Multiple Measures Policy on the Ground: Implementation of Placement Reform in Eight Institutions

Introduction

Between 24 and 33 percent of students are misplaced when entering college, and are therefore required to complete unnecessary developmental education courses that hinder postsecondary completion.[1] More specifically, nearly 40 percent of community college students enrolled in these courses fail to progress to credit-bearing coursework, let alone earn a degree or credential.[2]

There is growing recognition that assessing students using a single, standardized measure may contribute to this misplacement, and that more appropriate decisions can be achieved by using more than one measure of student readiness.[3] In response, postsecondary systems and institutions across the country have implemented, are developing, or are considering policies that require or encourage the use of more than one measure to determine student course placement; these policies are commonly referred to as *multiple measures*.

This report is a component of Research for Action's (RFA's) **Multiple Measures Course Placement Toolkit**, which also provides:

- RFA's research on the multiple measures state policy landscape;
- A typology of multiple measures policies
- Evidence on the impact of multiple measures reforms student outcomes;
- Profiles of institutions implementing multiple measures reforms;
- Briefs on multiple measures implementation lessons learned from the field;
- Questions for policymakers and institutional administrators to consider; and
- Additional resources on multiple measures reform.

In this document, we center our analysis on the implementation of multiple measures policies at the institution level, and is based upon case studies of 8 institutions in states or systems with varying multiple measures policies. This cross-site report and the individual case studies of eight institutions on which it is based provide postsecondary policymakers and institution leaders with information on how implementation varies based on a wide range of factors along with lessons learned from the field.

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[1] Scott-Clayton, J. (2012). Do high-stakes placement exams predict college success? (CCRC Working Paper No. 41). New York, NY: Columbia University, Teachers College, Community College Research Center.

[2] Complete College America. (2012) Remediation: Higher Education's Bridge to Nowhere.

[3] Belfied, C. and Crosta, P. (2012) Predicting Success in College:
The Importance of Placement Tests and High School Transcripts. (CCRC Working Paper No. 42) New York, NY: Columbia University, Teachers College, Community College Research Center.

State Policy Context and College Case Study Sites

Understanding multiple measures implementation starts with understanding the contexts in which the reforms occur. Table 1 descibes the multiple measures policy in each of the states or systems in which our field work took place. These states/systems were selected to provide examples of a variety of multiple measures policy types and assessments, as well as representation from both the two- and four-year postsecondary sectors.

Table 1. Multiple Measures Policies in 8 Case Study States: Spring 2016

State Agency/Board of System Office	Multiple Measures Policy Summary
California State University (CSU) System	California requires all high school juniors to participate in the Early Assessment Program (EAP) as part of the California Assessment of Student Performance and Progress (CAASPP), which covers both California high school standards and CSU placement standards. If a student's EAP results do not demonstrate college readiness, classes taken during the senior year, SAT, ACT and AP test scores can be used for placement. If none of these indicate college readiness, placement tests are administered.
University System of Georgia	Mathematics (MPI) and English Placement Indices (EPI) are used to place students who are not exempt based on their SAT or ACT scores. MPI and EPI scores are calculated based on high school grade point average (HSGPA), SAT or ACT and, when indicated, placement testing.
Massachusetts Board of Higher Education	The Massachusetts Board of Higher Education has encouraged two and four year institutions to pilot the use of high school GPA as part of the placement process, and offered guidance on criteria for placement.
Missouri Department of Higher Education	State statute required the Missouri Department of Higher Education develop the *Principals of Best Practices in Remedial Education*, a guiding document that includes the use of multiple measures for student placement; while all institutions are expected to use multiple measures, the state does not specify which measures to use for placement.
North Carolina Community College System	Students are exempted from developmental education courses if they graduated from high school in the last five years and satisfy at least one of the following requirements or tiers: 1) a high school GPA of at least 2.6 and demonstrated completion of four high school math courses; Algebra II must be a pre-requisite for at least one of the courses; 2) ACT/SAT scores that meet the specific score thresholds; or 3) traditional placement test scores that meet specific cut scores.
Ohio Department of Higher Education	If a student meets the state thresholds on at least one college readiness measure, s/he will be eligible to enroll in a college credit bearing course and is considered "remediation-free." Institutions are not required to place students scoring below the threshold score into developmental courses, but can instead be placed based on institutional placement procedures to enroll in credit-bearing courses.
Texas Higher Education Coordinating Board	Students are exempt from taking the Texas Success Initiative (TSI) Assessment if they met cut scores on the ACT, SAT, or one of a set of standards-based state assessments. The TSI Assessment determines placement for reading, writing, and math. The mandate provided institutional flexibility to determine a "bubble score" just below the cut score for college readiness. Students scoring within the bubble score engage in an additional set of state-determined multiple measures to determine college readiness.
Washington State Board of Community and Technical Colleges	Washington's state community and technical college system is charged with "encouraging colleges to use multiple measures to determine whether a student must enroll in a pre-collegiate course including, but not limited to, placement tests, the SAT, high school transcripts, college transcripts, or initial class performance." In addition, institutional presidents agreed to accept Smarter Balanced as an assessment for placement.

Case Study Institutions

Research for Action (RFA) conducted site visits at eight postsecondary institutions across eight of the states/systems with multiple measures policies. Sites were selected based on state or system recommendations on leading institutions in multiple measures reform. Table 2 lists the institutions included in the field work.

Table 2: Case Study Institutions

Institution	State	Sector	Enrollment[4]
Brazosport College (BC)	Texas	2 Year	4,221
California State University - San Marcos (CSU-SM)	California	4 Year	12,793
College of Coastal Georgia (CCGA)	Georgia	4 Year	3,131
Davidson County Community College (DCCC)	North Carolina	2 Year	3,797
Highline College (HC)	Washington	2 Year	16,917
Kent State University - Stark (KSU)	Ohio	4 Year	4,639
Middlesex Community College (MCC)	Massachusetts	2 Year	9,205
Ozarks Technical Community College (OTC)	Missouri	2 year	13,614

Each of the institutions provides different examples of multiple measures implementation. The collective experiences of these institutions paint a picture of the diverse range of implementation approaches and challenges:

- Working within Texas Success Initiative (TSI) Assessment requirements, **Brazosport College (BC)** set a "bubble" range for students beneath the state determined cut score, and guided these students through a holistic placement process to determine their course placement.

- **California State University - San Marcos (CSU-SM)** provides an example of a system-supported placement policy that is integrated into state high schools beginning in the 11th grade and includes Early Start summer programming.

- The **College of Coastal Georgia's (CCGA)** placement index combines high school GPA, SAT/ACT scores and placement test results and offers an example of how a complex placement formula can be successfully implemented as a result of a joint effort between institutions and the system office.

- **Davidson County Community College (DCCC)** speaks to the experience of the first institution in the North Carolina Community College System to implement the centrally developed multiple measures placement policy and offers early student outcomes.

- **Highline College (HC)** provides an example of the type of placement innovation that can take place at an individual institution in a state that provides considerable autonomy in the development of a multiple measures placement policy.

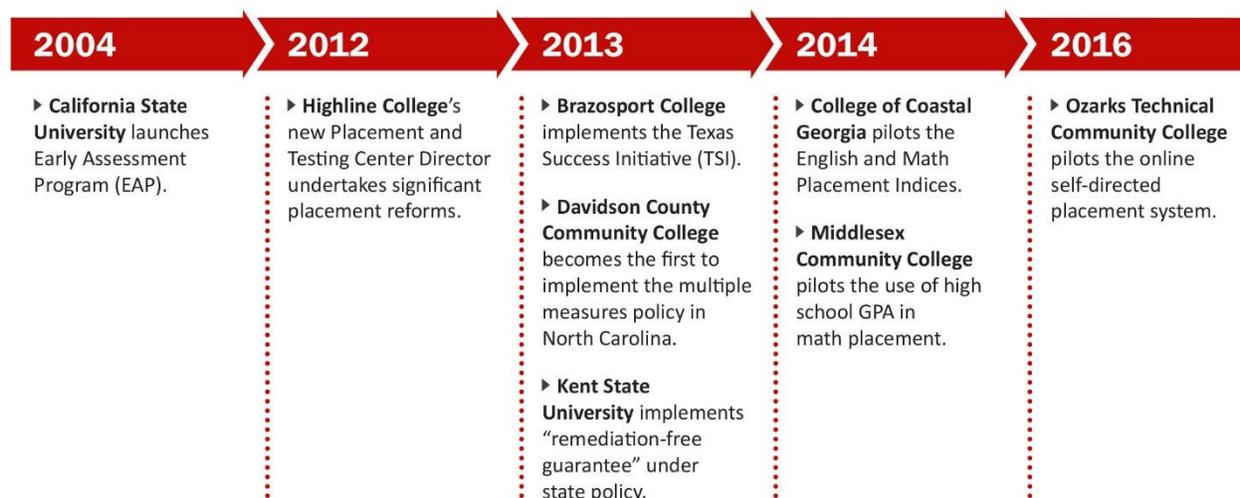[4] Fall 2015 enrollment data based on NCES College Navigator.

- In the context of Ohio's "remediation-free" standards, **Kent State University (KSU) - Stark** used the flexibility in the policy to include additional measures in their placement process.

- **Middlesex Community College (MCC)** piloted the use of high school GPA in student placement decisions for math courses, initially following state recommended cut scores but eventually adjusting cut scores based on early internal data.

- **Ozarks Technical Community College (OTC)** decided to allow students to take the lead in determining their course placement through a voluntary, self-directed online process that provided students with course descriptions and guiding questions designed to help them assess their own college readiness.

Site visits included interviews with administrators and faculty members involved in the student placement process, as well as student focus groups and document review. Once the site visits were completed, short profiles were developed describing the implementation of multiple measures at each institution, highlighting the measures and placement process, as well as promising practices, challenges and issues with implementation.

Multiple Measures Timeline

The development of multiple measures policies across the study institutions has taken place over the past decade, and remains a work in progress. While the California State University system's Early Assessment Program (EAP) was first launched in 2004, Ozarks Technical Community College first began piloting its online, self-directed placement process in the spring of 2016. Figure 1 below provides a timeline of multiple measures implementation across the institutions include in our site visits.

Figure 1. Institutional reform timeline

2004	2012	2013	2014	2016
▶ **California State University** launches Early Assessment Program (EAP).	▶ **Highline College**'s new Placement and Testing Center Director undertakes significant placement reforms.	▶ **Brazosport College** implements the Texas Success Initiative (TSI). ▶ **Davidson County Community College** becomes the first to implement the multiple measures policy in North Carolina. ▶ **Kent State University** implements "remediation-free guarantee" under state policy.	▶ **College of Coastal Georgia** pilots the English and Math Placement Indices. ▶ **Middlesex Community College** pilots the use of high school GPA in math placement.	▶ **Ozarks Technical Community College** pilots the online self-directed placement system.

The relatively recent implementation of multiple measures policies has meant that student outcomes data is limited in most cases and that the reform remains a work in progress; however, we do discuss the student outcomes data that was available as of summer 2016 later in this document.

Assessment Measures

The measures used for placement in each of the case study institutions vary widely in terms of both number and type. They are outlined in Table 3.

Table 3. Assessment Measures in Instuitutional Case Study Sites

Measures	BC	CCGA	CSU-SM	DCCC	HC	KSU	MCC	OTC	Number of Institutions
Placement Tests	•	•	•	•	•	•	•	•	8
SAT/ACT	•	•	•	•		•		•	6
Overall High School GPA		•		•	•		•		4
Standards-based Achievement Test	•		•		•				3
ALEKS or MyMath Test Score					•	•		•	3
AP and/or IB Test Score			•		•				2
Essay Prompt						•		•	2
Self-Directed Placement					•			•	2
GED					•				1
Course Completion				•					1
Non-Cognitive Measures	•								1
Number of Measures	4	3	4	4	7	4	2	5	

Key findings outlined in Table 2 include the following:

- **Despite the implementation of multiple measures policies, case study institutions continue to rely heavily on placement tests.** All of the institutions still use placement test scores (e.g., Accuplacer) as a part of the placement process for a portion of students, often those who cannot exempt themselves from taking the tests by providing the results of other measures (e.g., high school GPA, SAT/ACT scores). In addition, older students are often required to take placement tests because multiple measures policies place time limits on how long high school data or SAT/ACT scores are relevant.

- **SAT and ACT scores are also common measures included in multiple measures placement.** These test results are often one of the first pieces of data that institutions consider in placement. For instance, at Brazosport College, students can submit SAT or ACT scores to exempt themselves from

the Texas Success Initiative (TSI) Assessment, which is based on the Accuplacer. The College of Coastal Georgia includes SAT or ACT scores in its calculation of Math and English Placement Index scores. At CSU-San Marcos, students who do not meet the cut score on the Early Assessment Program test in high school can submit SAT or ACT scores; similarly in North Carolina, students who do not meet the high school GPA threshold can be placed based on their SAT or ACT scores. Kent State University is implementing the SAT and ACT cut scores established in the Ohio's "remediation free guarantee" policy and in Missouri, the state administers the ACT to all high school juniors, so Ozarks Technical Community College accepts those scores for placement.

- **Half of the case study institutions used high school GPA in some way.** Research on strong predictors of college success consistently points to high school GPA as the best single measure.[5] However, there is considerable variation in how high school GPA is used for placement. Our case study institutions provide examples of this variation in the following ways:

  o **High School GPA threshold level:** There is not yet consensus in the field on what GPA best indicates college readiness. For example, Highline College established a 2.5 high school GPA for college level placement. The North Carolina Community College System selected 2.6 as the GPA threshold based on research by the Community College Research Center. Yet in Massachusetts, the state recommended that recent high school graduates whose high school GPA is a 2.70 or higher be placed directly into college level math, and that those whose high school GPA is lower than 2.7 but higher than 2.4 and who have successfully passed four math courses including math in their senior year also be placed into college level math courses.[6] Finally, the College of Coastal Georgia was piloting the use of a 3.0 high school GPA as an indicator of college level readiness at the time of our site visit, in addition to the use of the placement indices.

  o **Process for including high school GPA in the placement process:** A student's transcript data can be used in a number of different ways in the placement process. Across community colleges in North Carolina, high school GPA is the first tier in a hierarchical placement process that also includes SAT/ACT and a placement test. Similarly, Middlesex County College students can submit their high school transcripts to determine if their GPA will exempt them from placement testing. In contrast, high school GPA is included in the calculation of a placement index at CCGA that also includes SAT/ACT results and placement test scores. At Brazosport College, advisors can review high school transcript data as a part of a holistic placement process for students who are not exempt from developmental education based on several other measures such as state standardized test scores.

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[5] Armstrong, W. B. (2000). The association among student success in courses, placement test scores, student back ground data, and instructor grading practices. *Community College Journal of Research and Practice*, 24(8), 681–695; Scott-Clayton, J., & Stacey, G. W. (2015). Improving the accuracy of remedial placement. New York, NY: Columbia University, Teachers College, Community College Research Center; Scott-Clayton, J., & Stacey, G. W. (2015). Improving the accuracy of remedial placement. New York, NY: Columbia University, Teachers College, Community College Research Center; Hiss, W.C., & Franks, V.W. (2014). *Defining Promise: Optional Standardized Testing Policies in American College and University Admissions.* National Association for College Admission Counseling; Belfied, C. & Crosta, P. (2012) *Predicting Success in College: The Importance of Placement Tests and High School Transcripts.* (CCRC Working Paper No. 42) New York, NY: Columbia University, Teachers College, Community College Research Center; Geiser, S., & Santelices, V. (2007). *Validity of high school grades in predicting student success beyond the freshman year: High school records vs. standardized tests as indicators of four-year college outcomes* (Research & Occasional Paper Series: CSHE.6.07). Berkeley, CA: University of California at Berkeley.

[6] Beginning fall 2016 until spring 2019, participating institutions must use one of the following standards of college readiness in math: 2.7 GPA or above; 2.7 GPA and a "B" or higher in Algebra II; or 2.7 GPA and four years of high school math.

- o **Methods for submitting transcript data:** While institutions commonly require students to provide an official transcript in order to include the data for placement, at Highline College, students can provide "unofficial" transcripts as well; administrators realized that gaining access to the documents in time for registration created a barrier for some students.

- **Standards-based achievement test scores were used for placement at less than half of the case study institutions.** Three of the institutions include standards-based high school test scores as measures of college readiness. In the California State University system and at Highline College, Smarter Balanced Assessment scores can be submitted, but the use of this measure is still in the early stages. Brazosport College is implementing state policy which requires institutions to accept a series of state-specific high school assessments.

- **Some case study institutions have used diagnostic math assessments for placement.** At both Kent State University (KSU) and Ozarks Technical Community College (OTC), the ALEKS[7] diagnostic assessment is used to determine math placement. At KSU, scores on the ALEKS and SAT/ACT, as well as whether an intended major requires Algebra, were used to place students into math courses. At OTC, once classes begin, students were given the ALEKS test in math classes to gather further information for placement. If the faculty member teaching the class was concerned that the student's placement is not correct, s/he recommended that the student switch classes. At Highline College, students who did not qualify for credit-bearing courses based on their high school transcript, Smarter Balanced Assessment or AP scores were placed based on the results from MyMathTest; cut scores varied based on the class or degree track of the student.

- **Self-Directed Placement processes were being piloted at two case study institutions.** OTC allowed students to determine their course placement through a voluntary, self-directed online process that provided students with course descriptions and guiding questions designed to help them assess their own college readiness. Beginning in 2015-16, some Highline College students[8] piloted a guided self-placement platform for English placement. The self-placement process walks students through the course content and expectations for English 101 in a series of interactive steps.

- **Advanced Placement (AP) and International Bachelorette (IB) test scores were used by two case study institutions as well.** At Highline College, an AP score of 3 or above would place a student in college level coursework in English, while at CSU-San Marcos, if a student's EAP results did not demonstrate college readiness, AP or IB test scores, as well as other measures, could provide an exemption from placement testing.

- **Two case study institutions utilized an essay prompt to gather additional placement information for English placement.** KSU-Stark uses has used essay prompts and writing challenges to provide

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[7] **A**ssessment and **LE**arning in **K**nowledge **S**paces (ALEKS) is an online diagnostic assessment and instructional system that uses adaptive questioning to determine student skills sets and then instructs the student on the topics s/he is most ready to learn through online modules.
[8] 110 students in 2015-16

additional placement information. At OTC, if a student had neither a recent ACT nor recent placement test score, s/he was given an essay prompt.

- **Course completion, GED scores or non-cognitive measures were each used for placement at one case study institution.** DCCC first determines whether a student has a high school GPA of at least 2.6 and has completed four high school math courses of which one must be Algebra II. Students with a 2014 GED Honors level score are considered college ready at Highline College. Finally, the TSI Assessment Initiative provided institutional flexibility at Brazosport College to determine a "bubble score" just below the cut score for college readiness; students scoring within the bubble score could be placed based on non-cognitive measures outlined in state policy, such as workplace experiences; motivation, self-efficacy and family-life issues (e.g., job, childcare, transportation, finances).
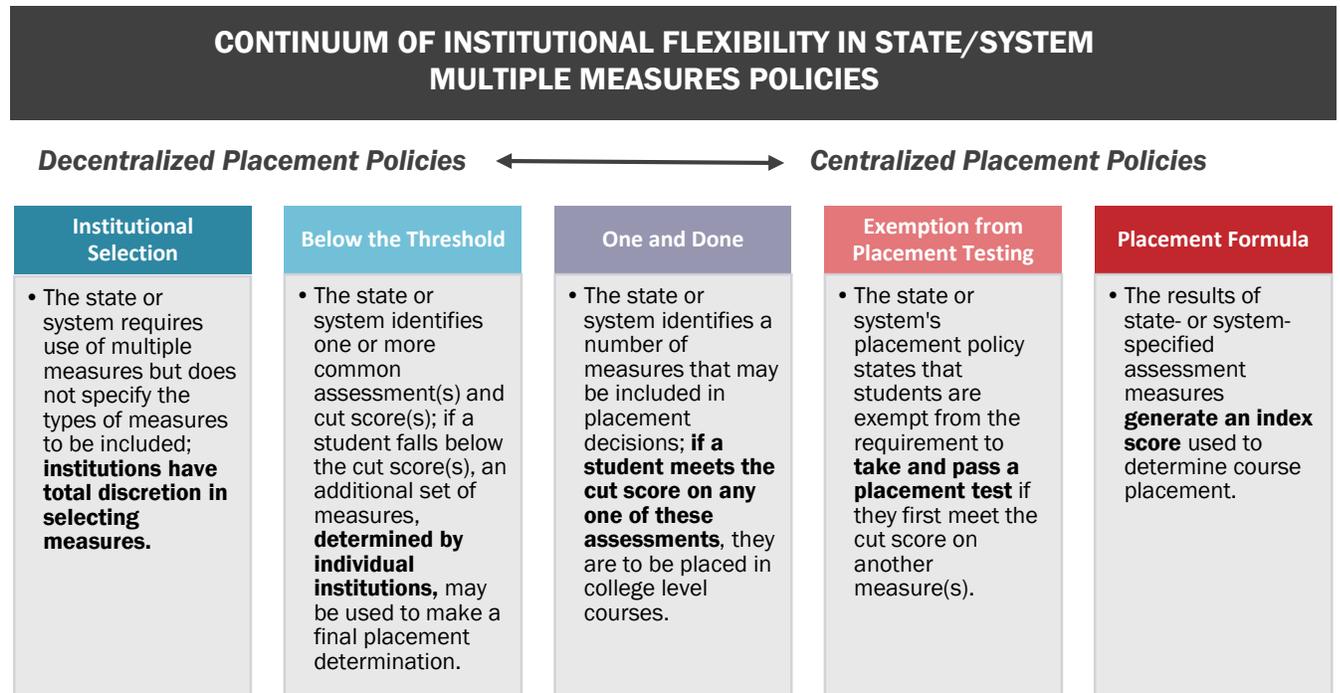
Math course placement varied at some case study institutions based on the course that a student intended to take or the major a student intended to pursue. For example:

- At **Highline College**, MyMath test 1, 2, 3 and/or 4 were taken based on planned course of math study, and required cut scores for the MyMath test varied based on the class or degree track of the student.

- At **Kent State University,** a student's scores on the ALEKS and SAT/ACT, as well as whether their intended major would require Algebra, were used to place them into a college level math course

Placement Processes

Multiple measures policies vary along a continuum that ranges from significant institutional autonomy to centralized, highly specified system or state-wide policy. As can be seen in Figure 2 below, we identify five general policy categories. The left end of the continuum consists of more decentralized models, in which institutions have greater flexibility to select the measures included in the placement process, and have considerable latitude to design the process itself. Policy categories become increasingly more centralized and specific moving to the right of the continuum.

Figure 2: Multiple Measures Policy Framework

CONTINUUM OF INSTITUTIONAL FLEXIBILITY IN STATE/SYSTEM MULTIPLE MEASURES POLICIES

Decentralized Placement Policies ⟵⟶ *Centralized Placement Policies*

Institutional Selection	Below the Threshold	One and Done	Exemption from Placement Testing	Placement Formula
• The state or system requires use of multiple measures but does not specify the types of measures to be included; **institutions have total discretion in selecting measures.**	• The state or system identifies one or more common assessment(s) and cut score(s); if a student falls below the cut score(s), an additional set of measures, **determined by individual institutions,** may be used to make a final placement determination.	• The state or system identifies a number of measures that may be included in placement decisions; **if a student meets the cut score on any one of these assessments**, they are to be placed in college level courses.	• The state or system's placement policy states that students are exempt from the requirement to **take and pass a placement test** if they first meet the cut score on another measure(s).	• The results of state- or system-specified assessment measures **generate an index score** used to determine course placement.

Case study institutions have enacted multiple measures placement policies that range across the continuum displayed above. Some have implemented several types of policies. This variation can be seen in Table 4.

Table 4. Institutional alignment with the Multiple Measures Policy Framework

Institutions	Decentralized Placement Policies			Centralized Placement Policies	
	Institutional Selection	Below the Threshold	One and Done	Exemption from Placement Testing	Placement Formula
Brazosport College		●		●	
California State University San Marcos				●	
College of Costal Georgia					●
Davidson County Community College				●	
Highline College	●		●		
Kent State University		●		●	
Middlesex Community College				●	
Ozarks Technical Community College	●				
TOTALS	**2**	**2**	**I**	**5**	**I**

Examples of each type of approach are provided below.

- **Institutional Selection:** Policies in Missouri and Washington allow for institutional selection. Ozarks Technical Community College in Missouri has leveraged state flexibility to develop a three-tiered placement process that begins with the ACT, continues to guided self- placement resources, and concludes with in-class assessments provided by the English, reading and math departments. Similarly, Highline College in Washington has become a leader in multiple measures placement, despite the fact that the system is only required to encourage colleges to use multiple measures. In both cases, the flexibility of the state or system's policy allowed for highly innovative institutional practice.

- **Below the Threshold:** While Texas is a centralized system in many ways, it allows institutions, including Brazosport College, the flexibility to place students who have not been exempted through other measures by considering *one or more* of the following: (1) high school GPA (institutionally determined) and class ranking; (2) prior academic coursework and/or workplace experiences; (3) non-cognitive factors (e.g., motivation, self-efficacy); and (4) family-life issues (e.g., job, childcare, transportation, finances). Ohio's policy allows institutions like Kent State University to place students scoring below the threshold cut scores on state-determined measures based on institutional placement procedures.

- **One and Done:** Highline College provides students with a range of potential measures they can use to determine placement, based on their previous education experience. Students who did not qualify for credit-bearing courses based on their high school transcript, Smarter Balanced test score or AP scores were placed based on a placement test English and the campus-developed MyMathTest; a guided self-placement platform is also used for English placement. Students with an honors level score on the GED can be placed in college level courses as well.

- **Exemption from Placement Testing:** At Brazosport, students were exempt from taking the Texas Success Initiative (TSI) Assessment if they met cut scores on the ACT, SAT, or one of s series of state standards-based tests. Students at CSU-San Marcos were exempt from placement testing if they met the EAP, SAT, ACT, AP or IB cut scores. At DCCC, students are exempt based on a combination of high school GPA and course completion or their SAT or ACT scores. Ohio policy implemented at KSU's Kent campus required students to take the ALEKS test for placement in math if they were not exempted based on their SAT or ACT scores, while Middlesex Community College students had to take the placement test in math if they did not meet the high school GPA threshold.

- **Placement Formula:** Students at the College of Coastal Georgia are required to provide SAT and/or ACT scores and their high school transcript when applying, if available. ACT or SAT scores can exempt students from developmental education or co-requisite support course requirements. Students still ineligible for college level courses are placed based on a Mathematics Placement Index (MPI) and an English Placement Index (EPI) calculated using high school grade point average (HSGPA), SAT and/or ACT scores and, when needed, placement test scores.

As can be seen in Table 4 above, state and system multiple measures policies can allow for more than one typology to be implemented at a single institution, even if the policies fall on different ends of the continuum. For example:

- Institutions in Texas such as Brazosport College are both required to implement a centralized policy developed by the state and also allowed to select from a set of placement measures for students below the threshold, providing more flexibility. At Brazosport, this "holistic" placement process for students falling in the "bubble" includes non-cognitive measures.

- In Ohio, institutions such as Kent State University implement a "remediation-free" policy of recognizing the results from a set of state-determined measures for student placement, but institutions are not required to place students scoring below the threshold score into developmental courses. The ALEKS test and essays were also used for placement at KSU.

Level of Institutional Support for Multiple Measures Placement

The support of both administrators and faculty is centrally important to the successful implementation of multiple measures reform.

Across institutions, both faculty and administrators were in favor of placement based on multiple measures. Across all institutions, there was consistent acknowledgement of the limitations of using a single placement test and the need for alternative placement practices including more than one measure. This foundational support for the overall direction of the reform allowed for the implementation of new assessments and processes for placement.

The level of support varied based on the level of institutional involvement in the development of the policy, confidence in the measures and cut scores, and student outcomes. The institutions that most strongly supported the use of multiple measures for placement were those with: involvement in the development of the policy implemented on their institution, confidence in the measures and cut scores and data showing that the policy improved placement and positive student outcomes. When these conditions were not in place, institutional support tended to be weaker. This variation is shown in Table 5.

Table 5. Factors Affecting Level of Support for Multiple Measures Placement

Institutions	Institutional Input in the Placement Policy	Confidence in the Measures and Cut Scores	Student Placement and Outcomes Data	Support for Placement Process
BC	Limited	Mixed	Limited	Mixed
CSU-SM	Limited	Mixed	Positive	Mixed
CCGA	High	High	Positive	Strong
DCCC	Limited	Mixed	Positive	Mixed
HC	High	High	Positive	Strong
KSU	Mixed	Mixed	Limited	Mixed
MCC	Mixed	Mixed	Limited	Mixed
OTC	High	Mixed	Mixed	Mixed

The level of support at each case study institution, as well as factors contributing to it, are described in more detail below.

- **Brazosport College:** The state policy was developed by the Higher Education Coordinating Board with limited input from the institution. While both faculty and administrators reported that the multiple measures placement process was better than what had previously been in place, some faculty felt the placement process could be improved by decreasing the use of standardized tests in favor of hand-graded essays and non-cognitive measures, leaving overall confidence in the measures mixed. Those interviewed also noted that few students were exempted based on the tests outlined by the state for placement and that data collection on the overall impact of the reform was limited.

- **CSU-San Marcos:** The EAP program was designed at the California State system level with limited institutional input. There was broad consensus among faculty and administrators that using more than one measure to place students was a better approach than a single placement test and reportedly led to decreases in the number of students being placed incorrectly. However, some participants doubted the ability of standardized tests to fully access college readiness. In 2006-2007, 67.4 percent of freshmen successfully completed their remediation requirements, but by the 2013-2014 academic year, 86.9 percent of freshmen needing remediation successfully completed it within one year, an increase of over 20 percent. This significant improvement built support for the reform.

- **College of Coastal Georgia:** Support for placement reform was strong due to a substantial level of institutional input, confidence in the measures and positive outcomes. The development of the placement index was an iterative process between institutions and the system office. Further, both administrators and faculty described the new placement measures as accurate; when asked how the placement process could be improved, respondents had little to say and concerns were very limited. The college has experienced increases in the number of students being placed in gateway courses. More students are being placed in gateway courses (with or without co-requisite support) than before the placement and learning support reforms and the number of developmental courses has been reduced.

- **Davidson County Community College:** Student outcomes since the implementation of multiple measures have been positive overall, but the placement process was developed by the system office with limited input from institutions. While students placed based on the multiple measures policy have succeeded in college-level courses at better rates than students placed based on other measures, student success rates varied when disaggregated by high school GPA. One administrator explained that "overall, students placed via multiple measures do every bit as well as students placed based on any other measure." However, when DCCC looked more closely at the data and compared the success rates of students placed in college level courses based on a high school GPA between 2.6 and 2.99 and those with a high school GPA of 3.0 or above, they found that, depending on the course, success rates differed by between 10 and 23 percent; this raised concerns about the high school GPA threshold scores.

- **Highline College:** Support for placement reform was strong due to the level of institutional input, confidence in the measures and positive outcomes. The institution drove the placement reform, and the process included high levels of faculty and staff input. Math faculty much preferred the MyMath test to the COMPASS as it provided formative tools and allows for much more customization. English faculty strongly supported the move to drop COMPASS Writing, expressed satisfaction with the use of high school transcripts and the piloting of directed self-placement. Students placed using high school transcripts in 2014 completed college-level English and math courses with comparable grades and success rates to those placed using a reading placement test or MyMath; this internal data from the Placement and Testing Center helped build staff buy-in.

- **Kent State University:** While the remediation free policy was developed at the state level, the math department had a high level of buy-in, in part because the department was involved in the selection of ALEKS as an institutional placement measure, resulting in a varied level of institutional input across the university. The state policy has placed more students into college level courses, but some instructors expressed frustration with the loss of nuance in placing students. The impact of the policy on student outcomes was unclear, resulting in a mixed level of support for the reform overall.

- **Middlesex Community College:** Faculty and administrators supported the use of measures beyond Accuplacer for math placement, but some were skeptical that overall GPA would accurately predict math readiness. While internal data pointed to positive outcomes for the first cohort of students placed based on GPAs above 2.7, the sample was small (roughly 100 students) at the time of our field work and results were mixed overall. The college opted to stop placing students in college-level math based on GPAs between 2.4 and 2.7 after the data showed that students in that range were struggling in their course work, a break from the state's original recommendations.

- **Ozarks Technical Community College:** Reforms to placement at OTC were entirely driven by the faculty and staff, making the level of institutional involvement high. During interviews, faculty and administrators universally viewed COMPASS as a poor measure for student placement, and generally supported the piloting of a guided self-placement process. However, utilization of the guided self-placement process was limited among first year students and the outcomes data has shown mixed results: There was increased enrollment in college-level courses and decreased enrollment in developmental education courses, but course completion rates decreased in most of developmental education and introductory courses as well. At least half of both math and English faculty felt that their students were less prepared during the spring 2016 term compared to previous terms, based on the results of institutionally-developed survey data.

Common Implementation Challenges and Innovative Approaches

Multiple measures placement reform is complex at both the state/system and institutional levels. In some cases, state and system agencies have been involved in providing support to institutions as they implement placement reform; California State University and the University System of Georgia, for example, have both provided technical assistance at the institutional level in different ways. In other instances, supports from system offices have either not been developed, or have been available only in

modest doses, so institutions have had to learn and invent as they go. Missouri and Ohio provide examples of this dynamic.

However, regardless of the level of support provided to institutions, the process of implementing multiple measures placement policies taxes limited resources and forces college personnel to think in new ways and address new challenges. Some of the most notable examples of this phenomenon are noted below.

- **Creating the Capacity to Support Reform:** Simply put, placing students based on more than one measure requires more capacity than simply giving a student a placement test. The process of reviewing the results of additional placement measures and advising students on their course placement involves additional expertise, staff and technology to be successfully implemented. California State University institutions each have an Early Assessment Program coordinator who provides training for their administrators. At Highline College, additional full-time staff members and part-time advisors were hired to administer assessments, review other placement measures, and engage in individual placement advising for students. DCCC reported that the manual review of high school transcripts is a "time intensive process."

- **Communicating about the Placement Process to Students:** It is relatively simple for a student to understand why they were placed into a course based on a simple text score; explaining placement based on multiple measures is more complex. Institutions such as the College of Coastal Georgia and Highline College have developed "high-touch" processes that allow advisors to communicate directly with students during initial course scheduling, while others have taken a "high-tech" approach that leverages the institutional web site to explain the placement process to students.

- **Placing students using High School GPA:** Grading and calculating grade point averages varies significantly across high schools. As a result, utilizing this metric for placement can be burdensome to colleges and universities, and many are wary of using high school GPA to determine college readiness. However, a number of systems and institutions have developed ways to address these barriers to reform. In order to facilitate the use of the indices (including high school GPA, SAT/ACT scores and placement test results), the University System of Georgia developed spreadsheets that institutional staff could use to calculate the placement indices. In addition, the North Carolina Community College System office has been working in partnership with the state's Department of Public Instruction since the start of multiple measures policy reform to streamline accessibility of high school GPA by automatically including it in a statewide repository of high school transcripts. Highline College accepts unofficial transcripts and also developed high school transcript review rubrics in consultation with feeder high schools.

- **Addressing the Increasingly Diverse Needs of Students placed in College-Level Courses:** Multiple measures placement has resulted in a more diverse set of students enrolling in college-level courses. To address the changing composition of the students in these courses and the varying levels of academic and "college-survival" skills they bring with them, institutions have provided additional academic supports. For example, the University System of Georgia developed a co-requisite support course model that provides support to students while they are taking their first college-level courses

that use a tutorial format, standard-classroom lecture or online instruction, among others options. Similarly, DCCC offers support labs for students who are placed using the multiple measures process but have a high school GPA between 2.6 and 2.99.

- **Increasing Collaboration across Institutional Offices and Departments:** While the student placement process may take place in a single institutional office or department, implementation of the entire multiple measures policy reform involves multiple offices and departments in an institution, and so both faculty and staff need to be aware and included in planning and implementing placement reform. For example, Middlesex Community College created an intra-departmental working group tasked with making decisions about the pilot and institutional placement policies. Strong collaboration between admissions, advising, and academic affairs staff on the task force helped achieve buy-in and coordination across faculty and the administration for policy change.

Conclusion

Our study of multiple measures implementation across eight colleges and universities in as many states reveals several key similarities regarding implementation. These include continued reliance on traditional placement testing, as well as the SAT and ACT. Our analysis also revealed that using multiple measures for college placement, while very promising, is labor-intensive work that requires significant additional supports from state and system agencies. And it requires as well substantial commitment from the individual institutions themselves at a time when higher education is operating with limited resources.

Institutions included in this study represented all of the typologies in the continuum represented in Figure 2, and illustrate the considerable variation in multiple measures reform that exists at the institutional campus level. Indeed, important differences in approach and implementation emerged— especially with regard to the ways in which the degree of policy centralization affects innovation and buy-in at the institutional level. Support for multiple measures reform also appeared to vary based on the degree to which institutional stakeholders had confidence in the measures and cut scores themselves, and evidence of positive student outcomes.