Multiple Measures for Learning Support Placement:
A Pilot of the Use of High School GPA
TASSR Annual Conference
October 2020
Multiple Measures for Learning Support Placement

• Background & current status of learning support reforms
• Research on multiple measures & trends at community colleges
• Details of the fall 2020 pilot use of high school GPA
• Next steps
Background

Learning support after a decade of reform
A Decade of Learning Support Reform

2008
Six TBR institutions pilot Developmental Studies Redesign programs.

2010
The Complete College Tennessee Act places community colleges at the center of developmental education reform.

2013
SAILS expands statewide to deliver learning support in math to high school seniors.

2015
Corequisite remediation is implemented systemwide at Tennessee community colleges.
Reforms’ Impact on Student Success

• Proportion of first-time college students who pass gateway math and English courses in their first year has more than doubled.

• Need for continued efforts to help each student find success.
  ▪ In 2018, 65% of first-time freshmen needed additional learning support in at least one subject area (reading, writing, or math).
  ▪ Gaps in success rates persist for students of color, low-income students, and returning adults.
  ▪ Recent research about remediation in Tennessee found that existing remediation efforts alone are insufficient to improve college completion rates (Ran & Lin, 2019; Kane et al., 2018).
Equity Gaps Persist

• Gateway course completion rates have increased significantly.
• However, completion gaps persist for Black students, low-income students, and adults.
• In fall 2019, 57% of first-time, full-time students required learning support based on their test scores.
  • Black and African American students: 81%
  • Hispanic students: 64%
• In 2019-20, 41% of all first-time-ever-in-college students completed a gateway math course in their first year.
  • Black and African American students: 29%
  • Hispanic students: 46%
Learning Support Placement

- Prior to Spring 2020, nearly all first-time-freshmen, recent high school graduates were placed into learning support using ACT subject test scores.

- Cut scores vary by subject level:
  - Math: 19
  - English: 18
  - Reading: 19
ACT Math Scores by Student Group

First-Time Freshmen, Recent High School Graduates with ACT Math Scores Below the Cut Point in Fall 2019

- All: 64%
- Black Students: 89%
- Hispanic Students: 71%
- Female Students: 69%
- Pell Recipients: 71%
Multiple Measures

Learning support placement using more than one metric
What the Research Says about Placement

• Research on a “multiple measures” approach supports models that place into remediation students using two or more indicators of college readiness.
  
  • Students assessed using multiple measures are more likely to pass college-level courses than students assessed using only standardized tests (Ganga & Mazzariello, 2019).
  
  • Some studies suggest that the best placement strategy would consider both standardized test scores and high school transcript data (Scott-Clayton, 2012; Belfield and Crosta, 2012).
  
  • Other metrics that could be explored are writing assessments, non-cognitive assessments such as mindset, and student self-assessments.

• 19 states allow or require multiple measures for placement.
ACT & HS GPA for placement at TBR

Outcomes in college-level Math
• In 2018, 55% of first-time freshmen, recent high school grads passed college-level math within 1 year (Grade of A, B, or C)

• Pass rates vary by college, ACT score, and high school GPA

• **1 out of 3 students** with a GPA 3.0 or less passed gateway math, regardless of ACT score

• **9 out of 10 students** with a GPA 3.9-4.0 passed gateway math, regardless of ACT score
Pass Rates by ACT Math Sub-score

Note: Sample includes first-time freshman recent high school graduates who attempted college-level math within their first year. Does not include those who received a GED or Hi-Set.
Pass Rates by High School GPA

Note: Sample includes first-time freshman recent high school graduates who attempted college-level math within their first year. Does not include those who received a GED or Hi-Set.
### Pass Rates by ACT Math & High School GPA

**Overall**
- **ACT Math 17**: 54%
- **ACT Math 18**: 37%
- **ACT Math 19**: 57%
- **ACT Math 20**: 63%
- **ACT Math 21**: 78%

**3.0 or less**
- **ACT Math 17**: 58%
- **ACT Math 18**: 42%
- **ACT Math 19**: 51%
- **ACT Math 20**: 60%
- **ACT Math 21**: 74%

**3.1-3.2**
- **ACT Math 17**: 67%
- **ACT Math 18**: 46%
- **ACT Math 19**: 52%
- **ACT Math 20**: 69%
- **ACT Math 21**: 81%

**3.3-3.4**
- **ACT Math 17**: 65%
- **ACT Math 18**: 38%
- **ACT Math 19**: 63%
- **ACT Math 20**: 83%
- **ACT Math 21**: 86%

**3.5-3.6**
- **ACT Math 17**: 59%
- **ACT Math 18**: 20%
- **ACT Math 19**: 60%
- **ACT Math 20**: 67%
- **ACT Math 21**: 84%

**3.7-3.8**
- **ACT Math 17**: 35%
- **ACT Math 18**: 10%
- **ACT Math 19**: 60%
- **ACT Math 20**: 76%
- **ACT Math 21**: 86%

**3.9-4.0**
- **ACT Math 17**: 0%
- **ACT Math 18**: 0%
- **ACT Math 19**: 0%
- **ACT Math 20**: 0%
- **ACT Math 21**: 0%

<table>
<thead>
<tr>
<th>N size</th>
<th>Overall</th>
<th>3.0 or less</th>
<th>3.1-3.2</th>
<th>3.3-3.4</th>
<th>3.5-3.6</th>
<th>3.7-3.8</th>
<th>3.9-4.0</th>
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<tbody>
<tr>
<td>ACT Math 17</td>
<td>1,573</td>
<td>746</td>
<td>213</td>
<td>199</td>
<td>216</td>
<td>125</td>
<td>74</td>
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<td>ACT Math 18</td>
<td>1,244</td>
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<tr>
<td>ACT Math 20</td>
<td>707</td>
<td>188</td>
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<td>ACT Math 21</td>
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<td>73</td>
<td>77</td>
<td>65</td>
<td>64</td>
<td>69</td>
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</table>

Note: Sample includes first-time freshman recent high school graduates who attempted college-level math within their first year. Does not include those who received a GED or Hi-Set.
Grade in College-Level Math

- Within pass rates, grade distribution varies by student ACT and GPA
- 16.7% of students made an A in college-level math, 20.3% made a B, and 18.1% made a C
- 1 in 5 students earned an F in college-level math
- About 16% received an I, W, or FA
- More than half of all students with a 3.9-4.0 made an A in college-level math, regardless of their ACT score, and 9 out of 10 passed
- Less than 5% of all students with a GPA below 3.0 made an A in college-level math, regardless of their ACT score, and only 1 out of 3 passed
Grade in CL Math by ACT & GPA

Note: Sample includes first-time freshman recent high school graduates who attempted college-level math within their first year. Does not include those who received a GED or Hi-Set.

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>15</th>
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<th>21</th>
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<tr>
<td>3.9-4.0</td>
<td>28</td>
<td>79</td>
<td>89</td>
<td>93</td>
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<td>114</td>
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<td>128</td>
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<tr>
<td>3.7-3.8</td>
<td>59</td>
<td>134</td>
<td>155</td>
<td>196</td>
<td>127</td>
<td>168</td>
<td>99</td>
<td>134</td>
<td>148</td>
<td>118</td>
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<tr>
<td>3.5-3.6</td>
<td>111</td>
<td>244</td>
<td>265</td>
<td>201</td>
<td>130</td>
<td>158</td>
<td>91</td>
<td>107</td>
<td>132</td>
<td>101</td>
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<tr>
<td>3.3-3.4</td>
<td>189</td>
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<td>150</td>
<td>91</td>
<td>117</td>
<td>100</td>
<td>88</td>
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<tr>
<td>3.1-3.2</td>
<td>201</td>
<td>326</td>
<td>283</td>
<td>248</td>
<td>140</td>
<td>114</td>
<td>87</td>
<td>79</td>
<td>78</td>
<td>64</td>
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<tr>
<td>≤3.0</td>
<td>1,408</td>
<td>1,479</td>
<td>1,113</td>
<td>647</td>
<td>356</td>
<td>257</td>
<td>189</td>
<td>186</td>
<td>205</td>
<td>165</td>
</tr>
</tbody>
</table>

Note: Sample includes first-time freshman recent high school graduates who attempted college-level math within their first year. Does not include those who received a GED or Hi-Set.
Adding GPA to placement: Equity Concerns

Fall 2018 FTF High School GPAs by Placement in Learning Support

- All Students
- Black
- Hispanic
- Female
- Pell

Note: Sample includes first-time freshman recent high school graduates who attempted college-level math within their first year. Does not include those who received a GED or Hi-Set.
2020 Pilot Study

Using high school GPA to place students out of learning support
Details of the Multiple Measures Pilot

• In Spring 2020, the Tennessee Board of Regents approved a multiple measures pilot study.

• This pilot **adds high school GPA** as a method for determining students’ placement (in addition to ACT, SAT, Accuplacer or SAILS).

• Placement rules:
  • Cumulative high school GPA on a 4.0 scale
  • Valid placement scores are no more than five years old
  • Students with a high school GPA of 3.6 or higher are placed out of learning support
    • Chattanooga, Nashville, and Southwest can provisionally place students out of learning support if their high school GPA is between 2.8 and 3.6

• Extends through spring 2021
Pilot’s Potential Impact in 2020

- In Fall 2020, **2,700** first-time-freshman, recent high school graduates were below the ACT cut score in one or more subject areas, but above the HS GPA cut score set by their college.
  - One subject area: 1,350 students
  - Two subject areas: 650 students
  - Three subject areas: 700 students

- The number of students who would place into college-level courses as a result of the pilot varied by subject area.
  - Math: 2,300 students
  - English 1,150 students
  - Reading: 1,300 students

*Preliminary fall 2020 enrollment is based on unedited census enrollment data. Includes first-time freshmen who entered college within a year of high school graduation. Preliminary placement data is based on ACT scores & high school GPA, not whether students enrolled in learning support.*
Math Pilot: HS GPA

- Of the 2,300 students potentially impacted by the pilot in math, nearly two-thirds had a HS GPA 3.6+ & one-third had an ACT Math Sub-Score of 16.

High School GPA

- 2.8 to 3.0: 14%
- 3.1 to 3.5: 24%
- 3.6 to 4.0: 62%

ACT Math Sub-Scores

- 12 or below: 1%
- 13: 1%
- 14: 8%
- 15: 15%
- 16: 32%
- 17: 23%
- 18: 21%

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Math Cut Scores & the Pilot

According to preliminary data on first-time students...

<table>
<thead>
<tr>
<th>No Learning Support</th>
<th>Pilot: No Learning Support</th>
<th>Learning Support</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4,800</strong></td>
<td><strong>2,300</strong></td>
<td><strong>6,000</strong></td>
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<tr>
<td>had an ACT Math sub-score of 19 or above.</td>
<td>had an ACT Math sub-score below 19, &amp; HS GPA above the cut score.</td>
<td>had an ACT Math sub-score below 19, &amp; HS GPA below the cut score.</td>
</tr>
<tr>
<td>4% are Black</td>
<td>18% are Black</td>
<td>19% are Black</td>
</tr>
<tr>
<td>82% are White</td>
<td>64% are White</td>
<td>63% are White</td>
</tr>
<tr>
<td>7% are Hispanic</td>
<td>10% are Hispanic</td>
<td>7% are Hispanic</td>
</tr>
<tr>
<td>50% are Female</td>
<td>74% are Female</td>
<td>60% are Female</td>
</tr>
</tbody>
</table>

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Next Steps

The Education Commission of the States selected the TBR system for the **Strong Start to Finish** project.

- Seeks to significantly increase the number and proportion of low-income students, students of color, and returning adults who succeed in college math and English in their first year.

- Will lead to in-depth data analyses of outcomes for students in corequisite remediation over the last five years and the impact of the multiple measures pilot through 2021.
Additional Resources

Visit the TBR Research Library or click on the resources to the right.