

Implementation Pathways for Developmental Education Reform

Recommendations from 13 state higher
education systems and Strong Start to Finish

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Introduction

This report examines implementation trends across 13 Strong Start to Finish sites. Over the past four years, SStF has provided direct grant funding to 13 state systems of higher education to implement developmental education reforms at scale. In addition, the SStF network has connected system and institutional leaders with supporting research, shared outcomes and service providers to guide implementation of best practices. This report summarizes key learnings from our work, and provides considerations for state, system and institutional leaders seeking to engage in similar efforts.

Strong Start to Finish: Our Purpose and Evolution

While traditional developmental education course sequences were originally created to support the academic achievement of students deemed underprepared for college, [current research](#) demonstrates that they are more likely to derail students' college attainment aspirations. In the past decade, [new models](#) have emerged that better serve students, particularly Black, Brown, Asian American and Indigenous (racially minoritized) students, adult learners and students with low incomes who are overrepresented in developmental education enrollments.

Until recently, adoption of these new reform models had not been widespread. [Strong Start to Finish](#) was established in 2018 with the express mission of working directly with postsecondary systems to scale these models systemwide. Today, SStF represents a network of higher education system and institutional leaders, policymakers, researchers and technical assistance providers committed to working together to increase the number and proportion of students who gain access to and pass gateway math and English courses, tied to a program of study, in their first year of college.

SStF currently consists of a collaborative of 13 postsecondary systems, or sites, spanning 12 states. We began work in 2018–2019 with a cohort of six scaling sites, at different points in their approach to developmental education reform. Four of the sites developed workplans that spanned the full three-year period spanning 2018–2021. Two sites developed workplans that spanned 2019–2021. In early 2020, seven strategy sites, where reforms were typically not as advanced, received smaller grants in support of discrete goals to be accomplished in around 14 months.

The SStF site-based work is rooted in the collaboratively developed, evidence-based [Core Principles for Transforming Remedial Education Within a Comprehensive Student Success Strategy](#). The seven Core Principles offer a policy and practice framework to guide leaders at the system and institutional levels in redesign and scaled implementation. The 2020 update of the Core Principles includes a more explicit focus on equity across the principles, clarity around best practices, honoring the lived experience of students and effective use of data.

Our Equity Philosophy

At Strong Start to Finish, equity informs all of the work we do. We believe equity in education is the means to rectify injustices in the distribution of resources, practices and policies.

In higher education, it is the process of addressing issues of access and success for those who are marginalized and have been negatively impacted by institutional policies and practices. We encourage leaders in higher education, such as system and institutional leaders, faculty and advisors, to engage in this ongoing, corrective process by replacing unjust behaviors and policies with ways of thinking and practices that support students who are ill-served in the system.

As a network of equity-conscious leaders, we know that focusing on these particular students' needs does not deprive those who sit outside of these categories. Rather, it ensures that we create a system of fairness, where every student can truly receive what they need to achieve in educational settings.

Our Sites

The Strong Start to Finish network contains six scaling sites and seven strategy sites.

Scaling sites: Arkansas Division of Higher Education (ADHE); California Community Colleges (CCC); City University of New York (CUNY); Ohio Department of Higher Education (ODHE); State University of New York (SUNY); and the University System of Georgia (USG).

Strategy sites: Colorado Department of Higher Education (CDHE); Louisiana Board of Regents (LABR); Minnesota State Colleges and Universities (Minnesota State); Nevada System of Higher Education (NSHE); Oregon Community College Association (OCCA); Pennsylvania State System of Higher Education (PASSHE); and the Tennessee Board of Regents (TBR).

Insights and Recommendations

Several trends emerged across the 13 sites as they engaged in the work of implementation. Specifically, to support developmental education reform, sites:

altered course structures by:

- eliminating system policies that specified assessment requirements for placement.
- developing corequisite courses in English and math to replace traditional sequences.
- creating courses in lieu of college algebra that satisfy degree requirements for mathematics.

supported faculty development by:

- providing corequisite course design, scaling and pedagogy trainings for faculty.
- working with technical assistance providers to shift faculty mindsets regarding students in developmental courses.
- training faculty, advisors and administrators on culturally responsive practices.

addressed the collection and use of data by:

- delivering data coaching to leaders, faculty and advisors in support of equitable attainment.
- setting aligned institutional requirements for data collection, reporting and viewing.

The following sections provide details on site work in each of these areas.

Course Structures, Degree Pathways and Student Supports

For systems and institutions, one of the first steps in the implementation process will be to create the structures and supports at the center of the redesign initiative. While this certainly includes the development of new course models and materials, it also requires rethinking placement processes, course and degree pathways, and student guidance and support systems. Existing state and system policies that may impact the creation of structures and supports include requirements for placement in credit-bearing courses, such as the use of specific assessments and cut scores; and course requirements for the degree, such as college algebra as a default for all degree pathways. In the SStF sites, three trends emerged in the development of structures and supports: multiple measures systems for initial course placement; corequisite models to replace traditional developmental course sequences; and multiple math pathways aligned to specific degrees.

Multiple Measures for Placement. [Research](#) demonstrates that the use of multiple measures — high school GPA, in [combination](#) with transcript information, state graduation tests, and writing assessments — offers substantially better predictive power for effective placement than standardized assessments (SStF [Core Principle 2](#)). To move from traditional placement processes to multiple measures models, SStF sites developed new system policies eliminating assessment requirements for placement. LABR and USG leveraged the suspension of ACT and SAT exams during COVID-19 to move to assessment-free placement; ADHE, CCC and TBR initiated a research phase across institutions to validate a multiple measures methodology. SUNY supported a multi-year community of practice model focused on adoption of alternative placement measures. While most sites are still in the process of implementing across all campuses, OCCA already has a system-wide policy in place.

Development of Courses and Supports. Corequisite models, where students are placed directly in credit-bearing courses with appropriate and aligned supports, [have been shown](#) to improve gateway course success (SStF [Core Principle 4](#)). SStF sites have developed, and are in the process of scaling, corequisite courses in English and math to replace traditional developmental course sequences. Some systems, such as ADHE, CUNY and SUNY, took a faculty- and campus-centered approach to course redesign, providing training workshops to faculty and then entrusting them with the development of courses and supports. Others, such as LABR, PASSHE, OCCA and USG, employed cross-system institutional teams to redesign courses. Sites provided training to faculty and advisors, through workshops and professional development, to provide student supports. CCC and OCCA developed toolkits for faculty and advisors; and CDHE, LABR, NSHE, SUNY, OCCA and ODHE provided institutional grants and contracted technical assistance, through the SStF Network, to support faculty in this work.

Aligned Math Pathways. While all degree pathways may require numerical literacy, [research](#) has found that, for many students, this can be better met with degree-aligned math courses than with college algebra (SStF [Core Principle 5](#)). SStF sites that took on the challenge of developing and implementing multiple math pathways created courses in lieu of college algebra that would satisfy degree requirements. Minnesota State and OCCA created new options and specifically divided math requirements by STEM (Science, Technology, Engineering and Math) and non-STEM degree pathways. ADHE, Minnesota State and NSHE developed a Quantitative Reasoning course as an alternative to the traditional college algebra course. SUNY adopted the WestEd Math Pathways courses as accelerated math options and worked with the [Charles A. Dana Center](#) (at The University of Texas at Austin) to implement their new structure.

Faculty Professional Development

Effective implementation of developmental education reform requires the active support of faculty. In addition to building faculty buy-in for proposed changes, systems and institutions must consider how existing faculty will be prepared to deliver new models. While the requirement to implement reform models may originate in state policy, policy regarding faculty is set at the system or institutional level. Applicable policies may include those governing faculty contracts, including credentials required to teach specific courses, requirements for professional development and pathways for dismissal. The trends observed across the SStF sites highlight the delivery of three types of reform-specific professional development (PD): supporting faculty in developing and teaching corequisite courses, changing faculty mindsets about the students they served, and training faculty in culturally responsive teaching practices.

Teaching Corequisite Courses. As systems and institutions implement corequisite reform models (SStF [Core Principle 4](#)), [research](#) underscores the critical importance of effectively preparing faculty to develop and deliver various models of corequisite courses. Faculty are ultimately in charge of their curriculum; they need to be able to structure and deliver course content differently as well as develop and deliver appropriate student supports. SStF sites provided corequisite course design, scaling and pedagogy trainings for faculty through a variety of modalities, including workshops, webinars, convenings and toolkits. For example, led by campus-based leaders known as Residents, CUNY's campuses developed their own faculty trainings, including corequisite support, content review and pedagogical improvement. USG leveraged existing work through [Complete College Georgia](#) and their [Momentum Plan](#) to provide Corequisite Academies, where faculty were engaged in creating change implementation plans. SUNY, PASSHE and Minnesota State developed math pathways working groups and engaged the Charles A. Dana Center at The University of Texas at Austin in professional development for corequisite implementation.

Asset-Based Approaches to Teaching. While faculty certainly need to understand the nuts and bolts of the corequisite model, sometimes a different type of support is needed — a mindset shift to believe that all students are capable of success in gateway courses, particularly those who are often placed into developmental education courses. As they worked to implement effective advising and support strategies (SStF [Core Principle 1](#) and [Core Principle 3](#)), multiple SStF sites found themselves grappling with shifting faculty mindsets from a deficit- to an [asset-based](#) view of students in developmental courses. Some sites turned to partner organizations to address this arising need; ADHE contracted with the Charles A. Dana Center at The University of Texas at Austin to provide multiple online ([FOCI](#)) trainings on equitable student outcomes, while CUNY and ODHE partnered with [Motivate Lab](#) to provide workshops on growth mindset strategies. CUNY also engaged a holistic approach to cultural change by creating a cross-system mindset community. The system engaged 16 leaders in the CUNY Mindset Fellowship to develop internal experts on learning mindsets (growth, relevance and belonging) for sustainable cultural change. The Fellows then engaged hundreds of faculty members across system campuses in PD workshops.

Culturally Responsive Teaching Practices. Promoting the [equitable success](#) of students engaged in new developmental course models (SStF [Core Principle 3](#)) requires more than a change of mindset among faculty. [Research shows](#) that racially minoritized students, students with low incomes and adult learners — core student groups SStF [specifically seeks to serve](#) — are disproportionately represented in developmental course enrollments. [A diverse faculty](#) and [culturally responsive practices](#) in the classroom have been shown to support the academic achievement of these student groups, and may help close equity gaps in gateway course success. Multiple SStF sites recognized this as a necessary area of work and engaged faculty, advisors and administrators in the process. CCC adopted a systemwide diversity plan, putting forth a budget proposal to increase faculty diversity in service of supporting equitable attainment. NSHE and CDHE focused on the advisory aspect, providing training to faculty and advisors on equitable advising practices. SUNY, ADHE and ODHE used workshops to engage faculty in critical conversations on closing racial equity gaps. Minnesota State's Equity 2030 initiative includes substantial faculty development opportunities in anti-racist, equity-centered and culturally responsive pedagogy in service of eliminating the educational equity gap.

Data Collection and Use

The collection and use of appropriate student data is critical to assessing existing challenges and building on what works. Momentum metrics, which go beyond tracking individual course success to providing broader progress data over time, can be particularly helpful to states, systems and institutions seeking long-term change in developmental education outcomes (SStF [Core Principle 6](#)). Such metrics include credit accumulation, gateway course completion and year-to-year postsecondary persistence. To inform equitable attainment, the data must be disaggregated by critical demographic factors, such as race, ethnicity, age and socioeconomic status. Yet changes to existing requirements for data collection, metrics and data use may be impacted by state and system policies regarding data systems and student privacy. In addition, faculty, advisors and leaders at the institutional, system and state levels must have the capacity to effectively engage with student data. SStF sites built staff capacity to use data effectively, as well as the capacity of their data systems to better collect momentum metric data.

Building Capacity to Review Existing Data. [Research](#) demonstrates significant differences across student groups in the value gained through postsecondary education, with racially minoritized students, adult learners and students with low incomes gaining less benefit than their peers. To support equitable attainment, leaders, faculty and advisors need to build data fluency and use it to understand what works for historically underserved student groups. SStF sites used a variety of modalities to deliver data coaching to leaders, faculty and advisors, including workshops (ADHE), regional convenings (CCC), summits (Minnesota State) and working groups (PASSHE). Beyond coaching, TBR analyzed a decade of reform data and engaged faculty, staff and students on best practices in corequisite courses. USG analyzed multi-year data comparing the effectiveness of different models of developmental education, using the results to inform policy and practice at the system and campus levels.

Improving Data Collection to Support Equitable Attainment. A solid functional state system and an institutional data system are [integral](#) to data-informed improvement. Further, it is necessary to ensure that data collection efforts are aligned with system and institutional goals. Improving data collection to support equitable attainment requires, among other things, the collection of data appropriate to reform goals, disaggregation of data and presentation of data in usable formats. SStF sites set requirements for institutional data collection and reporting, aligned data requirements to momentum metrics, and simplified data viewing for the end user. For instance, USG and ODHE specifically required campuses to submit periodic statements indicating equitable attainment goals, progress, challenges and improvement plans. To better serve racially minoritized students, TBR created a data dashboard and toolkit to help faculty identify best practices in corequisite courses; and CDHE focused efforts on collecting new information on multiple measures and student supports to inform student attainment across groups. CCC, ODHE and USG all focused on improving data disaggregation to address the needs of racially minoritized students. USG used disaggregated student success data to build buy-in for reform models among faculty and staff who would be asked to implement changes.

Enabling Conditions for Implementing Reforms

While goals and workplans for each SStF site varied, certain common enabling conditions came to light that underlay reform success generally.

Strong Leaders and Engaged Stakeholders. The presence of committed, top-level **leaders** who are vocal champions of innovation and change provide a highly visible reminder of state and systemwide priorities for faculty, staff, students and the public. It is vital that such leaders continuously engage a wide range of **stakeholders**, including administrators, faculty, advisors, finance and IT professionals, and students. Committed leadership at SStF sites with centralized (e.g., USG, TBR, LABR, CUNY) and decentralized (e.g., PASSHE, ODHE, OCCA) governance systems alike worked hard to build initial stakeholder support and sustain momentum for implementing change.

Adequate Funding and Effective Data Systems. Adequate state **funding** aligned to reform goals is necessary to sustain efforts, as unfunded mandates exacerbate “initiative fatigue” and undermine momentum gained through short-term funding. In Tennessee (TBR) and Georgia (USG), sustained investment in higher education innovation brought early adoption of developmental education reforms; and California (CCC) has implemented a new performance-based funding formula that prioritizes first-year completion of gateway courses. Effective **data systems** are also critical for continuous improvement. SStF sites that have invested in high-quality, centralized data systems and dedicated personnel, such as CCC, TBR and USG, have been able to provide localized data to stakeholders to support both initial implementation and evaluation of success metrics.

Supportive Policy Environments. State and system **policy** can create both a framework and incentives for change. For instance, CCC’s implementation of California’s [AB 705](#), Minnesota State’s implementation of Minnesota’s [Statute 136F.302](#), and CDHE’s implementation of Colorado’s [HB 19-1206](#) all require multiple measures for placement and place limits on developmental course-taking. (ECS documents state policies addressing developmental education in this [50-state resource](#).) Systemic or statewide engagement in prior **student success initiatives** (such as Complete College America) can build buy-in for new reform measures and allow systems to utilize existing connections. Finally, some systems have been able to leverage their **centralized governance** structures to sustain implementation efforts, taking unified action to allocate funds, set system policy, coordinate communications and link resources across multiple initiatives.

Considerations for State, System and Institutional Leaders

SStF sites have done considerable work to implement developmental education reforms at scale. This work provides a bevy of insights for states, systems and institutions wishing to engage more deeply in scaling reform practices. Given the implementation trends and enabling conditions outlined in this brief, state and system policymakers may wish to give special attention to the following aspects of the work.

Policy Frameworks. State and system [policy frameworks](#) that are supportive of developmental education reform provide a strong foundation upon which systems and institutions can build their implementation efforts. In examining existing frameworks, leaders can look for the inclusion of common supportive elements (requiring and supporting scaled practices through structural expectations, dedicated funding and data tracking), as well as for the presence of potential barriers (overly restrictive placement policies, course structuring or curricular requirements). If there is agreement among leadership on the need for systemic change in developmental education, codifying that agreement through policy frameworks can be one pathway to structuring and sustaining the work over time.

Budgeting for Change. Systemic changes require a [sustained investment](#) of adequate resources. As states, systems and institutions plan for implementation of developmental education reform at scale, leaders will need to consider all associated costs, both short-term and long-term. In the short term, implementation will require investments in developing new placement and advising structures, providing faculty professional development, creating changes to degree pathways and subsidizing contracts with external service providers. In the longer term, leaders must consider how to build new staffing, advising and course structures, as well as technology and personnel for data-based continuous improvement, into institutional budgeting practices.

Leadership and Buy-In. While strong, vocal and committed leadership at the state, system and institutional levels is critical to sustaining a reform initiative, it is equally important to secure the support and energy of those who will be implementing changes. The ultimate effectiveness and sustainability of large-scale, developmental-education reform efforts will depend largely on the dedication of [faculty and staff](#) who will be delivering new models to students. Leaders should consider including key faculty and staff — for instance, gateway course faculty and advisors who connect directly with entering students — in the planning stages of the initiative, providing them a voice in determining how implementation will play out. If additional work will be required of faculty and staff, leaders should consider appropriate compensation for those efforts.

Data for Improvement. Overall, the SStF sites demonstrated strong positive gains in student outcomes aligned with their goals. While there is certainly still more work to be done, all sites saw an increased number and percentage of students completing credit-bearing gateway courses in their first year; in addition, outcome differences between some student groups were reduced. Collecting, disaggregating and analyzing this [data at a system level](#) is a wonderful step forward, as it allows systems and institutions to quantify effects and get a sense of how far they still have to go. Leaders need to ensure that their state, system and institutional data structures are robust enough to make such efforts possible. To inform improvement, leaders will also need to ensure outcome data is linked back to the implementation of specific interventions. In this way, they can answer finer questions about what works, for whom and why.

Student Voice. SStF [Core Principle 7](#) underscores the critical importance of elevating the voices and lived experiences of students within systemwide efforts to reform developmental education. This is an emerging area of work for postsecondary systems and institutions; of the SStF strategy sites, only TBR has directly addressed this issue so far. While this falls outside the realm of state policy, system and institutional leaders should consider, from the very earliest stages of implementation, how students' voices and lived experiences will be incorporated.

Appendix

The SStF site-based work is rooted in the collaboratively developed, evidence-based [Core Principles for Transforming Remedial Education Within a Comprehensive Student Success Strategy](#). The seven Core Principles offer a policy and practice framework to guide leaders at the system and institutional levels in redesign and scaled implementation. These Core Principles were originally developed in 2012 by a group of national organizations and higher education institutions responding to ineffective structures for helping students master developmental education course content. The 2020 update includes a more explicit focus on equity across the principles, clarity around best practices, honoring the lived experience of students, and effective use of data.

Core Principles

Core Principle 1. Identify academic direction and supports. Every student's postsecondary education begins with a well-designed process that empowers them to choose an academic direction and build a plan that starts with passing credit-bearing gateway courses in the first year.

Core Principle 2. Enroll in college-level math and English. Placement of every student is based on multiple measures, using evidence-based criteria, instead of through a single standardized test.

Core Principle 3. Provide supports. Campus communities transform policies and practices to ensure that every student is provided with high-value learning experiences and with the supports needed to remove barriers to success — especially students from historically underrepresented, disenfranchised and minoritized communities.

Core Principle 4. Streamline remediation options. Program-appropriate college-level math and English courses are offered to every student through evidence-based, integrated support models designed to accelerate gateway course success.

Core Principle 5. Align courses with programs of study. Every student is provided access to multiple pathways, such as statistics and data science, that integrate rigorous math appropriate to different disciplines and to the well-paying careers of today and tomorrow.

Core Principle 6. Use data effectively. Every student is supported in staying on track to a postsecondary credential through the institution's effective use of early momentum metrics and mechanisms to generate, share and act on finely disaggregated student progression data.

Core Principle 7. Prioritize the student experience. Efforts to improve the student experience, meet the evolving needs of students and remove barriers to student success are visibly prioritized by the institution through the use of mechanisms that elevate the voices and lived experiences of students — and the entire campus community.

Learn more at strongstart.org.