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Remedial Education

A Look at Selected State Policies Outside of
Colorado

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Augenblick, Palaich and Associates (APA) was asked by the Colorado Department of Higher Education (CDHE) to conduct a qualitative analysis of state postsecondary education remedial education policies in order to better understand the current remedial education literature, and to identify potential innovative policies currently under development in other states that could inform Colorado's higher education policymakers and education leaders.

To accomplish this effort, APA proposed and executed a two-pronged approach. First, APA conducted a review of existing literature across the country pertaining to postsecondary remedial education policies. This review provides information on state remedial education policies, on commonly used placement tests and cut scores, on costs associated with remedial education programs, and on institutional remediation policies. The literature review also identified several states as potential "case studies" in terms of their development of innovative or interesting remediation programs or policies.

Second, drawing on findings from the literature review, APA identified several states outside of Colorado in which to conduct telephone interviews to gather more details regarding potentially innovative or promising remedial education policies. To identify these states, APA drew from the findings in the literature review. In particular, APA conducted interviews with key personnel in North Carolina, Virginia, and Florida.

A synthesis of these interviews is provided below, followed by APA's literature review.

Synthesis of State Policymaker Interviews

APA conducted interviews with key personnel in Florida, North Carolina, and Virginia in order to gather more information on their current postsecondary remedial education policies. These states were identified as developing innovative remedial education policies or programs through APA's remedial education literature review which is also included in this report.

In particular, each of these states has either already developed a customized examination for measuring college course readiness, or is in the process of doing so. Also, these states have shared common interest in either redesigning or exploring the redesign of how remedial courses are delivered to students.

The individuals interviewed as part of this work included:

- Peter Blake, Director of the State Council of Higher Education for Virginia.
- Cassandra Brown, Coordinator of Postsecondary Readiness at the Florida Department of Education.
- Dr. Scott Ralls, President of the North Carolina Community Colleges System.

- Dr. Susan S. Wood, Vice Chancellor for Academic Services and Research System Office in the Virginia Community College System, and Megan Healy with the Virginia Community College System.

A synthesis of findings from across the interviews is provided below. This synthesis focuses on the following key areas: 1) state efforts to create a customized examination to replace more standard assessments, such as Accuplacer; and 2) state efforts to replace semester-long remedial education courses with more targeted remedial “modules” that can be taken by students over a shorter period of time, depending on their academic needs.

Creating Customized Examinations

All three states which APA interviewed have either already replaced, or are in the process of replacing, the use of nationally standardized tests such as Compass and Accuplacer for determining the appropriate courses in which to place incoming college students. In Florida, for instance, a new “PERT” (Postsecondary Education Readiness Test) examination was created to replace the Accuplacer and in Virginia a new math examination was created to replace the formerly used Compass test.

Key reasons cited by state leaders for pursuing a new test to replace the more standard Accuplacer or Compass include:

- The need for a test that is more aligned with each state’s own specific curriculum requirements and expectations.
- The desire for a test that reflected the input of each state’s own education and curriculum leaders.
- The desire for more precision in how assessments identify student needs.

Two key similarities across interviews also emerged in terms of the processes used to begin the move away from use of national standardized tests such as Compass and Accuplacer. These included:

1. States waited until they were towards the end of their current contracts with assessment vendors to initiate the process of creating a new, more customizable assessment by seeking bids from contractors willing to work with the state to create a customized assessment tool; and
2. States leveraged the creation of a new, customized assessment tool to initiate a statewide conversation with key leaders around the new assessment’s design using multiple meetings of key stakeholders over at least a year.

Florida offers one example of how state leaders utilized the creation of a new assessment tool as an opportunity to initiate statewide conversations around the design of a new assessment tool. In creating the PERT, state leaders brought together faculty from all levels of the education system -- from universities, to community colleges, to high school. These educators were convened multiple times over the course a year in order to give input into the assessment design and to help ensure alignment with state K-12 academic standards and expectations. The PERT is now used by all community colleges in the state. High school students (in 11th grade) who do not meet minimum scores on the statewide standardized student assessment (FCAT) must also now take the PERT in order to better understand their academic challenges.

In Virginia, state leaders created a cadre of math faculty from both secondary and higher education levels who also worked directly with the contractor who was hired to create the new, more customized assessment. The resulting assessment provides information not only on a student's current academic skill levels, but it also can tell students what math requirements they need for a specific undergraduate major.

In North Carolina, state leaders involved faculty in identifying the key competencies that students need to be successful in order to inform the contractor's development of a new, more customized, computer-based adaptive assessment. To help reduce costs, the state also bid development of a single assessment to be used in all colleges across the state.

Leaders from across the three states pointed to a number of advantages that resulted from inclusion of faculty from multiple levels of the education system in the design of a more customized assessment, including:

- Creating more universal buy-in to assessment design and implementation.
- Reducing or eliminating perceptions that changes were being imposed "top down" from the state onto higher education institutions.
- Ensuring the resulting assessment is far more specifically tuned to individual state expectations.
- Creating a blueprint for how the state can undertake future revisions to its assessment program, including revisions for additional academic subject areas.

As discussed in more detail below, each state's efforts to create a more tailored, customized assessment for accurately identifying student postsecondary academic needs also has led policymakers to consider changes to how remedial coursework is designed and offered.

Replacing Semester-long Courses with More Targeted Remedial “Modules”

Virginia and North Carolina have led the way in rethinking the design of remedial education courses away from semester-long classes to shorter (several weeks long) more focused content “modules.” One of the driving forces behind this redesign was that state leaders found that the average student took approximately three semester-length classes to meet their remedial education needs. States were seeing many of these students drop out of school entirely because of the extended time and added costs associated with taking such semester-long classes. State leaders also cited the need to change the view of faculty members from a focus solely on student performance in specific semester courses, to thinking more globally about whether students actually achieve the longer term goal of graduating from college.

To start the process of revising existing course design, Virginia developed a centralized policy initiative to make this issue an area of focus. Virginia leaders called together a task force of representatives from more than 15 community colleges along with K-12 public education, and workforce leaders. The task force was co-chaired by a current community college president and a recently retired community college president. Staffing support was provided by the Virginia Community College System. This group was tasked with laying out the vision for a new, modularized curriculum.¹

The task force led to the creation of a mathematics redesign committee that sketched out nine major areas of math modules, and a curriculum team consisting of faculty members whose job was to focus specifically on content within the nine major areas. This team included some 25 members representing every community college in the state, and each was given the ability to cast a single vote in order to make decisions around development of a new curriculum. Issue and discussion logs were kept to track decisions and to allow committee members to share challenging issues with colleagues at their home institutions.

The result was a series of three week modules each encompassing approximately 16 hours of contact time. These modules, taught for the first time in Spring 2012, are each worth one credit. Student placement into the modules is driven by the state’s new, customized math placement assessment briefly described in the previous section of this report.

¹ For more information on the work of the task force, see, *The Critical Point: Redesigning Developmental Mathematics Education in Virginia’s Community Colleges*, (August 2010). Available at: http://www.vccs.edu/Portals/0/ContentAreas/AcademicServices/The_Critical_Point-DMRT_Report_082010_pdf.pdf

North Carolina is following a similar path as Virginia, setting a goal that remedial education should take no more than one year for the lowest student performers. For those with fewer remedial needs, state leaders targeted the development of eight content modules that are each several weeks in length.

Similar to Virginia, North Carolina also focused first on math, and asked colleges to nominate outstanding developmental math teachers from around the state. Those nominated were asked to examine existing semester long remedial education courses to identify any overlaps with college level math courses, and to develop a set of competencies that could be divided across the eight shorter modules.

Florida is also following the path of exploring the use of shorter modules to deliver remedial course content. The state's new PERT assessment and associated diagnostic tools are used to help identify specific skills students need to work on. Several colleges have joined a "developmental education initiative" that are now in the process of piloting the use of shorter, targeted course modules, rather than using semester-long courses to address specific student remedial needs.

APA found several themes that emerged across conversations with state leaders regarding the development of new, shorter remedial course modules:

- States have chosen to focus first on development of math modules, rather than modules for English. State leaders indicate several reasons for this decision, including a belief that math instruction is more linear and more easily subdivided into shorter, discrete segments. State leaders also indicated remedial math was a more common problem for incoming students.
- States deliberately used the experience generated through creation of math modules to inform their process for exploring creation of modules for reading and writing.
- States feel more comfortable implementing shorter, targeted modules if they have also simultaneously developed new, more customized assessment systems that are aligned with state curriculum expectations and that can more accurately place students into modules.
- States utilized highly inclusive processes to involve stakeholders and educators from a variety of levels (K-12, postsecondary, workforce) and from a range of institutions in the creation of new course modules.

On the whole, state leaders report a series of benefits from building inclusive stakeholder involvement into new course modules creation. Such benefits include including greater communication and alignment between state higher education agencies and community colleges and greater buy-in to the new program from higher education faculty and leadership. Because the programs are yet in their infancy, however, state leaders report that no evaluation or data exists to measure impacts on student persistence or graduation rates from college.

Conclusion

APA's conversations with state leaders in North Carolina, Virginia, and Florida surfaced several consistent areas of development with regard to their remedial education systems. Each of these systems include a combination of priorities around the common goals of: 1) creating assessments of student postsecondary readiness that are both tailored to specific state curriculum expectations and that are designed with direct input from faculty members from around the state; and 2) identifying methods of making remedial courses less onerous to students by creating more targeted content modules – again designed by faculty members from across the state – that can replace longer, more expensive, semester length remedial courses.

APA notes that the systems developed in these states are still at an early stage of implementation, and there is therefore not sufficient data to determine impacts on student performance, remediation rates, or graduation rates. However, state leaders do report early positive responses from students and higher education institutions. State leaders also report benefits from the significantly increased collaboration that took place between state agencies, K-12 educators and community college systems. And, states such as Florida report that efforts to redesign the assessment system and content of remedial courses has led to new conversations regarding how assessments might be utilized while students are still in high school in order to earlier identify student learning gaps and to address such gaps prior to students entering college.

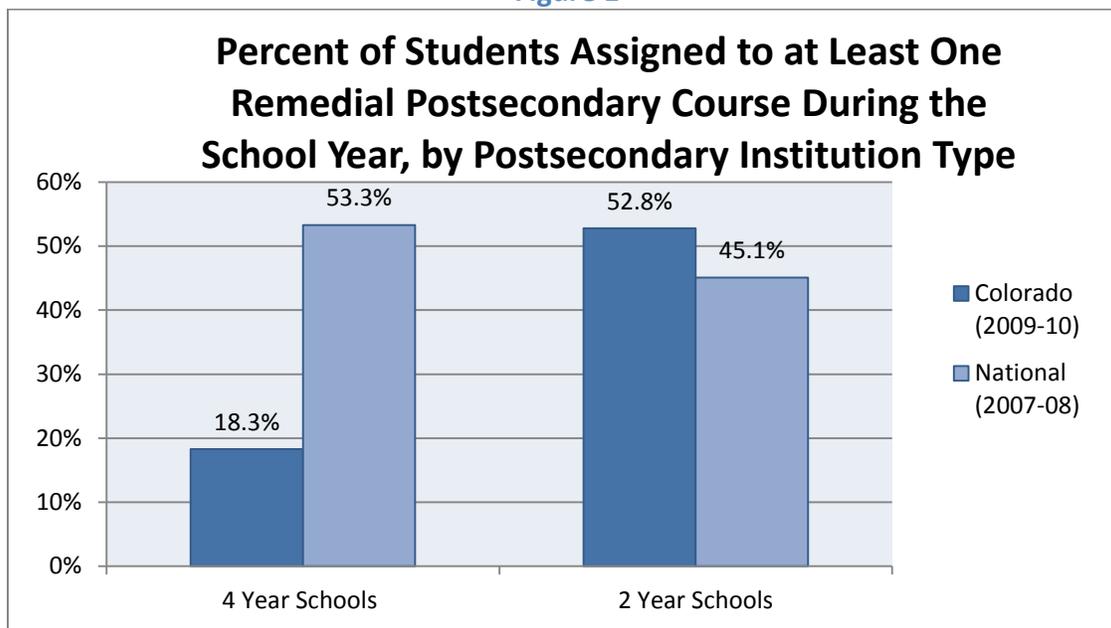
Taken together, these findings suggest it may be worth Colorado higher education leaders exploring continued conversations with their counterparts in these three states. Such conversations could help Colorado policymakers not only to monitor progress in these states, but to also track data on student and institutional impacts in order to better inform the potential development of similar policies or processes.

Literature Review on Remedial Education

Introduction

Remedial education is a costly problem for students, colleges, and states across the country. The purpose of remedial education is to prepare college students for college-level coursework by strengthening their knowledge and skills (Bailey, Jeong, & Cho, Student Progression Through Developmental Sequences in Community Colleges, 2010). Remedial education is necessary because many students are not prepared for college-level coursework after high school. More than half of students enrolled in 4-year institutions and 45% of those enrolled in 2-year institutions were assigned to at least one remedial class in 2007-08 (U.S. Department of Education, National Center for Education Statistics, 2008). In Colorado, more than half of students in 2009-10 who were enrolled in 2-year schools were assigned to at least one remedial course (Colorado Commission on Higher Education, 2011).

Figure 1

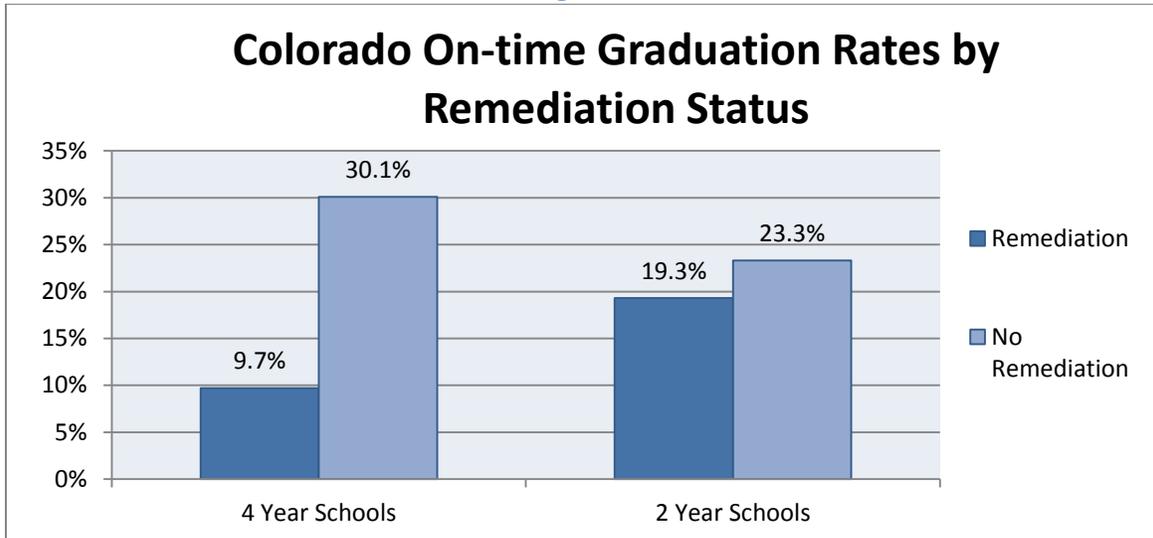


Source of Colorado data: Colorado Commission on Higher Education. (2011). 2010 Legislative Report on Remedial Education. Denver, CO: Author.

Source of National Data: U.S. Department of Education, National Center for Education Statistics. (2008). NPSAS: 2008 Undergraduate Students. Retrieved from <http://nces.ed.gov/dasolv2/tables/mainPage.asp?mode=NEW&filenumber=51>. Note: the national data is 1st and 2nd year students, while Colorado is 1st year students only.

The prevalence of college remediation in both 2- and 4-year colleges is often held responsible for low persistence in postsecondary education and low graduation rates (Parker, 2007). In one study, only 20 percent of students assigned to math remediation and 37% assigned to reading remediation even completed one college-level course within three years (Bailey, Jeong, & Cho, Student Progression Through Developmental Sequences in Community Colleges, 2010). Colorado data indicates that enrollment in one or more remedial courses reduces the chance of on-time graduation, especially at 4-year colleges (Colorado Commission on Higher Education, 2011).

Figure 2



Source of Colorado data: Colorado Commission on Higher Education. (2011). 2010 Legislative Report on Remedial Education. Denver, CO: Author.

The financial implications of providing remediation and the long-term effects on educational attainment and potential earnings are significant. Colorado estimates annual costs at over \$25 million (Colorado Commission on Higher Education, 2011). Many states and postsecondary institutions do not award any degree credit for remedial coursework, but still require the student to pay tuition to complete the coursework, sometimes requiring the student to attend a different institution to do so. These obstacles, along with the stigma of enrolling in remedial education decrease the probability of graduation.

It comes as no surprise that states are studying ways to reduce the need for remediation and improve student progression from high school through college. One way to reduce the need for remediation is to prepare students to meet the demands of college-level coursework before they enroll in college. Another important way is to better identify the students who need remedial coursework.

The focus of this report is remediation assessment and placement policies in higher education. The report will present information on existing *state* and *institutional* remediation assessment and placement policies. The report will go on to examine the potential effects of remediation assessment and placement policies and their outcomes. Finally, this report will conclude with short descriptions of policies that states are designing and implementing to improve assessment and placement in remedial courses.

State Remediation Policies

Recent data indicate that there is a wide variation in state remedial assessment and placement policies. A 2008 state-by-state survey conducted by the National Center for Higher Education Management Systems (NCHEMS) documents the state policies used to identify students in need of remediation. As Table 1 below shows, 16 states have a statewide policy governing the placement of students in college courses (Ewell, Boeke, & Zia, 2008). Three states (Hawaii, North Carolina, and Washington) report that a policy exists for their community colleges, but not their 4-year institutions (Ewell, Boeke, & Zia, 2008).

State remediation policies apply to public institutions only, leaving private postsecondary institutions to enact their own policy.

Many statewide placement policies include a common set of placement tests that are used to make placement decisions. Table 1 shows that 15 states (79% of those with policies in place for all or only community colleges), use a common set of placement tests that may include COMPASS, ASSET, ACCUPLACER, or others (Ewell, Boeke, & Zia, 2008). The other four states (North Carolina, Oklahoma, Washington and Wisconsin) with statewide placement policies allow the postsecondary institutions to determine which tests to use (Ewell, Boeke, & Zia, 2008).

Table 1 also shows that 13 of the 15 states that have a common set of placement tests (87%) have established cut scores on these tests (Ewell, Boeke, & Zia, 2008). Five other states are in the process of instituting a common set of placement tests and/or a cut score that determines whether or not students are in need of remediation (Ewell, Boeke, & Zia, 2008). Table 1 shows each state and its placement policy.

Table 1

State	Statewide Placement Policy	Common Set of Placement Tests	Mandated Cut Score on Common Tests
Alabama	No	No	No
Alaska	No	No	No
Arizona	No	No	No
Arkansas	Yes	Yes	Yes
California	No	No	No
Colorado	Yes	Yes	Yes
Connecticut	No	No	No
Delaware	No	No	No
Florida	Yes	Yes	Yes
Georgia	Yes	Yes	Yes
Hawaii	Community colleges only	Community colleges only	Community colleges only
Idaho	Yes	Yes	Yes
Indiana	No	No	No
Illinois	No	No	No
Iowa	No	No	No
Kansas	No	No	No
Kentucky	Yes	Yes	In development
Louisiana	Yes	Yes	Yes
Maine	No	No	No
Maryland	No	No	No
Massachusetts	Yes	Yes	Yes
Michigan	No	No	No
Minnesota	Yes	Yes	In development

State	Statewide Placement Policy	Common Set of Placement Tests	Mandated Cut Score on Common Tests
Mississippi	Yes	Yes	Yes
Missouri	No	No	No
Montana	No	No	No
Nebraska	No	No	No
Nevada	Yes	Yes	Yes
New Hampshire	No	No	No
New Jersey	No	No	No
New Mexico	In development	In development	In development
New York	No	No	No
North Carolina	Community colleges only	No	No
North Dakota	No	No	No
Ohio	In development	In development	No
Oklahoma	Yes	No	No
Oregon	No	No	No
Pennsylvania	No	No	No
Rhode Island	In development	In development	In development
South Carolina	No	No	No
South Dakota	Yes	Yes	Yes
Tennessee	No	No	No
Texas	Yes	Yes	Yes
Utah	No	No	No
Vermont	No	No	No
Virginia	No	No	No
Washington	Community colleges only	No	No
West Virginia	Yes	Yes	Yes
Wisconsin	Yes	No	No
Wyoming	No	No	No

Source: Ewell, P., Boeke, M. & Zis, S. (2008) *State Policies on Student Transitions: Results of a Fifty-State Inventory*. Boulder, CO: National Center for Higher Education Management Systems.

Note: This table covers all public institutions in each state, but not the private ones.

Exemptions, Common Placement Tests and Cut Scores

One of the best sources for data on college remediation is Getting Past Go, a joint project between the Education Commission of the States (ECS) and the Project on Education Policy, Access and Remedial Education (PREPARE). The Getting Past Go website organizes state-level policy documents on remedial education. Using the Getting Past Go database, we were able to access relevant documents, review these documents, and provide the data discussed in this subsection and Table 2 below. We used the most recent policy available for each state. Table 2 presents the information we reviewed regarding state policies on student placement. It was not possible to find information on every state and thus,

some states do not appear in the table. When a policy document was unclear, we left the associated table cell empty.

The table identifies any tests that can be used to exempt out of the postsecondary placement test. It also documents the ACT cut-score that each state uses to determine placement into remedial courses. When students earn an ACT score below the established cut-score for that subject, state policy dictates that they must take a placement test or enroll in a remedial course in that subject. The final column of the table presents the placement tests that postsecondary institutions can offer to students.

Some states, especially those that require all high school students to take a particular exam (like Colorado requires the ACT), may use these exams directly for placement, beyond simply allowing students to exempt from a placement test. While reviewing the state documents, it was often difficult to determine whether tests were being used for exemption or for direct placement. For the purposes of this analysis, we characterized tests as exemption tests if they were generally administered prior to college enrollment and those as placement tests if they were typically administered after college enrollment.

Of the 26 states that have approved a method for students to exempt out of the placement tests, 18 offer more than one method. Twenty-one states offer the ACT as an option and 18 states offer the SAT as an option, and another five states offer a state-developed test as an option (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education).

Fifteen states specify the ACT cut-scores necessary to be exempt from taking a placement test. Thirteen states specified ACT English cut-scores, which ranged from 16-25, and averaged to a score of 19 across states (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). The nine ACT Reading cut-scores vary by state from 16-21, with an average cut-score of 18. Two states claimed to have an ACT Writing cut-score (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). There may be some confusion between the ACT English and ACT Writing Exam since some states referred to English as writing, although the ACT English exam does not include a writing component (ACT, Inc.). There is a range in the 15 state ACT cut-scores for math from 16-25, with an average cut-score of 19. Two states required ACT cut-scores to exempt out of science placement tests. These cut-scores were 24 for North Dakota and 19 for Oklahoma (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education).

State policy often provides institutions with a choice of placement tests to use for student course placement and particularly for placement into remedial courses. Thirteen states offer the ACCUPLACER and 12 offer the COMPASS as options for their institutions to use. Eight states offer the option of the ASSET. Five states have created a common assessment for institutions to use and another two states are studying placement tests to determine the best option(s). Finally, nine states allow postsecondary institutions to develop and administer their own placement tests (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). Table 2 below presents all of this information.

Table 2

State	Exemption for Adequate Cut Score	ACT Cut Score	Placement Test
Alabama			ASSET, COMPASS
Arkansas	Enhanced ACT, SAT I		ASSET, COMPASS
California	CSU System: AP math, AP Language and Composition, AP Composition and Literature, SAT I, ACT, SAT II Writing and Math, Early Assessment Program	English: 25 Math: 25	CSU System: Entry Level Math Exam (ELM) and English Placement Test (EPT)
Colorado	ACT, SAT I	Reading: 17, English: 18, Math: 19	ACCUPLACER
Connecticut	Community Colleges: SAT I, ACT	English: 21, Combined English and Reading: 47, Math: 18	Community Colleges: ACCUPLACER
Florida	ACT, SAT I, Florida Comprehensive Assessment Test (FCAT), Postsecondary Education Readiness Test (PERT)	Reading: 18, English: 17, Math: 16	ACCUPLACER/Computerized Placement Test (CPT)
Georgia	SAT I, ACT, Georgia High School Graduation Test in ELA, completion of the required high school curriculum in English and Math	English: 17, Math: 17	COMPASS
Hawaii			COMPASS
Idaho			Will be developed by postsecondary institutions
Illinois			Piloting the ACT (which is part of the Prairie State Achievement Exam given in 11th grade)
Kentucky	ACT, SAT I	Reading: 20, English: 18, Math: 19	ASSET, COMPASS, ACCUPLACER, institutional placement exam
Louisiana	ACT, SAT I	English: 18, Math: 19	COMPASS, ASSET
Maine			ACCUPLACER, institutional placement exam
Maryland			ACCUPLACER, COMPASS
Massachusetts	SAT I		ACCUPLACER, common writing sample

State	Exemption for Adequate Cut Score	ACT Cut Score	Placement Test
Minnesota	ACT		ACCUPLACER
Mississippi	ACT	Reading: 16, English: 16, Math: 16	
Missouri			Studying the use of placement tests
Montana	ACT, SAT I	Writing: 7, Math: 22	Common writing assessment, COMPASS
New Jersey	SAT I		College Board ACCUPLACER, institutional placement exam
New York	CUNY System: SAT I, ACT, NY Regents Exam	English: 20, Math: 20	CUNY: CUNY's Skills Assessment Tests (CATs)
North Carolina	ACT, SAT I		ASSET, COMPASS, ACCUPLACER
North Dakota	ACT	Reading: 21, English: 18, Math: 22, Science: 24	ACT
Ohio	ACT, SAT I	Reading: 19, English: 18, Math: 19	COMPASS, ASSET
Oklahoma	ACT	Reading: 19, English: 19, Math: 19, Science: 19	Institutional placement exam
Rhode Island	SAT I		ACCUPLACER, institutional placement exam
South Dakota	ACT		COMPASS
Tennessee	ACT, SAT I	Reading: 19, Writing: 18, Math: 19	COMPASS, ASSET
Texas	ACT, SAT I, combination of Texas Assessment of Academic Skills (TAAS) and the Texas Learning Index (TLI), eleventh grade exit-level Texas Assessment of Knowledge and Skills (TAKS)		To be determined or developed by institutions
Vermont	SAT I, ACT		ACCUPLACER
West Virginia	ACT, SAT I	Reading: 17, English: 18, Math: 19	ASSET, COMPASS, ACCUPLACER, institutional placement exam
Wisconsin	ACT		Institutional placement exam

State	Exemption for Adequate Cut Score	ACT Cut Score	Placement Test
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Source: The Education Commission of the States and the Project on Education Policy, Access and Remedial Education. (n.d.). State Developmental Education Policies. Retrieved February 7, 2012, from Getting Past Go: <http://gettingpastgo.socrata.com/Education/State-Developmental-Education-Policies/5zve-3pvv>.

Note: This table covers all public institutions in each state, but not the private ones.

Limits on Remedial Education at 4-Year Schools

Twelve states currently have policies that do not allow or do not fund remedial coursework at public 4-year institutions (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). These states include Colorado, Louisiana, Missouri, Montana, Nebraska, Nevada, New York, Ohio, Oklahoma, South Carolina, Tennessee, and Utah (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). States that do not fund remedial courses sometimes allow the institutions to offer them if the institutions can fund them through student tuition, fees, or other means. State policies that limit remedial courses at 4-year colleges generally require students to take remedial courses at community college prior to or concurrent to enrollment at the 4-year institutions. A number of other states are considering instituting similar policies, often for the purpose of saving money (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education).

Costs

One of the major arguments for limiting the amount of remedial education offered in 4-year colleges is the cost argument. Several state policy documents indicate that remedial education is less expensive in 2-year colleges. This argument is generally supported by research, although the research is limited because states and institutions often define remedial education differently, making comparisons difficult. While costs per student for remedial education appear to be lower at 2-year colleges, it is also true that per student costs for non-remedial education are also lower at 2-year colleges than at 4-year colleges (Arkansas Department of Higher Education, 1998; Phipps, 1998; The Charles A. Dana Center, 2007; Mayor's Advisory Task Force on the City University of New York, 1999). Furthermore, costs per remedial student at 2- or 4-year colleges can be lower than for each non-remedial student due to factors such as larger class sizes and lower paid faculty teaching remedial courses (Arkansas Department of Higher Education, 1998; Phipps, 1998).

A 2007 survey of public institutions of higher education in Texas revealed that overall, the costs per semester credit hour of remedial education was highest at universities (\$256), lower at technical colleges (\$189), and lowest at community colleges (\$152) (The Charles A. Dana Center, 2007). However, direct costs related to instructional delivery were highest at technical colleges, while the indirect costs were highest at the universities (The Charles A. Dana Center, 2007).

An older report confirms this general finding for another state. A New York study of the financial impact of remedial education found that the costs of providing remedial education was greater at “senior colleges” than community colleges (Mayor's Advisory Task Force on the City University of New York, 1999). However, this cost variance was similar to the cost variance between institution types for

education overall and the costs per students were less expensive per remedial FTE student than per FTE student overall (Mayor's Advisory Task Force on the City University of New York, 1999).

Research from Arkansas supports these conclusions. The Arkansas study found that cost per student for remedial education was higher at 4-year than 2-year colleges, but that for most college majors, cost per remedial student was less costly than per non-remedial student at the same institution types (Arkansas Department of Higher Education, 1998; Phipps, 1998).

One of the most precise studies on costs of remediation comes from a 2006 Ohio report. This report examined the six-year instructional costs of attaining a bachelor's or associate's degree by remedial enrollment. The report found that students who enrolled in at least one remedial college course and later attained a bachelor's degree were less expensive to educate than non-remedial students who earned a bachelor's degree (\$51,689 vs. \$56,549 respectively over six years) (Ohio Board of Regents, 2006). The authors speculated that this may be due to the greater numbers of non-remedial students selecting high-cost major fields (Ohio Board of Regents, 2006). Within the highest cost bachelor degree majors, the average costs per degree were still lower for remedial students. According to the report, one of the reasons for this is that many remedial students are more likely to have begun college at 2-year colleges, which are generally less expensive before transferring to 4-year colleges to complete their education (Ohio Board of Regents, 2006).

Although this cost information is informative, there does not appear to be any research on the costs of implementing successful remediation programs. That is, there is no research that defines what success is, identifies programs that are successful, and determines the costs associated with these programs.

Credit for Remedial Coursework

At least twenty-two states do not provide degree credit for any remedial coursework taken at public institutions (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). This means that remedial students take courses that do not count toward graduation or degree attainment. It is possible that other states also do not provide degree credit, but this is not explicitly stated in available state policy documents. These states are listed below.

- Alabama
- Arkansas
- California
- Colorado
- Connecticut
- Florida
- Georgia
- Idaho
- Kansas
- Kentucky
- Massachusetts
- Minnesota
- Mississippi
- Montana
- New York
- Oklahoma
- Pennsylvania
- South Carolina
- Vermont
- Virginia
- West Virginia
- Wisconsin

Source: The Education Commission of the States and the Project on Education Policy, Access and Remedial Education. (n.d.). State Developmental Education Policies. Retrieved February 7, 2012, from Getting Past Go: <http://gettingpastgo.socrata.com/Education/State-Developmental-Education-Policies/5zve-3pvy>.

Compelling students to take remedial coursework

Sixteen states require all students in public institutions to take remedial courses if they have been identified as needing remediation (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). These states include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Massachusetts, Minnesota, Mississippi, Montana, Oklahoma, South Carolina, South Dakota, Vermont, West Virginia, and Wisconsin (The Education Commission of the States and the Project on Education Policy, Access and Remedial Education). Other states do not have a clear requirement or they allow institutions to decide whether to offer remedial education. Colorado for example, requires institutions to place students in the appropriate level of coursework after assessment, but allows institutions to place students who do not meet assessment cut-scores into college-level courses if the students' transcripts or other secondary-level assessment justify the placement (Colorado Department of Higher Education, 2011). It is difficult for most 2-year colleges to avoid offering remedial education because most are open-admission, which means that they are likely to enroll some underprepared students.

Institutional Remediation Policies

State policies that identify students in need of remediation generally do not apply to *private* postsecondary institutions. In addition, not every state has a statewide remediation policy. As a result of these factors, many postsecondary institutions enact their own policies and these policies do not necessarily align with the state policy data presented in the State Remediation Policies section.

The most comprehensive source of information on institutional policies on college remediation is a 2003 report from the National Center for Education Statistics (Parsad, Lewis, & Greene, 2003). The report synthesizes information from a nationally representative survey conducted in 2000. This is the most recent available data of this type and the numbers are similar to a similar survey conducted in 1995. The analysis presented data by remedial course subject and institution type and found a great deal of variation in method used by postsecondary institutions to identify students in need of remediation.

Identifying those in need of remediation

There are a number of ways to identify students in need of remediation and each institution uses one of these methods. In every remedial subject area, every type of postsecondary institution was most likely to assess all entering students to identify those in need of remediation. Public 2-year schools were more likely than 4-year institutions to identify students using this process and public 4-year schools were the least likely to use this approach. The second most common way to identify students in need of remediation was to assess only students who met particular criteria, such as those without the requisite coursework or those with low ACT or SAT scores. Between 25 and 32 percent of postsecondary institutions used placement tests for some students. This approach is similar to the state policies reported in many states which administer placement tests to students who are not exempt based on prior testing or curriculum. Private 4-year schools were slightly less likely than other institution types to use this approach. Most schools that did not assess at least some students required or encourage students who met particular criteria to enroll in remedial courses without giving them a placement test. Table 3 below presents these results and the source for all of this data.

Table 3

Distribution of Methods Used to Identify Students In Need of Remediation, by Remedial Course Subject and Postsecondary Institution Type				
Remedial Course Subject and Postsecondary Institution Type	All entering students are given placement tests	Only those entering students meeting certain criteria are given placement tests	Entering students who meet certain criteria are required or encouraged to enroll in remedial courses (without being assessed)	Other selection criteria
Reading	57%	29%	10%	4%
Public 2-Year	63%	29%	6%	2%
Public 4-Year	44%	32%	15%	9%
Private 4-Year	49%	25%	20%	5%
Writing	60%	27%	12%	2%
Public 2-Year	63%	30%	5%	1%
Public 4-Year	50%	30%	18%	1%
Private 4-Year	54%	22%	21%	3%
Math	61%	25%	11%	3%
Public 2-Year	64%	28%	6%	2%
Public 4-Year	55%	27%	15%	3%
Private 4-Year	54%	23%	18%	5%

Source: Parsad, B., Lewis, L., & Greene, B. (2003). *Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000*. NCES 2004-010. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Note: Subject area averages include private 2-year institutions not presented in this table.

Table 3 describes how colleges identify students who need remediation, while

Table 4 below presents whether or not those students who *need* remediation are required to enroll in remedial courses.

Compelling students to take remedial coursework

Not all postsecondary institutions require students who need remediation to enroll in remedial courses. But, the majority of them do. Other schools recommended and encouraged students to enroll in remedial courses, but did not require them to enroll. Some institutions allowed students to complete the remedial courses concurrent to college-level courses and some schools limited the amount of college coursework that can be taken before the completion of remedial courses (Parsad, Lewis, & Greene, 2003). All schools were more likely to require remediation in writing than in reading. Private 4-year schools were more likely to *require* enrollment in remedial courses in each subject than either type of public colleges. See

Table 4 for more information and the source of this data.

Table 4

Percent of Postsecondary Institutions <u>Requiring</u> Students In Need of Remediation to Enroll in Remedial Courses			
	Remedial Reading	Remedial Writing	Remedial Math
All Institutions	75%	82%	81%
Public 2-Year	71%	76%	75%
Public 4-Year	77%	84%	81%
Private 4-Year	82%	89%	88%

Source: Parsad, B., Lewis, L., & Greene, B. (2003). *Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000*. NCES 2004-010. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Note: Subject area averages include private 2-year institutions not presented in this table.

Credit for Remedial Coursework

Most postsecondary institutions offered some type of credit for remedial coursework. However, most of this credit was institutional credit instead of degree credit. Degree credit is credit awarded for completing a course that counts toward graduation and degree attainment. Institutional credit counts as credit toward calculations such as financial aid, campus housing, and full-time student status, but does not count toward graduation or a degree (Parsad, Lewis, & Greene, 2003). Private 4-year schools were much more likely to award degree credit than public 2- or 4-year institutions. They were also the most likely to offer no credit. Generally, private 4-year schools are not subject to the state policies that public schools are and can thus implement a policy that aligns with their institutional goals and expectations. While private 4-year schools were more likely to offer degree credit for remedial writing than for remedial reading or math, public 4-year schools were more likely to offer degree credit for remedial math than remedial reading or writing. Public 2-year institutions were the most likely to award institutional credit for remedial courses in reading, writing, or math. All of this data and the source is presented in Table 5 below.

Table 5

Distribution of Credit Types Offered for Remedial Coursework, by Remedial Course Subject and Postsecondary Institution Type									
	Reading			Writing			Math		
	Degree Credit	Institutional Credit	No credit	Degree Credit	Institutional Credit	No credit	Degree Credit	Institutional Credit	No credit
All Institutions	12%	78%	9%	18%	73%	9%	14%	77%	10%
Public 2-Year	6%	87%	7%	7%	86%	7%	6%	87%	7%
Public 4-Year	2%	78%	12%	3%	82%	8%	6%	83%	11%
Private 4-Year	33%	51%	17%	42%	45%	14%	31%	54%	15%

Source: Parsad, B., Lewis, L., & Greene, B. (2003). *Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000*. NCES 2004-010. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Note: Subject area averages include private 2-year institutions not presented in this table.

Efficacy of Remedial Placement Policies

There is surprisingly little research on the effects of college assessment and placement policies or other 'college-readiness' standardized tests on academic or labor market outcomes. One of the problems with studying this topic is that there has been little agreement on the precise definition of college-level work across states and colleges. This may change with the recent development of the Common Core Standards. Many states do not currently have state remedial education placement policies and the policies that do exist often give institutions of higher education the autonomy to decide what is the best assessment instrument and/or the cut-score(s).

Jaggars and Hodara describe three sets of opposing forces that are associated with assessment and placement in college remedial education. The first set of opposing forces is system-wide consistency vs. institutional autonomy. On one hand, it makes sense to have a common set of standards across institutions to prevent student confusion or inequity, while on the other hand, it makes sense for institutions to determine their own standards that align with their courses, curriculum, and goals (Jaggars & Hodara, 2011). The next set of opposing forces is efficient vs. effective assessment. Efficient computer-based assessments can be administered and scored quickly to determine placement, but are not highly predictive of student success (Jaggars & Hodara, 2011; Hughes & Scott-Clayton, 2010). The final set of opposing forces is student progression (through college) vs. academic standards. High standards may improve the quality of instruction, but restrict access to college-level coursework for those who fall short of the standard (sometimes by a very small margin) (Jaggars & Hodara, 2011). While not explicitly cited in the research, this framework underlies a number of studies of remedial education assessment and placement.

In a study of the City University of New York (CUNY) system, Jaggars and Hodara found that individual colleges could (and did) get around system-specified exemptions by using course prerequisites or raising system-specified exam cut-scores to align with their courses, curriculum, and goals (Jaggars & Hodara, 2011). Faculty in this study also preferred comprehensive diagnostically-accurate placement exams, despite the fact that these type of exams would require more student testing time and computer-lab time, which may discourage students from enrolling and stretch lab resources thin (Jaggars & Hodara, 2011). CUNY students who barely failed their college placement exam in either algebra or writing were more likely to drop out after one semester of college than those who barely passed the exam (Jaggars & Hodara, 2011). Faculty worried both about the slow progression of remedial students through college coursework, but also worried that the enrollment of more underprepared students in college-level courses would erode academic standards (Jaggars & Hodara, 2011).

It is undoubtedly difficult for states to set cut scores on placement exams. Several studies have found that there is little academic difference between those students who miss the cut-score and are assigned to developmental education and those students who achieve the cut-score and are allowed to enroll in college-level coursework (Bailey, 2009; Martorell & McFarlin, 2007). In a six-year study of math college placement scores on the Florida Entry –Level College Placement Test (CPT) and academic outcomes, researchers found that in general, the higher students scored on the CPT, the more likely they were to complete their first college-level course, earn a two year degree, earn more college credits, and transfer to a 4-year college

(Calcagno & Long, 2008). Actual scores fell on a continuum, making a cut-score an arbitrary, but high-stakes decision about who is qualified and who is not.

According to Hughes and Scott-Clayton, the two most common college placement exams are the ACCUPLACER, used by 62% of community colleges and the COMPASS, used by 46% of community colleges (Hughes & Scott-Clayton, 2010). Hughes and Scott-Clayton assessed the validity of both of these tests and determined that the placement accuracy rates were not as strong as is desirable (Hughes & Scott-Clayton, 2010). Specifically, there was too much error in placement accuracy that resulted in students who could have succeeded in college-level coursework being placed in remediation and students who cannot succeed in college-level coursework being placed there anyway (Hughes & Scott-Clayton, 2010). The authors conclude that better student outcomes do not result from using these tests to make remediation decisions and the costs are considerable for both students and institutions (Hughes & Scott-Clayton, 2010).

Despite the lack of clear data on remediation placement policies and exams, researchers identify several ideas for further study. First, several studies suggest using more than one method to identify students in need of remediation and place them in the most appropriate course (Hughes & Scott-Clayton, 2010; Lefly, Lovell, & O'Brien, 2011; Morrison & Schmit, 2010). For example, one community college found students' high school GPAs in combination with their ACT math score to be good predictors of earning a 'C' or higher in a college-level math course (Morrison & Schmit, 2010). The Colorado Department of Higher Education has also proposed using a combination of tenth grade standardized test scores along with ACT scores as early indicators of readiness for college-level coursework (Lefly, Lovell, & O'Brien, 2011).

A final recommendation for improving remedial course placement policies is to offer diagnostic assessments that precisely identify the specific skills where students are deficient (Hughes & Scott-Clayton, 2010; Jagers & Hodara, 2011). This may be most effective if the diagnostic assessments can be linked to specific instructional modules or interventions (Jagers & Hodara, 2011). It is also important that policies consider the efficiency of diagnostic assessments. Virginia provides a good example of how the use of diagnostic assessments can be aligned with effective intervention for specific areas of weakness (Jagers & Hodara, 2011). Several states (Florida and California) are also implementing assessments during high school that indicate the likelihood of college remediation and then offering opportunities for students to address their identified deficiencies.

Case Studies of College Placement Policies

The following case studies describe some of the policies that states have developed to better identify students who need remediation. Not all cases were successful in the short-term and others are too recent to be fully evaluated. However, these case studies can be used to inform further investigation and potential policies.

Illinois

In an effort to reduce community college remediation, Illinois passed the College and Career Readiness Act in 2007 (Castro, Bragg, Khan, Baber, & Common, 2010). One of the primary goals of the act was to diagnose college readiness by developing a system to align ACT scores to specific community college remedial and freshman courses. Five Illinois community colleges attempted to implement this goal in 2007 through 2009. All of the pilot colleges failed in this effort because they did not have the data sharing agreements with high schools. Thus, they were unable to attain individual ACT scores unless students agreed to share them (Castro, Bragg, Khan, Baber, & Common, 2010). As a result, all five schools implemented their own college placement tests (Castro, Bragg, Khan, Baber, & Common, 2010).

Florida

Florida statute requires the state board to implement a common placement testing program across all public colleges and universities (Florida Department of Education). The Computerized Placement Test (CPT) was developed and implemented statewide in 1995 as a component of the ACCUPLACER. Most students in 4-year schools did not take it due to having high enough ACT or SAT scores to be exempt (Florida Department of Education). The state initially provided colleges the flexibility to select their own cut-score as long as it was above the state-established minimum and schools chose a variety of different cut-scores. After studying the implementation, the state instituted uniform cut-scores for all colleges (Florida Department of Education). In 1996, the state began allowing the CPT to be administered in high school (Florida Department of Education). In 2010, the state has implemented the Post-secondary Education Readiness Test (PERT) statewide which incorporates federal common core standards and Florida's Postsecondary Readiness Competencies (Ewing, 2010; Miami-Dade College, 2011).

PERT will be used to identify appropriate course placement in reading, writing, and math, whether students are ready for college-level work in those areas, and identify where specific skill deficiencies exist (Miami-Dade College, 2011). PERT provides score ranges for different course levels. For example, a student math score of 113 to 122 might qualify a student for intermediate algebra. The state will establish permanent score ranges once it has finished studying how scores align with student performance in those courses (Miami-Dade College, 2011). In 2011, the state passed legislation *requiring* high school students who attain particular scores on the 10th grade Florida Comprehensive Assessment Test to take PERT (Miami-Dade College, 2011). The diagnostic components of PERT will thus allow high school students to identify specific skills that they need to work on before high school graduation. The results will also help college faculty target instruction to competencies that students have not yet mastered (Miami-Dade College, 2011).

California

Although California has other methods of college course assessment and placement, one intriguing program that they implement is the Early Assessment Program. The Early Assessment Program (EAP) is an optional

supplement to the mandatory California Standards Test (CST) in 11th English and math (Howell, Kurlaender, & Grodsky, 2010). Students have the option of completing an additional 15 math questions and an essay to determine their readiness for college-level coursework (Howell, Kurlaender, & Grodsky, 2010). More than a third (36.6%) of students completed the EAP essay while 72.6% of eligible 11th graders completed the math EAP questions (Howell, Kurlaender, & Grodsky, 2010). The math EAP questions are available only to 11th grade students who have completed Algebra II and are currently enrolled in a math course (Howell, Kurlaender, & Grodsky, 2010). The test items are developed jointly by California State University (CSU) and K-12 faculty (Howell, Kurlaender, & Grodsky, 2010). The program is funded entirely through CSU.

Students who earn a high enough score on the EAP are exempt from CSU and community college remedial coursework and the placement exam (Howell, Kurlaender, & Grodsky, 2010). Students who score below a particular threshold are considered non-exempt, or conditionally exempt. Students who are not yet demonstrating college-readiness will be encouraged to prepare further for college in grade 12 through the Expository Reading and Writing Course and interactive math and English success web sites (California Department of Education, 2011).

In the spring of 2011, 382,917 students completed the 2011 EAP English test and 190,917 students completed the math portion (California Department of Education, 2011). Twenty-three percent passed the English essay and 58 percent passed the math section (California Department of Education, 2011).

One study found that scoring non-exempt or conditionally exempt did not discourage students from applying to CSU schools (Howell, Kurlaender, & Grodsky, 2010). Furthermore, participation in the EAP reduced a student's probability of needing college remediation by 6.2% in English and 4.3% in math (Howell, Kurlaender, & Grodsky, 2010).

Virginia

Beginning in early 2010, a developmental math redesign team comprised of Virginia community college faculty worked to restructure Virginia's community college system for math remediation (Virginia's Community Colleges, 2010). In a complete overhaul of the previous system for community college math remediation, Virginia is currently implementing nine short modules (one unit courses) that focus on specific remedial math content (instead of traditional semester-long courses) in all 23 community colleges (Asera, 2011). As part of this process, the state has developed, piloted, and is currently implementing a common diagnostic assessment (Asera, 2011). The placement test is aligned with student learning outcomes and curriculum of the new math modules (Asera, 2011). Students who are not ready for college-level math will be assigned to specific modules or Adult Basic Education based on the results of the diagnostic placement test (Asera, 2011). Results of the placement tests will also be reported to faculty for use in instruction (Asera, 2011). The new remedial math system is designed to be less cumbersome and costly both for students and the college, and to better target their specific skill deficiencies.

North Carolina

North Carolina implemented a statewide policy in 1999 that required community colleges to use particular cut scores on ASSET, COMPASS or ACCUPLACER that were administered at each institution (North Carolina Community College System, 2006). Over the course of the next six years, the state collected data on both

placement test scores and course grades for students (Collins, 2008). The state placement committee then reviewed this data to determine at what point along the continuums of cut-scores the greatest number of students were prepared for college-level work (Collins, 2008). Their goal was to err on the side of including as many students as possible in college-level courses (Collins, 2008). Based on the data, in 2006, the state issued a policy that community colleges must test all students (who are not exempt) for placement in reading, writing, and math, that they can use ASSET, COMPASS, or ACCUPLACER, and that they must use specific cut scores established by the state (Collins, 2008).

In addition to these cut-score mandates, North Carolina is redesigning their entire college developmental education in a similar manner to Virginia, through the development of modules and new diagnostic assessments that can help improve student course placement (Developmental Education Initiative, 2011).

Conclusions

The numbers of students who enroll in remedial college education in every state across the nation are considerable. A substantial proportion of these students fail to earn a degree. High rates of participation in remedial education have significant costs for students, postsecondary institutions, and states. A critical component of the remedial education process is assessment and placement policies. Considering the potential implications of assessment and placement policies, there is surprisingly little research on the effects of these policies on short- or long-term outcomes. There is so much variation among and within state policies that it is difficult to identify effective assessment and placement practices.

Nonetheless, a number of states are in the process of designing and implementing innovative assessment and placement policies for remedial higher education. Florida and California have implemented early assessment policies that aim to identify high school students who are likely to need college remediation and provide these students with interventions before they graduate from high school. Virginia has developed a diagnostic math assessment that aligns to specific course modules that address deficiencies. These innovations should be used to help inform state policymakers as they consider how to improve preparation for college-level coursework and accurate placement in remedial or college-level courses.

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