Multiple Measures: Part of a Student Success Strategy



Texas Success Center



Multiple Measures: Part of a Student Success Strategy

The COVID-19 response has resulted in unprecedented changes to the student experience that will require immediate adjustments to college practices. With disruptions in the availability of the Texas Success Initiative Assessment (TSI-A), helping colleges assess student readiness and determine appropriate academic supports will be imperative to ensure students in Texas Pathways colleges complete entry-level courses and progress into program-specific coursework. Fortunately, research and policy converge on a solution: the use of multiple measures of readiness for placement.¹ This brief provides an overview of policies using multiple measures, such as high school grade point average (GPA), to inform the development of placement methods during and after the COVID-19 response.

Multiple measures placement methods incorporate varied measures of student learning, used alone or in combination, to assess readiness for entry-level coursework or appropriate learning supports.² In particular, placement methods that use standardized test scores alone tend to have high error rates and underestimate student potential to succeed in collegelevel courses. Instead, placement policies that use high school GPA increase the access to entry-level courses while maintaining comparable success rates.³ High school GPA is a strong predictor of postsecondary student performance because it is a robust reflection of a student's performance over time, across subject areas, and in varying instructional settings.⁴ A growing number of states and systems are using high school GPA for placement in conjunction with math pathways and corequisite support to identify college-ready students and to provide the appropriate support to students.⁵

Making Sense of Multiple Measures

<u>Core Principles for Transforming</u> <u>Remediation within a Comprehensive</u> <u>Student Success Strategy: A Statement</u> <u>from the Field</u> (Strong Start to Finish)

<u>College Placement Strategies: Evolving</u> <u>Considerations and Practices</u> (Center for the Analysis of Postsecondary Readiness)

Toward Better College Course Placement: A Guide to Launching a Multiple Measures Assessment System (MDRC)

<u>Multiple Measures Implementation</u> <u>Resources</u> (The RP Group)

The use of evidence-based placement methods aligns with the Texas Pathways strategy to intentionally design coherent educational experiences that effectively and efficiently guide students through postsecondary programs. Existing math pathways and corequisite supports provide the necessary framework for utilizing additional measures, such as high school GPA, to assess the appropriate intensity of student support, such as a non-course-based option (NCBO) or a full corequisite course. Providing pathways-aligned supports complements the guidance by the Texas Higher Education Coordinating Board (THECB) on placing non-exempt students through the 2020-21 academic year.⁶

- ⁵ Rutschow et al., 2019, The changing landscape of developmental education practices
- ⁶THECB, 2020, General Frequently Asked Questions

 ¹ See Bahr et al., 2019; Barnett et al., 2018; Barnett & Reddy, 2017; Cullinan et al., 2019; Strong Start to Finish, 2020
² Barnett et al., 2018

³ See Barnett et al., 2018; Belfield & Crosta, 2012; Scott-Clayton, 2012; Scott-Clayton & Stacey, 2015

⁴ See Belfield & Crosta, 2012; Fagioli, 2016; Scott-Clayton, 2012; Scott-Clayton & Stacey, 2015; Welbeck et al., 2016

The following sections provide an overview of multiple measures placement policies in California, Georgia, Massachusetts, and North Carolina as guidance to Texas Pathways colleges considering new methods for placement.

California

Informed by research conducted by the Multiple Measures Assessment Project (MMAP), Assembly Bill (AB) 705 was signed into law in October 2017 with the aim of increasing the number of students entering and completing transfer-level English and mathematics/quantitative reasoning in one year and minimizing the disproportionate impact on students created through inaccurate placement processes.⁷ AB 705 prohibits colleges from placing students into developmental courses unless the student is highly unlikely to succeed in a transfer-level English and/or mathematics course. Enrollment into a stand-alone developmental course is only permitted if the college provides evidence that it will increase the likelihood of success within a one-year time frame. While the system acknowledges the complexity of placement decisions, AB 705 prohibits colleges from using testing instruments as none have been approved by the Board of Governors and instead provides default placement guidelines primarily using high school GPA.

Colleges are encouraged to actively engage in various reform efforts such as assessment and placement, curricular design, co-curricular design, and non-curricular support, and to collect data that show improved completion rates for transfer-level English and math. AB 705 allows for colleges to innovate to create their own placement criteria; however, criteria that are more restrictive than the default criteria must have demonstrably better outcomes than the default success rates.

Figures 1-3 show the evidence-based default placement criteria that all California community colleges use for students who have graduated within the past 10 years. The success rate associated with the placement measure was determined by MMAP analysis of students enrolled between 2007 and 2014. Analysis indicates the likelihood a student with the stated high school GPA would complete transfer-level math or English within one year if placed directly into transfer-level coursework instead of a prerequisite developmental course. Colleges are encouraged to provide co-curricular and non-curricular supports to increase success rates for students at every GPA level, but especially to improve the success rates at the lowest levels.

The MMAP research team observed similar success rates for high school students enrolled in transfer-level courses when disaggregated by the GPA bands in the default placement criteria.⁸ Since the GPA bands used in the default criteria were developed from 11th grade data, colleges using the default criteria to place 12th graders in transfer-level courses could expect the same success rates. MMAP found that 11th graders placed by their 10th grade GPA and 10th graders placed by their 9th grade GPA had equivalent or higher levels of transfer-level course success than incoming postsecondary students if their 10th and 9th grade GPAs were in the highest GPA band. These findings suggested that colleges could use the high GPA band to place students in 10th and 11th grade into transfer-level courses.

⁷ California Community Colleges, 2018, *Memorandum regarding Assembly Bill (AB) 705 Implementation*_

⁸ California Community College, 2019 *Memorandum regarding Assembly Bill (AB) 705 default placement rules: Guidance for high school students*. *enrolled in community college courses*

Figure 1. Default English placement in California

High School GPA	Placement
≥ 2.6 Success rate = 78.6%	Transfer-Level English Composition No additional academic or concurrent support required
1.9 – 2.6 Success rate = 57.7%	Transfer-Level English Composition Additional academic and concurrent support recommended
< 1.9 Success rate = 42.6%	Transfer-Level English Composition Additional academic and concurrent support strongly recommended

Figure 2. Default math (Statistics/Liberal Arts Mathematics) placement in California

High School GPA	Placement
≥ 3.0 OR Success rate = 75%	Transfer-Level BSTEM Mathematics No additional academic or concurrent support required
≥ 2.6 - 2.0 Success rate = 50%	Transfer-Level BSTEM Mathematics Additional academic and concurrent support recommended
< 2.3 Success rate = 29%	Transfer-Level BSTEM Mathematics Additional academic and concurrent support strongly recommended

Figure 3. Default math (Business/STEM) placement in California⁹

High School GPA	Placement
≥ 3.4 OR ≥ 2.6 AND Enrolled in HS Calculus Success rate = 75%	Transfer-Level BSTEM Mathematics No additional academic or concurrent support required
≥ 2.6 OR	Transfer-Level BSTEM Mathematics
Enrolled in HS Precalculus	Additional academic and concurrent support
Success rate = 53%	recommended
< 2.6 AND	Transfer-Level BSTEM Mathematics
No HS Precalculus	Additional academic and concurrent support strongly
Success rate = 28%	recommended

⁹ The BSTEM table presumes student completion of Intermediate Algebra/Algebra 2, an equivalent such as Integrated Math III, or higher course in high school.

Georgia

The default placement policy for all students in Georgia aligns with math pathways and corequisite support options already available in the state.¹⁰ All students place into entry-level English and math with corequisite Learning Support (LS) unless they meet high school GPA or standardized assessment exemption criteria. While placement into corequisite LS is recommended for all students not meeting GPA thresholds, all students have the option to take a placement test to gain access to college-level courses or to less creditintensive levels of corequisite LS. Testing can be waived for non-exempt students willing to enroll in English Composition I with corequisite LS, or Quantitative Reasoning or Introduction to Math Modeling with highest intensity corequisite LS.

Students who wish to enroll in College Algebra (with or without corequisite LS) must take the math placement test unless they have met the high school GPA, SAT, or ACT criteria for direct placement. If students do not meet the placement test scores required for placement into College Algebra, they must first take Quantitative Reasoning with corequisite LS or Introduction to Mathematical Modeling with corequisite LS. Upon successful completion of either course, students may enroll in College Algebra.¹¹

Individual institutions determine eligibility for dual credit students in grades 9 through 12 based on a combination of GPA and test scores.

Figure 4 shows the general placement process in Georgia. Figures 5 and 6 outline the specific pathwaysaligned placement criteria used in Georgia.¹²



Figure 4. Placement decision flow in Georgia.

¹¹ During the COVID-19 response, students wishing to enroll in College Algebra who did not meet GPA, SAT, or ACT criteria do not have the option to test and therefore will be placed by GPA into Quantitative Reasoning or Math Modeling.

¹⁰ University System of Georgia, 2019, *Academic & Student Affairs Handbook, 2.9 Learning Support*

¹² During the COVID-19 response, all students are being placed by GPA.

Figure 5. Credit-bearing English placement in Georgia

High School GPA	Standardized Assessment	Placement
≥ 3.1 AND Completed required high school English curriculum	SAT Evidence-Based Reading & Writing ≥ 480 ACT English ≥ 17 OR ACT Reading ≥ 17 AND WritePlacer ≥ 4	English Composition I
< 3.1	SAT Evidence-Based Reading & Writing < 480 ACT English < 17 AND ACT English <17 Next-Generation ACCUPLACER Reading < 237	English Composition I with corequisite LS

Figure 6. Credit-bearing math placement in Georgia

High School GPA	Standardized Assessment	Placement
≥ 3.4 AND Completed required high school math curriculum	SAT Math ≥ 510 ACT Math ≥ 20 Next-Generation ACCUPLACER QAS ≥ 266	Quantitative Reasoning (no LS) Introduction to Mathematical Modeling (no LS) College Algebra (no LS)
≥ 3.2 AND Completed required high school math curriculum	SAT Math ≥ 440 ACT Math ≥ 17 Next-Generation ACCUPLACER QAS ≥ 258	Quantitative Reasoning (no LS) Introduction to Mathematical Modeling (no LS) College Algebra with corequisite LS ¹³
< 3.2 OR Did not complete required high school math curriculum	SAT Math < 440 ACT Math < 17 Next-Generation ACCUPLACER QAS < 258	Quantitative Reasoning with corequisite LS Introduction to Mathematical Modeling with corequisite LS

Massachusetts

The Massachusetts Department of Higher Education adopted a three-pronged approach to reduce remediation and increase student success in higher education by properly assessing students for creditbearing courses, ensuring students complete the appropriate math for their major, and providing access to corequisite support for mathematics, reading, and writing. The Board of Higher Education set a goal of 50% of first-time, degree-seeking community college students successfully completing a college-level English and mathematics course appropriate for their major within one year of enrollment. The 2019 Common Assessment Policy (CAP) provides guidelines for pathways-aligned placement and student supports to maximize entry-level placement, marking the end of a 21-year-old policy that mandated the use of a single assessment tool in institutions of higher education in Massachusetts.¹⁴

¹³ Students wishing to enroll in College Algebra who do not meet these thresholds must take the mathematics placement test or enroll in Quantitative Reasoning or Introduction Math Modeling with LS if eligible.

¹⁴ Massachusetts Board of Higher Education. 2019, 2019 Common Assessment Policy

The CAP includes three standards for direct placement into college-level English: (A) GPA, (B) SAT scores, and (C) ACCUPLACER/WritePlacer scores. Figure 7 shows the placement decision process and Figure 8 contains the three standards used for English placement in Massachusetts. Students who meet standards A or B are exempt from additional placement testing.

There are four mathematics pathways recognized in Massachusetts: Calculus, Elementary Education, Quantitative Reasoning, and Statistics. The CAP includes two standards for direct placement into entry-level Quantitative Reasoning or Statistics: (A) GPA and (B) ACCUPLACER scores.¹⁵ Figure 9 shows the placement decision process and Figure 10 contains the two standards for math pathway placement in Massachusetts. Colleges may use the GPA standard for placement into courses below the level of Calculus I, but in practice, most colleges require additional measures of readiness for courses on the Calculus and Elementary Education pathways. Students must have ACCUPLACER scores to place directly in Calculus. Colleges are also encouraged to scale corequisite support options for students who do not meet readiness criteria to accelerate completion of entry-level courses.

Dual credit students in grades 9 through 12 must have a GPA of 2.5 or higher and meet readiness and prerequisite status of college courses. If students have a lower GPA, they must acquire a recommendation from a high school official for eligibility.

Figure 7. Placement decision flow for direct placement into college-level English courses in Massachusetts.



Figure 8. Credit-bearing English placement in Massachusetts

Standard A:	Standard B: SAT	Standard C	Placement
≥ 2.7 AND Graduated within 10 years	SAT Evidence-Based Reading & Writing ≥ 500 exempt from ACCUPLACER Reading SAT Evidence-Based Reading & Writing ≥ 600 exempt from ACCUPLACER Reading and WritePlacer	Next Generation ACCUPLACER Reading ≥ 245 AND WritePlacer ≥ 5 OR Next Generation ACCUPLACER Reading ≥ 259 AND WritePlacer ≥ 4	Composition I

¹⁵ Massachusetts Board of Higher Education, 2019, *2019 Common Assessment Policy*

Figure 9. Placement decision flow for direct placement into college-level math courses in Massachusetts



Figure 10. Credit-bearing math pathway placement in Massachusetts¹⁶

Standard A: High School GPA	Standard B: ACCUPLACER	Placement
≥ 2.7 AND Graduated within 3 years	Next Generation ACCUPLACER – Quantitative Reasoning, Algebra, and Statistics (QAS) ≥ 262	Quantitative Reasoning; Statistics
≥ 2.7 AND Graduated within 3 years	Next Generation ACCUPLACER QAS ≥ 268	College Algebra/ Introduction to Functions; Any math on Elementary Education pathway
≥ 2.7 AND Graduated within 3 years	Next Generation ACCUPLACER – Advanced Algebra and Functions (AF) ≥ 243	Pre-Calculus
	Next Generation ACCUPLACER AF ≥ 250	Calculus

North Carolina

In 2013, North Carolina introduced the option of using multiple measures of readiness that included high school courses, GPA, and standardized test scores for placement in its 58 community colleges. After studying the use of multiple measures, the state enacted a policy in 2016 that exempted high school graduates from developmental education if they met certain high school course-taking requirements, GPA thresholds, and/or standardized assessment scores. The policy has evolved to include guidance on appropriate supports, such as corequisite and transition courses.

The current Reinforced Instruction for Student Excellence (RISE) Multiple Measures for Placement Guide uses a hierarchy approach to placement.¹⁷ The first measure is completion of Math 2 in high school.¹⁸ It is recommended that students who did not complete Math 2 register for Transition Math and English courses prior to college-level math or English courses. The next measure to place Math 2 completers is an unweighted high school GPA of 2.8, followed by ACT or SAT scores; AP, IB, or Cambridge course exam scores; associate or baccalaureate degrees already earned; and transfer credit.

¹⁶ Colleges are allowed to use GPA to place into entry-level College Algebra and Pre-Calculus, but in practice, many colleges apply additional measures for courses on the Calculus and Elementary Education pathways.

¹⁷ North Carolina Community College System, 2019a, *RISE Multiple Measures for Placement Guide*

¹⁸ Public Schools of North Carolina, *Standard Course of Study, Math 2*

Figure 11 outlines the placement decision process using GPA and ACT/SAT scores. The policy also includes placement measures for students who took high school equivalency tests. Students who graduated more than ten years ago, graduated from a foreign high school, earned an Adult High School diploma, or did not meet high school equivalency mastery test scores may opt to register for Transition Math and English courses or elect to take a state-specific RISE placement test.

The Career and College Promise (CCP) program offers structured opportunities for high school students to dually enroll in three community college pathways: (1) College Transfer Pathways (CTP), (2) Career and Technical Pathways (CTE), and (3) Cooperative Innovative High School Programs (CIHSP). Each pathway allows for multiple measures to determine eligibility and readiness.¹⁹ High school GPA or performance on approved assessments are used to determine eligibility and readiness of juniors and seniors on the CTP pathway. For juniors or seniors on the CTE pathway, recommendations from high school and college officials can be used to determine eligibility and readiness if students do not meet GPA or assessment standards, with some programmatic exceptions. More measures are used to determine eligibility and readiness for freshmen and sophomores interested in CTP and CTE pathways, such as additional recommendations, distinctions, or advising. The North Carolina Community College System issued updates for eligibility during the COVID-19 response to provide guidance given pass/fail grading and pause in assessments.²⁰

Figure 11. Placement by GPA or SAT/ACT in North Carolina



¹⁹ North Carolina Community College System, 2019, <u>Curriculum procedures reference manual, Section 14: Career and College Promise</u>.
²⁰ North Carolina Community College System, 2020, <u>Memorandum regarding guidance for Career and College Promise (CCP) Career and Technical</u>.
<u>Education (CTE) 9th and 10th grader eligibility</u>

8

Figures 12 and 13 outline the two measures used to place Math 2 completers in North Carolina. Students are placed by GPA or standardized assessment, using the measure that places them at the highest level. Students who do not meet either standard enroll in Transition coursework prior to transfer-level coursework. Figure 14 outlines high school equivalency test scores used to place students without traditional high school data.

Figure 12. English placement for incoming college students who completed Math 2 in North Carolina

High School GPA	Standardized Assessment	Placement
≥ 2.8	SAT Evidence Based Reading & Writing ≥ 480	Transfer-level English
2.2 – 2.799	ACT English 16-17 OR Reading 20- 21	Transfer-level English with corequisite support
< 2.2	SAT Evidence Based Reading & Writing < 480	Transition English

Figure 13. Math placement for incoming college students who completed Math 2 in North Carolina

High School GPA	Standardized Assessment	Placement
≥ 2.8	SAT Math ≥ 530 ACT Math ≥ 22	Transfer-level math
2.2 – 2.799	ACT Math 20-21	Transfer-level math with corequisite support
< 2.2	SAT Math < 530 ACT Math < 20	Transition Math

Figure 14. English and math placement for incoming students who completed a high school equivalency test in North Carolina

Standardized Assessment	Placement
GED ≥ 165 every section	Transfer-level English;
HiSET ≥ 15 every section; ≥ 4 essay	Transfer-level math
GED 145-164 every section	Transfer-level English with corequisite support; Transfer-level math with corequisite support
GED < 145 any section	Transition English;
HiSET < 15 any section, < 4 essay	Transition Math

Conclusion

Texas Pathways colleges are poised to provide effective advising and appropriate course supports to students in the wake of the changes resulting from the COVID-19 response. Existing math pathways and corequisite support courses provide the framework by which colleges can develop an evidence-based multiple measures placement policy that aligns with THECB guidance during and after the COVID-19 response. The resources and references below provide more information about how placement by multiple measures fits into the comprehensive Texas Pathways strategy.

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10

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Texas Success Center