



*Core Principles for Transforming
Remediation within a Comprehensive*

Student Success **STRATEGY**

A JOINT STATEMENT



NOVEMBER 2015

Six Core Principles

PRINCIPLE

1

Every student's postsecondary education begins with an intake process to choose an academic direction and identify the support needed to pass relevant credit-bearing gateway courses in the first year.

PRINCIPLE

2

Enrollment in college-level math and English courses or course sequences aligned with the student's program of study is the default placement for the vast majority of students.

PRINCIPLE

3

Academic and nonacademic support is provided in conjunction with gateway courses in the student's academic or career area of interest through co-requisite or other models with evidence of success in which supports are embedded in curricula and instructional strategies.

PRINCIPLE

4

Students for whom the default college-level course placement is not appropriate, even with additional mandatory support, are enrolled in rigorous, streamlined remediation options that align with the knowledge and skills required for success in gateway courses in their academic or career area of interest.

PRINCIPLE

5

Every student is engaged with content of required gateway courses that is aligned with his or her academic program of study—especially in math.

PRINCIPLE

6

Every student is supported to stay on track to a college credential, from intake forward, through the institution's use of effective mechanisms to generate, share, and act on academic performance and progression data.

Introduction

Colleges and postsecondary systems across the nation have demonstrated remarkable progress since *Core Principles for Transforming Remediation* was published in 2012. States and institutions are phasing out standalone or multi-course remediation sequences, resulting in tens of thousands of students more quickly enrolling in and completing college-level courses.

Building on this progress, we have updated the principles to focus even greater attention on scaling practices that can provide all students—especially those who are low-income or from historically underserved communities—with the guidance, support and skills they need to enter a coherent program of study and move toward their academic goals. We present these revised principles for transforming remediation in the context of a broader set of student success strategies that growing evidence suggests will enable institutions to significantly increase their students’ timely completion of certificates, licenses and degrees with labor market value.

We do not underestimate the complexity of the challenges institutions will need to address if they are to enable all of their students to realize their best hopes for their higher education. Among these challenges is the need to ensure that institutional efforts to increase timely completion do not come at the expense of students who may need multi-dimensional or highly personalized supports to succeed. Institutions will also need to carefully consider how to address, without sacrificing equity, the many conflicting demands that their diverse publics make of them. They will need to reevaluate the status of longstanding organizational structures and priorities that served an access agenda well but a completion agenda less well or not at all. And institutions will need to do all of this while forthrightly and strategically considering the implications of their choices for their business models.

In response to the need expressed at both state and national levels to increase the proportion of our population with postsecondary credentials, institutions everywhere are rethinking the efficacy of their orientation, advising, placement, and remedial education policies and practices. They also are examining the range, content and coherence of their degree programs.

No single set of strategies will serve our country’s enormous diversity of students and postsecondary institutions. This joint statement of principles describes common elements of diverse strategies that are showing great promise. In too many institutions, highly effective

practices currently serve only a small percentage of students who would benefit from them. We must address the organizational challenges that present barriers to bringing these practices to scale.

Despite the challenges, the creative energy currently being devoted to transforming higher education is palpable. Now is the time to take on the difficult work of institutional change. We hope this joint statement of principles can serve as a trustworthy guide at this pivotal moment in American higher education.

The Need for Systemic Change

Countless individuals have worked in developmental education and devoted their professional lives to serving students who need significant support to meet their personal, academic and career goals. These individuals have labored to ensure that the democratization of higher education fully realizes its promise. It is now time to recognize and act on the fact that these committed individuals typically work within systems that need fundamental redesign. We call on institutions of higher education and their supporters to direct their passion and energy to developing and implementing strategies that are consistent with these principles and that show great promise for improved outcomes for all students.

The principles set forth in this joint statement represent our best judgment, grounded in evidence, about how to redesign developmental education to be more effective. As promising practices evolve on the ground and additional research on such practices is conducted and released, the principles will almost certainly require further revision.

This joint statement is not a replacement for the separate, more comprehensive policy and practice guidance documents issued by the signatories of these principles. Rather, this joint statement is offered in recognition of our support for important work now underway and our wish to give that work increased legitimacy and forward momentum.

The signatories to this joint statement of principles commit to working with institutions, policymakers and researchers in search of more effective ways to support the success of all college students across the nation—especially those populations that in the past have gone no further than developmental, non-credit-bearing work. For those students especially, it is time to make college completion not just a dream but a reality.

Design Principles

EMERGING FROM THE FIELD

PRINCIPLE

1 Every student's postsecondary education begins with an intake process to choose an academic direction and identify the support needed to pass relevant credit-bearing gateway courses in the first year.

Students are far more likely to succeed in postsecondary education if they have a purpose in mind. Yet many new students arrive without clear goals for college and careers and, in many cases, without an understanding of their options. Recognizing the need for students to aim for clear academic and career goals, the process for college enrollment is changing to accomplish critical objectives for student success. Specifically, an effective intake process helps students make an initial choice of academic and professional direction; identifies their academic and nonacademic needs with multiple reliable measures, including practical information about their academic skills, interests and goals; and ensures they have the supports they will need to succeed in college-level work.

For example, many colleges are helping new students choose from a small set of “meta-majors,” or broad career

and academic focus areas, including social and behavioral sciences, information technology, health careers, business, the arts, and STEM. These are characterized by a default curriculum that allows students to explore and select a specific program of study by the end of their first year. An early determination of an academic direction helps students better understand the purpose of the courses they are taking, leading to increased student motivation and persistence.

Leading colleges are not focused on screening students out of credit-bearing work and into remediation. Instead, they are implementing innovative and effective intake processes that help students clarify their goals, build their academic confidence and college know-how, and position themselves for success in gateway courses and beyond.

PRINCIPLE

2 Enrollment in college-level math and English courses or course sequences aligned with the student's program of study is the default placement for the vast majority of students.

Today, it has become clear that sequences of fragmented, reductive coursework that students must complete before entering college-level courses are not a reliable on-ramp to college for most students who have traditionally been judged to be underprepared. These traditional remedial course sequences are especially problematic because half of all students aspiring to achieve a postsecondary credential, and a majority of students enrolled in community colleges, are currently placed into remedial education.

Increasing numbers of colleges are changing from a remedial paradigm to a default approach of placing students directly into credit-bearing courses or course sequences with enhanced support. The default setting means that a very large majority of students are expected to enroll in those courses. This shift is crucial given that recent research shows that many more students

can succeed in college-level gateway courses than have historically been placed into them. Completion of credit-bearing work—with appropriate support—is key to equity.

Students do better when they are engaged in work that counts toward a degree or credential in their academic or career area of interest, and completing a set of gateway courses in the first year is a critical step toward college completion. Supported by a strong advising process, students may decide to opt out of the default placement, but diagnostic and focused advising implemented as a mandatory part of the intake process can help to ensure that all students are making a considered decision and have the support they need to succeed.

PRINCIPLE

3

Academic and nonacademic support is provided in conjunction with gateway courses in the student’s academic or career area of interest through co-requisite or other models with evidence of success in which supports are embedded in curricula and instructional strategies.

Many students do not succeed in college-level courses as these courses are currently taught and structured. Indeed, many students at all levels of preparation need help with their college-level courses—not only in math and English, but also in other key courses in their program of study, such as Biology 101 for aspiring nurses and Economics 101 or Accounting 101 for prospective business majors. Even more support is needed when colleges increase access to and broaden the range of students who begin their postsecondary studies in gateway college-credit courses and potentially concentrate more significant academic need in any remaining remedial programs.

The type of support that students need can vary, and a comprehensive intake process can help to identify a student’s most pressing academic and nonacademic needs. Co-requisite and other integrated support models provide mandatory support in connection with gateway courses or course sequences. They offer alternatives to prerequisite, standalone remediation that colleges have found to be largely unsuccessful. Co-requisite models deliver academic and nonacademic support while students are learning college-level content. Co-requisite support takes many forms to help students develop the suite of academic and nonacademic skills necessary for gateway course success and academic momentum. The supports

are discipline-appropriate and might include, for example, required tutoring, supplemental instruction, computer lab learning, group assignments, study groups and/or co-enrollment in a skill-building course.

Promising models include:

- » **One-semester co-requisite support.** In this approach, students enroll directly into single-semester, gateway college-level courses and are provided additional academic support either within or alongside the course. Remedial support can be provided as a required supplemental, parallel support course; as a non-course-based option such as required participation in self-paced instruction in a computer lab; or as mandatory tutoring. One common strategy is simply to extend instructional time after class (e.g., 45 minutes) or to add additional hours to courses (e.g., five hours per week instead of three).
- » **Structured cohort models.** Students in highly structured cohort models with integrated supports take their courses with a set of peers organized as a learning community. As in the above model, the courses are redesigned to include essential academic and nonacademic supports, but students receive added financial aid and advising that enable them to attend college full time and to complete a highly prescribed set of courses in a fixed timespan.

PRINCIPLE

4

Students for whom the default college-level course placement is not appropriate, even with additional mandatory support, are enrolled in rigorous, streamlined remediation options that align with the knowledge and skills required for success in gateway courses in their academic or career area of interest.

Evidence emerging from colleges adopting a practice of default placement into gateway courses with mandatory support is extremely encouraging, with many more students passing gateway courses than traditional models. Even so, there is much more work to be done to ensure greater student success, particularly for populations that

have been traditionally underserved by postsecondary education. For the sake of equity, we cannot afford to dismiss this reality, and colleges are rightly focused on better understanding and implementing the type and level of support required for *all* students to succeed in gateway courses in their first year of college.

Promising models include:

- » **One-year course sequence.** Students with more significant remedial needs can benefit from more robust instruction and enhanced learning supports in the form of a two-semester course sequence in which students master gateway college-credit course material in one year. What makes the one-year model different from traditional remediation models is that course content over the two terms is strategically aligned to the core competencies and skills required for students to complete the college-level gateway course. Course pathways are enhanced college-level courses aligned to a program of study with remedial instruction delivered in a just-in-time manner over the course of a year. In several examples, students study college-level material immediately although at a slower pace than traditional courses and with support embedded in the classroom. These models integrate the teaching of gateway course content with basic skills. Another important component of these models is that they address other college success skills like time management

and study skills. Some organizations describe these course pathways as one-year co-requisite models.

- » **Embedded or parallel remediation in career technical programs.** For students enrolled in a certificate or applied degree program, embedding or providing parallel remediation within the courses or technical program ensures that students are able to immerse themselves in the content that was the purpose of their postsecondary enrollment in the first place. What is most promising about this approach is that it has been proven to work with students who have more significant remedial education needs, including those who are eligible for Adult Basic Education instruction.

Continued development and rigorous evaluation of strategies that provide students with access to the full range of postsecondary credentials and programs must be a priority for postsecondary leaders. It is essential to maintaining the viability of the open-door mission of American higher education.

PRINCIPLE

5

Every student is engaged with content of required gateway courses that is aligned with his or her academic program of study—especially in math.

In the past, many introductory math and English courses have included content that was not well-aligned with a student's intended academic direction. Consequently, many students were tripped up in their pursuit of a credential while studying content that was not directly aligned with their goals.

Today, colleges are increasingly focusing the academic content of remedial and gateway mathematics and English courses and course sequences on the critical foundational skills required for specific academic and career programs.

There is also growing consensus among the professional associations of mathematicians that intermediate algebra and college algebra should not be the default requirement for programs that do not depend on their content. Students pursuing a program that does not require calculus would likely be better served by taking a rigorous mathematics course more aligned with their intended major. Gateway courses in statistics, mathematical modeling, or quantitative reasoning, rather than college algebra, may be more appropriate for a large percentage of students who are not on a calculus path.

Many students who are pursuing majors that do require calculus, such as engineering, are often not ready for

the demands of this challenging course. Colleges and universities are working to provide these students with a calculus-preparatory course or course sequence that enables them to develop the algebraic proficiency and conceptual knowledge of algebra and geometry that they will need for success. Traditional college algebra courses typically do not meet this need.

In addition, courses such as Anatomy and Physiology, Accounting 101 and Basic Drafting—not just college-level math and English—can act as gateway courses and build foundational reading, writing and quantitative reasoning skills as students engage with motivating and contextualized college-level content. Practices analogous to those that increase success in college-level math and English should be deployed in these courses as well.

Finally, the modernization of courses and course sequences (and associated embedded supports) needs to be linked to strengthened system policies that ensure the transferability of credits to their receiving institutions and their applicability to students' intended programs of study. This policy shift is essential, given the large number of students who transfer among institutions.

PRINCIPLE

6

Every student is supported to stay on track to a college credential, from intake forward, through the institution's use of effective mechanisms to generate, share, and act on academic performance and progression data.

It is a great start for institutions to have programs organized by broad academic focus areas (meta-majors) and pathways to and through gateway courses and other milestones aligned with specific career and further education goals. It is even better to have students choosing a direction and being placed early into relevant gateway courses with embedded support. The “third leg of the stool” is providing mechanisms for helping students stay on a path to completing their chosen programs of study and for providing support early on, before problems emerge.

Some institutions may need to rethink the roles and organizational relationships among academic

departments and workforce programs, student services, and institutional research. Other institutions may need to rethink advising and the monitoring of student performance. The enhancement of institutional research in the service of campus and system improvement initiatives is essential.

Fortunately, a growing number of postsecondary institutions and systems are making impressive progress on the analytics of student success. These institutions have lessened the distance between research and practice in American higher education. They can serve as a beacon for all institutions striving to achieve their missions and increase their students' success.

Collaboration with K–12 SYSTEMS, WORKFORCE PROGRAMS AND ADULT BASIC EDUCATION PROVIDERS

Postsecondary leaders are increasingly working collaboratively with those who prepare their entering students, including K–12 education systems, workforce programs, and Adult Basic Education providers, to increase the college readiness of their students.

Colleges are uniquely equipped to provide these partners with information about students' readiness and success after enrollment. Better alignment between college-preparatory and postsecondary programs can limit the need for extra support once students enter into a

postsecondary pathway. Furthermore, early use of college- and career-readiness assessments can lead to customized academic skill development during the senior year of high school. Similar strategies can be employed in Adult Basic Education and English as a Second Language programs.

Even with deeper collaboration, some students will begin their college education needing support to succeed in college-level work. Higher education institutions have an obligation to ensure the success of all students they admit. The principles outlined in this joint statement are offered as a resource for meeting that responsibility.

A Commitment TO IMPLEMENT THE PRINCIPLES — AT SCALE

These principles have emerged from the field and are based on the work of faculty members and other innovators committed to the success of students that represent the full diversity of American society. These principles are informed by experience on the ground and a growing corpus of scholarly research and practical wisdom.

This joint statement is a commitment from our organizations to work closely with state, system and institutional leaders to support implementation of the principles. The time has come to move past piloting ideas

and on to embracing the implementation of evidence-based practices at scale. We are all engaged in a process of transitioning from a system that served *some* students well to a system that serves *all* students well.

Implementation of the principles may be scaled over time—even as they are refined based on new evidence—but we urge policymakers and practitioners to implement them intentionally, urgently, and in good faith to serve students as they endeavor to improve their lives through higher education.

Glossary

Co-requisite support. Co-requisite support refers not to a single model of instruction but encompasses a variety of integrated and contextualized *mandatory* academic and nonacademic supports necessary for student success in gateway courses. Examples include: additional hours of class time; stretch classes spread over two semesters; a two-hour computer lab with a mentor; or embedded and contextualized content in a technical course.

Default placement. The practice of routinely placing students in credit-bearing math and English gateway courses to help them get started on a program of study. Default means it is not mandatory, but it is what will happen absent a proactive diagnostic and advising process as part of the college intake experience.

Degrees and certificates of value. Postsecondary credentials that are in demand in the workforce and therefore lead to livable wage job opportunities and/or provide a sound foundation for further education and training.

Equity. Equity is the principle of fairness. In higher education, equity involves ensuring that each student receives what he or she needs to be successful. Achievement gaps may reflect structural inequities when disparities are the result of historic and systemic social injustices or the unintended or indirect consequences of institutional or social policies. Many equity-conscious postsecondary institutions and their supporters believe that access to high-quality education within an inclusive environment that supports and promotes student success is the right of all individuals and a necessity for the continued advancement of a strong democracy and workforce.

Gateway courses. The first college-level or foundational courses and course sequences for a program of study. Gateway courses are for college credit and apply to the requirements of a degree. They are designed to engage and enable students to master foundational skills needed for their chosen pathway.

Meta-major. A set of broad content areas that students choose upon enrollment at a postsecondary institution. An academic pathway includes a set of courses that meet academic requirements that are common across several disciplines and specific programs of study. Enrollment and completion of academic pathway courses guide students through initial academic requirements and into programs of study.

Programs of study. An articulated set of courses, learning experiences and learning outcomes required for a postsecondary credential that are defined by academic departments within colleges and universities and encompass the requirements for earning a postsecondary credential.

Remedial education. Instruction and support for students who are assessed by their institution of choice as being academically underprepared for postsecondary education (also variously described as *developmental education*, *college prep*, *basic skills education* and other terms, all referring to pre-collegiate work).

Overview

“States and institutions are phasing out standalone or multi-course remediation sequences, *resulting in tens of thousands of students more quickly enrolling in and completing college-level courses.*”

Garcia, J., Huckaby, H., Morgan, J., & Jones, S. (July, 2015). “Corequisite Remediation.” Complete College America. Presented at the annual meeting of State Higher Education Executive Officers Association, Santa Fe, NM. <http://www.sheeo.org/sites/default/files/Thurs%20430%20Stan%20SHEEO%20CO%20REQ.pdf>

“Corequisite at Scale Institute.” (June, 2015). Complete College America. Minneapolis, MN. <http://completecollege.org/corequisite-at-scale-institute/>

“Corequisite Remediation: Success at Scale.” (October, 2015). Complete College America. Denver, CO. <http://completecollege.org/wp-content/uploads/2015/10/Coreq-SuccessatScale.pptx>

“Corequisite Remediation: Spanning the Divide.” (October, 2015). Complete College America. <http://completecollege.org/wp-content/uploads/2015/10/Coreq-Spanning-the-Divide.pptx>

Alstadt, D., Schmidt, G., & Couturier, L. (2014). “Driving the Direction of Transfer Pathways Reform.” Jobs for the Future. <http://www.jff.org/publications/driving-direction-transfer-pathways-reform>

“We present these revised principles for transforming remediation in the context of a broader set of student success strategies that *growing evidence suggests will enable institutions to significantly increase their students’ timely completion of certificates, licenses, and degrees with labor market value.*”

Bailey, T., Jaggars, S.S., & Jenkins, D. (2015). “Redesigning America’s Community Colleges: A Clearer Path to Student Success.” Cambridge, MA: Harvard University Press. <http://www.hup.harvard.edu/catalog.php?isbn=9780674368286>

“In response to the need expressed at both state and national levels to increase the proportion of our population with postsecondary credentials, *institutions everywhere are rethinking the efficacy of their orientation, advising, placement, and remedial education policies and practices. They also are examining the range, content, and coherence of their degree programs.*”

Bailey, T., Jaggars, S.S., & Jenkins, D. (2015). “Redesigning America’s Community Colleges: A Clearer Path to Student Success.” Cambridge, MA: Harvard University Press. <http://www.hup.harvard.edu/catalog.php?isbn=9780674368286>

Karp, M. (2013). “Entering a Program: Helping Students Make Academic and Career Decisions.” (CCRC Working Paper No. 59). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/entering-a-program-academic-and-career-decisions.html>

“In too many institutions, highly effective practices currently serve only a small percentage of students who would benefit from them.”

Edgecombe, N., Cormier, M., Bickerstaff, S., & Barragan, M. (2013). “Strengthening Developmental Education Reforms: Evidence on Implementation Efforts from the Scaling Innovation Project.” (CCRC Working Paper No. 61). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/strengthening-developmental-education-reforms.html>

The Need for Systemic Change

“It is now time to recognize and act on the fact that these committed individuals typically work within systems that need fundamental redesign.”

Bailey, T., Jaggars, S.S., & Jenkins, D. (2015). “Redesigning America’s Community Colleges: A Clearer Path to Student Success.” Cambridge, MA: Harvard University Press. <http://www.hup.harvard.edu/catalog.php?isbn=9780674368286>

Estrem, H., Shepherd, D., & Duman, L. (2014). “Relentless Engagement with State Educational Policy Reform: Collaborating to Change the Writing Placement Conversation.” *Journal of the Council of Writing Program Administrators*, 38 (1), 88–128. http://works.bepress.com/heidi_estrem/14

Principle 1

“For example, many colleges are helping new students choose from a small set of “meta-majors,” or broad career and academic focus areas, including social and behavioral sciences, information technology, health careers, business, the arts, and STEM.”

Alstadt, D., Schmidt, G., & Couturier, L. (2014). “Driving the Direction of Transfer Pathways Reform.” Jobs for the Future. <http://www.jff.org/publications/driving-direction-transfer-pathways-reform>

Bailey, T., Jaggars, S.S., & Jenkins, D. (2015). “Redesigning America’s Community Colleges: A Clearer Path to Student Success.” Cambridge, MA: Harvard University Press. <http://www.hup.harvard.edu/catalog.php?isbn=9780674368286>

“An early determination of an academic direction helps students better understand the purpose of the courses they are taking, *leading to increased student motivation and persistence.*”

Jenkins, D., & Cho, S. (2012). “Get With the Program: Accelerating Community College Students’ Entry Into and Completion of Programs of Study.” (CCRC Working Paper No. 32). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/get-with-the-program.html>

Principle 2

“Today, it has become clear that sequences of fragmented, reductive coursework that students must complete before entering college-level courses are not a reliable on-ramp to college for most students who have traditionally been judged to be underprepared.”

Bailey, T., Jeong, D.W., & Cho, S.W. (2010). “Referral, Enrollment, and Completion in Developmental Education Sequences in Community Colleges.” *Economics of Education Review*, 29, 255–270. <http://ccrc.tc.columbia.edu/publications/referral-enrollment-completion-developmental-education.html>

Grubb, W.N., & Gabriner, R. (2013). *Basic Skills Education in Community Colleges: Inside and Outside of Classrooms*. Routledge.

“These traditional remedial course sequences are especially problematic because half of all students aspiring to achieve a postsecondary credential, and a majority of students enrolled in community colleges, are currently placed into remedial education.”

Vandal, B. (2014). “Assessment and Placement: Supporting Student Success in College Gateway Courses.” Complete College America. <http://completecollege.org/wp-content/uploads/2014/06/Assessment-and-Placement-Final-PDF.pdf>

Bailey, T., Jeong, D.W., & Cho, S.W. (2010). “Referral, Enrollment, and Completion in Developmental Education Sequences in Community Colleges.” *Economics of Education Review*, 29, 255–270. <http://ccrc.tc.columbia.edu/publications/referral-enrollment-completion-developmental-education.html>

U.S. Department of Education (2014). “Profile of Undergraduate Students: 2011–12.” (NCES 2015–167). Washington, DC: NCES. <http://nces.ed.gov/pubs2015/2015167.pdf>

“This shift is crucial given that recent research shows that many more students can succeed in college-level gateway courses than have historically been placed into them.”

Scott-Clayton, J., Crosta, P.M., & Belfield, C.R. (2014). “Improving the Targeting of Treatment: Evidence from College Remediation.” *Educational Evaluation and Policy Analysis*, 36(3), 371–393. <http://epa.sagepub.com/content/early/2014/01/28/0162373713517935>

“Students do better when they are engaged in work that counts toward a degree or credential in their academic or career area of interest, and completing a set of gateway courses in the first year is a critical step toward college completion.”

Jenkins, D., & Cho, S. (2012). “Get With the Program: Accelerating Community College Students’ Entry Into and Completion of Programs of Study.” (CCRC Working Paper No. 32). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/get-with-the-program.html>

Zeidenberg, M., Cho, S., & Jenkins, D. (2010). “Washington State’s Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness.” (CCRC Working Paper No. 20). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/i-best-new-evidence.html>

Perin, D. (2011). “Facilitating Student Learning Through Contextualization: Assessment of Evidence Series.” *Community College Review*, 268–295. <http://ccrc.tc.columbia.edu/publications/facilitating-student-learning-contextualization.html>

Ambrose, S., Bridges, M., Lovett, M., DiPietro, M., & Norman, M. (2010). *How Learning Works: Seven Research-Based Principles for Smart Teaching*. San Francisco, CA: Jossey Bass.

Principle 3

Vandal, B. (2014). “Promoting Gateway Course Success: Scaling Corequisite Academic Support.” Complete College America. <http://completecollege.org/wp-content/uploads/2014/06/Promoting-Gateway-Course-Success-Final.pdf>

Denley, T. (2015). “Co-Requisite Remediation Pilot Study Fall 2014 – Spring 2015.” Tennessee Board of Regents.

Estrem, H., Shepherd, D., & Sturman, S. (2014). “The Write Class: Engaging Students in the Course Matching Process.” Boise State University. <http://stem.boisestate.edu/wp-content/uploads/2014/01/Estrem-Shepherd-Sturman-CTL-2014.pdf>

“Many students do not succeed in college-level courses as these courses are currently taught and structured.”

Zeidenberg, M., Jenkins, D., & Scott, M. (2012). “Not Just Math and English: Courses That Pose Obstacles to Community College Completion.” (CCRC Working Paper No. 52). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/obstacle-courses-community-college-completion.html>

Grubb, W.N., & Gabriner, R. (2013). *Basic Skills Education in Community Colleges: Inside and Outside of Classrooms*. Routledge.

“Even more support is needed when colleges increase access and broaden the range of students who begin their postsecondary studies in gateway college-credit courses and potentially concentrate more significant academic need in any remaining remedial programs.”

Rodríguez, O. (2014). “Increasing Access to College-Level Math: Early Outcomes Using the Virginia Placement Test.” (CCRC Brief No. 58). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/increasing-access-to-college-level-math.html>

Principle 4

Anderson, T., Eyster, L., Lerman, R., & O’Brien, C. (2015). “The Second Year of Accelerating Opportunity: Implementation Findings from the States and Colleges.” Washington: The Urban Institute. <http://jff.org/publications/second-year-accelerating-opportunity-implementation-findings-states-and-colleges>

“Models of Contextualization in Developmental and Adult Basic Education.” (July, 2012). EdTech Leaders. <http://edtechleaders.org/sites/etlo.org/files/highlight-files/Models%20of%20Contextualization%20in%20Developmental%20and%20Adult%20Basic%20Education.pdf>

“Evidence emerging from colleges adopting a practice of default placement into gateway courses with mandatory support is extremely encouraging, with many more students passing gateway courses than traditional models.”

Crisp, G., & Delgado, C. (2014). “The Impact of Developmental Education on Community College Persistence and Vertical Transfer.” *Community College Review*, 42(2), 99–117. <http://crw.sagepub.com/content/early/2013/11/05/0091552113516488>

Cho, S., Kopko, E., Jenkins, D., & Jaggars, S.S. (2012). "New Evidence of Success for Community College Remedial English Students: Tracking the Outcomes of Students in the Accelerated Learning Program (ALP)." (CCRC Working Paper No. 58). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/ccbc-alp-student-outcomes-follow-up.html>

"What is most promising about this approach is that it has been proven to work with students who have more significant remedial education needs, including those who are eligible for Adult Basic Education instruction."

Spaulding, S., Lerman, R.I., Holzer, H. J., & Eyster, L. (2015). "Expanding Economic Opportunity for Young Men and Boys of Color Through Employment and Training." Urban Institute. <http://www.urban.org/research/publication/expanding-economic-opportunity-young-men-and-boys-color-through-employment-and-training>

Jaggars, S.S., Hodara, M., Cho, S., & Xu, D. (2015). "Three Accelerated Developmental Education Programs: Features, Student Outcomes, and Implications." *Community College Review*, 43(1), 3–26. <http://ccrc.tc.columbia.edu/publications/three-accelerated-developmental-education-programs.html>

Zeidenberg, M., Cho, S., & Jenkins, D. (2010). "Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness." (CCRC Working Paper No. 20). New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/i-best-new-evidence.html>

Principle 5

"Four-Year College Myth: Make College More Affordable." (December, 2014). Complete College America. <http://completecollege.org/wp-content/uploads/2014/11/4-Year-Myth.pdf>

"Today, colleges are increasingly focusing the academic content of remedial and gateway mathematics and English courses and course sequences on the critical foundational skills required for specific academic and career programs."

"Acceleration Strategies That Produce Powerful Results: A Planning Resource for Community Colleges." (August 2015). California Acceleration Project. <http://cap.3csn.org/files/2015/09/Powerful-Acceleration-Strategies-CAP.pdf>

"There is also growing consensus among the professional associations of mathematicians that intermediate algebra and college algebra should not be the default requirement for programs that do not depend on their content."

Couturier, L., & Cullinane, J. (2015). "A Call to Action to Improve Math Placement Policies and Processes." *Achieving the Dream; Jobs for the Future*; The Charles A. Dana Center. <http://www.jff.org/publications/call-action-improve-math-placement-policies-and-processes>

Yamada, H. (2014). "Community College Pathways' Program Success: Assessing the First Two Years' Effectiveness of Statway." Stanford, CA: Carnegie Foundation for the Advancement of Teaching. <http://www.carnegiefoundation.org/resources/publications/ccp-success-assessing-the-first-two-years-effectiveness-of-statway/>

"Gateway courses in statistics, mathematical modeling, or quantitative reasoning, rather than college algebra, may be more appropriate for a large percentage of students who are not on a calculus path."

Burdman, P. (2013). "Changing Equations: How Community Colleges are Re-Thinking College Readiness in Math." Oakland, CA: LearningWorks. <http://www.learningworksca.org/changingequations/>

Burdman, P. (2015). "Degrees of Freedom: Diversifying Math Requirements for College Readiness and Graduation." Oakland, CA: LearningWorks. <http://www.learningworksca.org/dof1/>

Burdman, P. (2015). "Degrees of Freedom: Varying Routes to Math Readiness and the Challenge of Intersegmental Alignment." Oakland, CA: LearningWorks. <http://www.learningworksca.org/dof2/>

Burdman, P. (2015). "Degrees of Freedom: Probing Math Placement Policies at California Colleges and Universities." Oakland, CA: LearningWorks. <http://www.learningworksca.org/dof3/>

Clyburn, G.M. (September/October 2013). "Improving on the American Dream: Mathematics Pathways to Student Success." *Change*, 15–23. http://cdn.carnegiefoundation.org/wp-content/uploads/2013/09/Improving_on_the_American_Dream.pdf

Hayward, C., & Willett, T. (2014). "Curricular Design and Gatekeeper Completion: A Multi-College Evaluation of the California Acceleration Project." The Research & Planning Group for California Community Colleges. http://rpgroup.org/sites/default/files/CAP_Summary_Final_May2014.pdf

Logue, A.W., & Watanabe-Rose, M. (September, 2014). "Mainstreaming Remedial Mathematics Students in Introductory Statistics: Results Using a Randomized Controlled Trial." Paper presented at the Society for Research on Educational Effectiveness. <https://www.cuny.edu/academics/initiatives/cuny-math-initiative/current/MathMainstreamingAbstract2014.pdf>

Yamada, H. (2014). "Community College Pathways' Program Success: Assessing the First Two Years' Effectiveness of Statway." Stanford, CA: Carnegie Foundation for the Advancement of Teaching. <http://www.carnegiefoundation.org/resources/publications/ccp-success-assessing-the-first-two-years-effectiveness-of-statway/>

Zachry-Rutschow, E., & Diamond, J. (2015). "Laying the Foundations: Early Findings from the New Mathways Project." New York, NY: MDRC. <http://www.mdrc.org/publication/laying-foundations>

"Finally, the modernization of courses and course sequences (and associated embedded supports) needs to be linked to strengthened system policies that ensure the transferability of credits to their receiving institutions and their applicability to students' intended programs of study."

Monaghan, D.B., & Attewell, P. (2014). "The Community College Route to the Bachelor's Degree." *Educational Evaluation and Policy Analysis*, 1–22. <http://epa.sagepub.com/content/early/2014/02/28/0162373714521865>

Kazis, R., & Cullinane, J. (2015). "Modernizing Mathematics Pathways at Texas Universities: Insights from the New Mathways Project Transfer Champions." Austin, TX: The Charles A. Dana Center at The University of Texas at Austin. http://www.utdanacenter.org/wp-content/uploads/modernizing_mathematics_pathways_at_texas_universities.pdf

Jenkins, D., & Fink, J. (January, 2015). "What We Know About Transfer." New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/what-we-know-about-transfer.html>

Principle 6

“Fortunately, a growing number of postsecondary institutions and systems are making impressive progress on the analytics of student success.”

Yeado, J., Haycock, K., Johnstone, R., & Chaplot, P. (2014). “Learning from High-Performing and Fast-Gaining Institutions.” Washington, DC: The Education Trust. <https://edtrust.org/resource/education-trust-higher-education-practice-guide-learning-from-high-performing-and-fast-gaining-institutions/>

Fletcher, J. & Karp, M. (2015). “Using Technology to Reform Advising: Insights from Colleges.” CCRC Lessons-From-Research Guide. New York, NY: Columbia University, Teachers College, Community College Research Center. <http://ccrc.tc.columbia.edu/publications/ipas-tech-reform-advising-packet.html>

Garcia, J., Huckaby, H., Morgan, J., & Jones, S. (July, 2015). “Corequisite Remediation.” Complete College America. Presented at the annual meeting of State Higher Education Executive Officers Association, Santa Fe, NM. <http://www.shceo.org/sites/default/files/Thurs%20430%20Stan%20SHEEO%20C0%20REQ.pdf>

Other

Fulton, M., Gianneschi, M., Blanco, C., & DeMaria, P. (2014). “Developmental Strategies for College Readiness and Success.” Denver: Education Commission of the States. http://www.academia.edu/6846722/Developmental_Strategies_for_College_Readiness_and_Success_2014_

“K-12/Higher Education Alignment: An Action Agenda for Increasing Student Success (six briefs).” (July 2015). Education First and the State Higher Education Executive Officers (SHEEO). http://www.education-first.com/files/EdFirst-K12HiEdAlignment-ALL_BRIEFS-July2015.pdf

This document is a joint statement produced by the following organizations:



Conceived as an initiative in 2004 by Lumina Foundation and seven founding partner organizations, Achieving the Dream now leads the most comprehensive non-governmental reform movement for student success in higher education history. Together with their Network of over 200 institutions of higher education, 100 coaches and advisors, 15 state policy teams, and numerous investors and partners working throughout 35 states and the District of Columbia they are helping more than 4 million community college students have a better chance of realizing greater economic opportunity and achieving their dreams.



The American Association of Community Colleges (AACC) is the primary advocacy organization for the nation’s community colleges. The association represents nearly 1,200 two-year, associate degree-granting institutions and more than 13 million students. AACC promotes community colleges through five strategic action areas: recognition and advocacy for community colleges; student access, learning, and success; community college leadership development; economic and workforce development; and global and intercultural education



The Charles A. Dana Center at The University of Texas at Austin works with our nation’s education systems to ensure that every student leaves school prepared for success in postsecondary education and the contemporary workplace.



Established in 2009, Complete College America is a national nonprofit with a single mission: to work with states to significantly increase the number of Americans with quality career certificates or college degrees and to close attainment gaps for traditionally underrepresented populations.



The Education Commission of the States was created by states, for states, in 1965. They track state policy trends, translate academic research, provide unbiased advice and create opportunities for state leaders to learn from one another.



Jobs for the Future is a national nonprofit that works to ensure educational and economic opportunity for all. They develop innovative career pathways, educational resources, and public policies that increase college readiness and career success, and build a more highly skilled workforce. With over 30 years of experience, JFF is the national leader in bridging education and work to increase mobility and strengthen our economy.