (2016)\textsuperscript{27} Shows High Remedial Grad Rate

• What is the takeaway from Chen (2016)?
• Remediation works for a large proportion (half) of students; it means it would be unwise to eliminate it
• Other research shows acceleration works for some; some students perform better in corequisites (students just beneath cutoff)\textsuperscript{23}; some perform better when placed into college-level courses with more accurate placement
• Holistic, well-supported, and thoughtful design (options) is the best approach for placement and coursework\textsuperscript{9}
Questions
Thank you!

Keep up the good work!

References below and more reading available: communitycollegedata.com alexmgoudas@gmail.com

Follow me on @ccollegedata

(Links to sources on next page)
References


