ACHIEVING THE DREAM℠
COMMUNITY COLLEGES COUNT

Power Tools: *Designing State Community College Data and Performance Measurement Systems to Increase Student Success*

An ACHIEVING THE DREAM Policy Brief

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JOBS FOR THE FUTURE
CREATING STRATEGIES
for Educational and Economic Opportunity

This policy brief was prepared for the Achieving the Dream Cross-State Data Work Group by Susan Goldberger of Jobs for the Future. The members of the work group who assisted in its preparation are: Gabriela Borcoman, Program Director, Planning and Accountability, Texas Higher Education Coordinating Board; J. Keith Brown, Associate Vice President for Planning, Accountability and Research, North Carolina Community College System; Corby A. Coperthwaite, Director of Planning, Research and Assessment, Community Technical Colleges, Connecticut; Donna Jovanovich, Director of Institutional Effectiveness, Virginia Community College System; Pat Windham, Associate Vice Chancellor for Evaluation, Florida Department of Education, Division of Community Colleges.

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ACHIEVING THE DREAM COMMUNITY COLLEGES COUNT

ACHIEVING THE DREAM: COMMUNITY COLLEGES COUNT is a national initiative to help more community college students succeed (earn degrees, earn certificates, or transfer to other institutions to continue their studies). The initiative is particularly concerned about student groups that have faced the most significant barriers to success, including low-income students and students of color. Achieving the Dream focuses colleges and others on understanding and making better use of data. It acts on multiple fronts, including efforts at community colleges and in research, public engagement, and public policy. Achieving the Dream is funded by Lumina Foundation for Education and 18 other partner foundations.

www.achievingthedream.org

JOBS FOR THE FUTURE
CREATING STRATEGIES for Educational and Economic Opportunity

JOBS FOR THE FUTURE seeks to accelerate the educational and economic advancement of youth and adults struggling in today's economy. JFF partners with leaders in education, business, government, and communities around the nation to: strengthen opportunities for youth to succeed in postsecondary learning and high-skill careers; increase opportunities for low-income individuals to move into family-supporting careers; and meet the growing economic demand for knowledgeable and skilled workers.

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About the Author

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Power Tools:

Designing State Community College Data and Performance Measurement Systems to Increase Student Success

Executive Summary

Across higher education, there is growing interest in strengthening state data and performance measurement systems that track student progress and success. The common goal is to improve outcomes, particularly at community colleges and non-selective four-year institutions, by identifying at-risk students early and providing them with supports that can help them stay in school and graduate.

Achieving the Dream: Community Colleges Count, a national initiative to help more community college students succeed, has been working with more than 80 institutions in 15 states to address this challenge. This policy brief grew out of the work of Achieving the Dream's Cross-State Data Work Group, which is developing a set of indicators that states can use to more effectively track student performance over time, evaluate the effectiveness of interventions, and learn from the strengths of other community college systems. It is intended to help states answer questions at the heart of the design and implementation of performance measurement and data systems—how to structure these systems to maximize improvement, particularly for students who traditionally have not fared well in college.

Essential Features of a State Performance Measurement System

A performance measurement system must define the community college system's goals clearly, identify precise indicators of progress toward those goals, and focus institutional efforts on boosting the success rate of students who face significant barriers to graduation. It is essential to include the following features:

- A limited number of intermediate and long-term performance indicators, tied to a clearly defined set of strategic priorities, appropriate to each mission area (e.g., degree and transfer programs, workforce training, and adult basic education);
- Goals and benchmarks that provide clear incentives—and reasonable time frames—for institutions to focus on raising the success rates of underprepared and historically underserved students;
- Performance measures disaggregated by high-priority subgroups (e.g., students entering college with significant remedial academic needs, low-income students) so states can track the progress that community colleges make in increasing the success rate of these target populations; and
- A public reporting system that allows students, policymakers, and practitioners to identify institutions achieving strong results with high-priority subgroups.

Essential Features of a State Data System

A state data system must serve the state's performance measurement system, providing quantitative answers to critical questions about student success, such as "How many students who entered community college for the first time left without completing a degree or transferring to a four-year institution?" and "What interventions are helping to improve outcomes for various subgroups?" It is essential to include the following features:

- Student-level unit records that track performance across years and institutions;
- Detailed data on demographics, enrollment status, program enrollment, academic readiness (as measured by high school coursework, high school exit exams, and college placement exams), and college course enrollment, completion, and grades;
- Supplemental information, such as the Community College Survey of Student Engagement, to help identify institutional practices associated with student success; and
- The ability to share student-level information among K-12 and higher education data systems—and to link to other state databases (e.g., unemployment insurance)—to track student transitions and assess improvements in employment and earnings.

Essential Features of State Research Capacity to Support Data-Driven Improvement Strategies

States can play a critical role in driving improvement by mining longitudinal data to help identify effective strategies for increasing success rates of at-risk students—and providing research support and training to institutional staff. States also should participate in projects that enable them to benchmark the performance of their community college system against those of other states and to learn from their improvement efforts.

Power Tools:

Designing State Community College Data and Performance Measurement Systems to Increase Student Success

Across higher education, there is growing interest in strengthening the data systems that track student progress and success. This trend is, in part, a logical extension of the accountability and improvement movement in K-12 education. It also reflects a recognition within higher education, particularly at community colleges and non-selective four-year institutions, that too many students who enter these schools fail to achieve their goals—and that most state and institutional data systems cannot be used easily to identify where students are falling off track or to measure the impact of interventions designed to improve outcomes at these critical junctures.

"Achieving the Dream: Community Colleges Count," a multi-year national initiative to help more community college students succeed, is working with more than 80 institutions in 15 states to address this challenge. Participating schools are collecting and analyzing data and creating opportunities for "courageous conversations" about institutional challenges and how to overcome them. They are testing the effectiveness of new programs intended to help more students stay in school and graduate—and taking a hard look at the outcomes of these experiments so they can make wise decisions about allocating resources in the future. At the state level, Achieving the Dream supports efforts to strengthen state data systems that can track community college students over time, use improved data systems as the basis for well-designed performance measurement systems, and expand the capacity of institutions and state systems to use data to drive improved performance.

Since 2005, representatives of seven Achieving the Dream states—Connecticut, Florida, New Mexico, North Carolina, Ohio, Texas, and Virginia—have worked together to test and refine a common set of intermediate and final measures of student progress. The goal of the Cross-State Data Work Group is to identify indicators that states can use to more effectively to:

- Track student performance over time in achieving key milestones associated with degree completion, with a particular focus on student groups that face significant barriers to graduation.
- Evaluate the impact of state policy and institutional interventions designed to keep more at-risk college students on track to degree completion.
- Benchmark the performance of their community college systems against those of other states to help identify strengths and gaps and learn from the experiences of others.

As part of their work, these states have tested several intermediate milestones for their power to predict student success, such as achieving 12 college credit hours or passing first college-level math and English courses. The states also have tested different ways to disaggregate and define student subgroups (e.g., developmental education versus non-developmental students) that are at high risk of not completing a degree.

In its collaboration, the work group has explored questions at the heart of the design and implementation of state performance measurement and data systems, including:

- How should a state's performance measurement system be structured so that it drives institutions to improve results, particularly for students who traditionally have had less success in community college?
- Which indicators should be incorporated into a robust community college data system, and how should that system be organized to maximize its power to inform improvement efforts?
- How can states improve their capacity, and that of their colleges, to use data effectively for improvement—both as an early warning system and as a diagnostic aid that can pinpoint areas for improvement and assess the effectiveness of interventions?

This brief grew out of the testing and development work of Achieving the Dream's Cross-State Data Work Group and the lessons learned from these efforts. It is a guide for Achieving the Dream states. It is also intended for any state that is serious about strengthening its data and performance measurement systems—so that institutions have a basis for making better decisions about instruction, student supports, institutional effectiveness, and resource allocation, and so that, ultimately, more community college students will be able to achieve their dreams of better opportunity and economic success.

Essential Features of a State Performance Measurement System

Using data to drive and support institutional improvement requires a performance measurement system that defines system goals clearly, identifies precise indicators of progress toward those goals, and focuses institutional efforts on boosting the success rate of students who traditionally have not fared well (e.g., students testing into developmental coursework).

Such a performance measurement system must include the following 10 components.

1. An economical set of student performance measures tied to a clearly defined set of strategic priorities

A state's performance measurement system should translate the most important goals for its community college system into clear, measurable outcomes that all stakeholders can use to track progress. It is more than an accountability or compliance mechanism. At its best, it provides a clear road map to colleges of where they need to focus to improve student success and how well they are doing in achieving those goals. Given the multiple missions and diverse student needs served by community colleges, a performance measurement system should include a limited number of strategic indicators appropriate to each mission area (e.g., degree programs, workforce training, adult basic education).

2. Longitudinal measures that track student progress relative to key benchmarks

The simplest measures of performance for institutions to generate are point-in-time indicators, such as the number of students earning an Associate's degree in a given year or the percentage of students passing a particular developmental education course. But such indicators can be misleading. For example, a college could record better-than-average developmental course passage rates while having lower-than-average degree-completion rates for its developmental students. How is this possible? If students referred to developmental education do not enroll in the courses or a high percentage of these at-risk students drop out early in their college careers, the passage rate for many developmental courses, particularly upper-level courses, could be artificially inflated because only the more able and resilient students persist long enough to enroll in them.

The most meaningful and valid measures of institutional success are those that track student progress over time.

3. Measures that distinguish among students based on initial level of college readiness

Students who enter community college with academic deficiencies are less likely to succeed than those who enter prepared for college-level work. Furthermore, students who test into lower-level developmental courses in math and English are significantly less likely to achieve a successful outcome than those who test into upper-level developmental courses. Without taking into account different levels of academic preparedness, performance measures likely will say more about a college's enrollment mix than its institutional performance.

Recent analyses by Florida's Division of Community Colleges for the Achieving the Dream data work group illustrate the importance of grouping students by their entering level of college readiness. In preliminary testing of ways to disaggregate and classify students by readiness level, Florida found that students who tested as college ready in math were more than twice as likely to earn a credential or transfer to a four-year institution than students who tested into lower-level developmental math coursework.

Essential Features of a State Performance Measurement System

1. An economical set of student performance measures tied to a clearly defined set of strategic priorities
2. Longitudinal measures that track student progress relative to key benchmarks
3. Measures that distinguish among students based on initial level of college readiness
4. Controls for other student characteristics associated with success, such as enrollment status, age at entry, and socioeconomic status
5. Controls for institutional characteristics (e.g., size, resources per student) that allow for appropriate peer group comparisons of performance
6. Goals and benchmarks that provide clear incentives for institutions to focus on raising the success rates of underprepared and underserved students
7. Reasonable time frames for achieving benchmarks that take into account the part-time attendance of many students and the longer amount of time needed by students who require remediation
8. Intermediate benchmarks that identify key first- and second-year predictors of long-term success
9. Reporting systems that allow students, policymakers, and practitioners to examine college and system performance and identify institutions that are achieving strong results with high-priority subgroups
10. Process for revising goals and measures in light of latest research evidence about key predictors of student success

Controlling for the academic background of incoming students is critical for making fair comparisons among colleges and identifying higher-performing institutions. College x may have a higher overall graduation rate than college y but only because 50 percent of college x's entering students are college ready, compared to 20 percent of students at college y. When the data are disaggregated, they may show that college y is in fact achieving higher graduation rates than college x within all or most academic subgroups (i.e., college ready, low developmental need, high developmental need).

4. Controls for other student characteristics associated with success, such as enrollment status, age at entry, and socioeconomic status

A state's measurement system also should control for factors in addition to academic preparation that are highly associated with the likelihood of achieving success. Several national studies, as well as research conducted by the Achieving the Dream data work group, have found that students who initially enroll part time are substantially less likely to succeed than are students who initially enroll full time.

Age at time of entry also is associated in some studies with different rates of performance. To control for these differences in outcomes, Texas disaggregates some of its key performance measures by age—including one- and two-year fall-to-fall retention rates.

Socioeconomic status is another important factor associated with college success. Unfortunately, community colleges face major challenges collecting accurate income information because many low-income students, especially part-time students, opt not to apply for financial aid. One promising indicator of a student's socioeconomic background is whether he or she is qualified for free or reduced-cost lunch in the eighth grade. Many Achieving the Dream states are in the process of constructing "P-16 data warehouses" and other data sharing arrangements between K-12 and community college data systems; these eventually will allow institutions to use this variable to track student performance by income.

Using data to drive and support institutional improvement requires a performance measurement system that defines system goals clearly, identifies precise indicators of progress toward those goals, and focuses institutional efforts on boosting the success rate of students who traditionally have not fared well.

5. Controls for institutional characteristics (e.g., size, resources per student) that allow for appropriate peer group comparisons of performance

It is important to account for institutional characteristics that may affect a college's performance. For example, in states like Ohio, which allow colleges to supplement state funds with local tax levy dollars, there can be significant differences among colleges in per-student funding available to support improved outcomes.

Size, location (rural, suburban, urban), and program mix are other factors that states may want to take into account. For example, Connecticut's twelve community colleges are assessed as four groups of three colleges—small rural; medium suburban; medium urban; and large urban institutions—for the purpose of the state's higher education accountability report.

The new Texas community college accountability system groups its colleges by size for "like comparisons." Texas plans to review its method of grouping colleges every two years.

6. Goals and benchmarks that provide clear incentives for institutions to focus on raising the success rates of underprepared and underserved students

States committed to raising the success rates of students who traditionally have faced significant barriers to college success, including low-income students and students of color, need to reflect that commitment in their performance measurement systems. States can do this by:

- Defining explicit measures that track the performance of these students by subgroup;
- Establishing improvement goals and targets by subgroup as high-priority measures in the state's accountability system (e.g., increase the retention, transfer, and graduation rates of low-income students); and
- Identifying the colleges that are achieving the best results with these student populations and use these results to set systemwide performance standards and drive improvement.

One of the most effective ways for states to assess institutional and system performance for low-income students and other underserved groups is to track college success in moving students who enter with remedial academic needs through to degree completion or transfer to a four-year institution. Accurate identification of low-income students is difficult, as discussed above. However, given the disproportionate number of low-income students who enter college needing remedial instruction compared to their middle-class peers, developmental education status has been found to be a fairly reliable proxy.

The accountability system recently adopted in Texas illustrates ways that states can make improving the success rate of underprepared students a system and institutional priority. The new system measures:

- The percentage of entering students who qualify for developmental reading, writing, or math courses who later meet the college-ready standard in the subject area—within two years if they had tested into upper-level remedial courses, or within three years if they had tested into lower-level remedial courses; and
- The percentage of underprepared students who later pass the first college-level course in their area of remediation (i.e., math, English)—within three years if they tested into upper-level developmental coursework, or within four years if they tested into lower-level developmental coursework.

The Texas system also disaggregates several measures by ethnicity in keeping with its priority to close the gap in college degree attainment between white students and black and Hispanic students.

In addition to tracking developmental students' interim successes, as in Texas, Florida tracks the percentage of developmental students who achieve key final benchmarks. These include completion of degrees or transfer to and success at four-year institutions, compared to non-developmental students. Florida also tracks several measures disaggregated by ethnicity.

7. Reasonable time frames for achieving benchmarks that take into account the part-time attendance of many students and the longer amount of time needed by students who require remediation

One of the first measurement issues tested by the Achieving the Dream data work group was the impact of extending the time frame for measuring community college student degree attainment from three years—the length of time used in the federal Graduation Rate Survey—to six years. The result was that extending the time frame did make a difference, particularly for students who started out in developmental education. Based on this analysis, the data work group recommends that states adopt an extended five- or six-year time frame for measuring the final outcomes of community college students.

This does not preclude states from measuring success in shorter time frames as well. Texas, for example, measures the three-, four-, and six-year graduation rates of first-time students. This indicates how states can balance the need to measure the percentage of students making it through college more efficiently with the need to take into account the longer amount of time required for students with fluctuating or part-time enrollment status.

8. Intermediate benchmarks that identify key first- and second-year predictors of long-term success

States have a practical need for an economical set of short-term benchmarks that practitioners and policymakers can use to determine if their interventions are having an effect—long before it is possible to determine a five- or six-year graduation rate. The Achieving the Dream data work group is developing a robust set of intermediate indicators that can be used to determine whether students are on track to earn a credential or transfer to a four-year institution and to measure the impact of specific interventions. Achieving the Dream states are testing intermediate indicators that include: credits accumulated by the end of the first and second years; withdrawal/failure rates in courses during the first and second years; completion of required developmental education courses; and passage of first required college-level math and English courses.

Such intermediate benchmarks also need to be adjusted for the different starting points of key student subpopulations. The Texas accountability system makes that adjustment by providing students who test into lower-level developmental coursework an additional year to reach the benchmark of passing the first college-level course in that subject area.

The Washington State Board for Technical and Community Colleges is embarking on a new performance system that will reward colleges for moving students through key short-term milestones associated with long-term success (e.g., achieving the equivalent of 10 and 20 semester credit hours). After a "learning year" to allow colleges to gain experience with the new measures, the board will implement a pay-for-performance system, in which colleges will be paid based on the number of students that reach these key academic thresholds.

9. Reporting systems that allow students, policymakers, and practitioners to examine college and system performance and identify institutions that are achieving strong results with high-priority subgroups

For a performance measurement system to drive improvement, the results achieved by both the system as a whole and its individual institutions must be visible not only to practitioners but also to policymakers and to potential students searching for a college that will meet their needs. Web-based systems that allow users to download data reports disaggregated by student subgroups and outcomes are an effective way to meet this goal.

If the performance system takes into account differences in college populations and disaggregates results based on initial academic readiness and other salient predictors of success, then comparisons of institutional performance are not only fair but also valuable for pushing colleges to find new ways to reach the bar set by the performance leaders.

10. Process for revising goals and measures in light of latest research evidence about key predictors of student success

The selection of intermediate and final outcomes measures should reflect not only the priority goals for the system but also the latest research evidence about which outcomes are the strongest predictors of college and career success.

For example, the Washington State Board for Community and Technical Colleges, in partnership with the Community College Research Center at Teachers College Columbia University, examined the education attainment levels needed to boost the earnings of lower-income students. They found that a minimum of one year of college coursework, combined with a postsecondary credential, was the "tipping point" for students in terms of their ability to reap labor market gains upon leaving college (Prince & Jenkins 2005). These findings informed the design of the state's new pay-for-performance system, which provides financial incentives for colleges to encourage students enrolled in certificate programs to complete at least one year of college-level coursework.

Essential Features of a State Data System

First and foremost, a state data system must serve the state's performance measurement system. The data system should provide a rich set of quantitative answers to the critical questions about student success that are posed by the performance measurement system, such as which student groups have the lowest success rates and what interventions are helping to improve outcomes for these target populations. The data make performance measurement effective—and, above all, enforceable. If no one believes the performance measures are reliable yardsticks of progress, institutions will not gear their efforts toward improving them.

A high-quality data system also must be comprehensive enough to answer questions beyond the realm of the performance measurement system. It should be fine grained enough for states and institutions to be able to probe the factors most highly associated with student success and to adjust goals and benchmarks in light of these findings. It also should be robust enough to accommodate changes in state strategic objectives.

State data systems should include the following features:

Essential Features of State Data Systems

1. Student-level unit records that track student performance across years and institutions within the community college system
2. Demographic and program enrollment data
3. College placement test scores and other secondary school academic information
4. Information on course enrollment and completion and grades earned
5. Supplemental student information, such as the Community College Survey of Student Engagement (CCSSE) to help identify and track institutional practices associated with student success
6. The ability to share student-level information between K-12, community college, and other higher education data systems in order to track student transitions
7. The ability to link to other key state databases (e.g., state unemployment insurance and adult basic education), in order to assess graduates' improvements in earnings and employment, as well as state success in transitioning adult basic education students to postsecondary education

1. Student-level unit records that track student performance across years and institutions within the community college system

The ability to track student performance is critical to answering the most fundamental and significant questions facing community colleges. These include questions such as: "How many students who entered community college for the first time completed a degree within three years, four years, or six years of beginning their studies?" Or, conversely: "How many students who entered community college for the first time left without completing a degree or successfully transferring to a four-year institution?"

With a growing number of students enrolling in more than one college during their career, state data systems also need to be able to track students as they move from one institution to another. This is needed in order to get an accurate picture of student success within the system overall.

2. Demographic and program enrollment data

To track progress in raising the success rates of traditionally underserved students by mission area, state data systems need to include detailed information on relevant student groups by demographics and course of study. At a minimum, data systems should include the following student-level data:

- Demographic information—ethnicity, gender, age, and a validated indicator/proxy for low-income status; and
- Enrollment data—initial program of study including degree/award-seeking status, enrollment status (first-time college student versus reenrolled college student, full time or part time), year awarded high school diploma or GED (to determine gap between secondary completion and postsecondary enrollment).

The data system should be fine grained enough for states and institutions to probe the factors most highly associated with student success and to adjust goals and benchmarks in light of these findings.

With these data, educators, policymakers, and consumers will be able to track critical benchmarks, including:

- The percentage of students enrolled in transfer degree programs who achieve their goal of an Associate's degree or transfer to a four-year institution;
- The percentage of students enrolled in vocational training programs who successfully complete the program of study and, if applicable to their field, pass the state licensure exam;
- Changes in the enrollment and completion rates of historically underrepresented groups (e.g., African-American or Latino students) in transfer degree programs; and
- The success rates of full-time versus part-time students.

3. College placement test scores and other secondary school academic information

The Achieving the Dream data work group states did extensive testing of different ways to classify students by academic preparedness and reached the following conclusions:

- *Student enrollment in developmental coursework is not a reliable proxy for incoming level of academic preparedness.* A substantial percentage of students who test into developmental education fail to enroll in developmental coursework before dropping out of college. As a result, these developmental education students are misclassified as "college ready." Use of placement test scores corrects this problem.
- *It is important to classify students by their level of remedial academic need.* Achieving the Dream state researchers found that students who test into lower-level developmental math courses (i.e., below Algebra 1) are much less likely to achieve key intermediate benchmarks and positive final outcomes than those who test into upper-level developmental math.

In addition to the placement test data that colleges can collect and report, other information on secondary school performance would be valuable, including:

- Whether a student has completed a rigorous college preparatory course of study in high school; and
- Test scores earned on state high school exit exams.

4. Information on course enrollment and completion and grades earned

Tracking student achievement of important intermediate milestones related to course-taking patterns and completion rates (e.g., passage of first college-level gatekeeper math and English courses with a C or better; completion of the prescribed developmental course sequence) requires the collection of student-level course-taking information.

Course enrollment and completion data also are useful for identifying potential interventions to boost student success rates. For example, when Achieving the Dream states discovered that the majority of their entering community college students had not passed the required college-level math course after three years, analysis using course-level data revealed that the problem was not strictly a result of high failure rates among students enrolled in college-level math. In fact, many students who passed the math placement exam and therefore were eligible for college-level math never enrolled in the required math course. In addition, other students who placed into developmental education failed to make it through the developmental math sequence and never qualified for college-level math. Armed with this information, states and their colleges are taking a multi-pronged approach to boost student enrollment in math courses and raise course completion rates along the developmental math sequence.

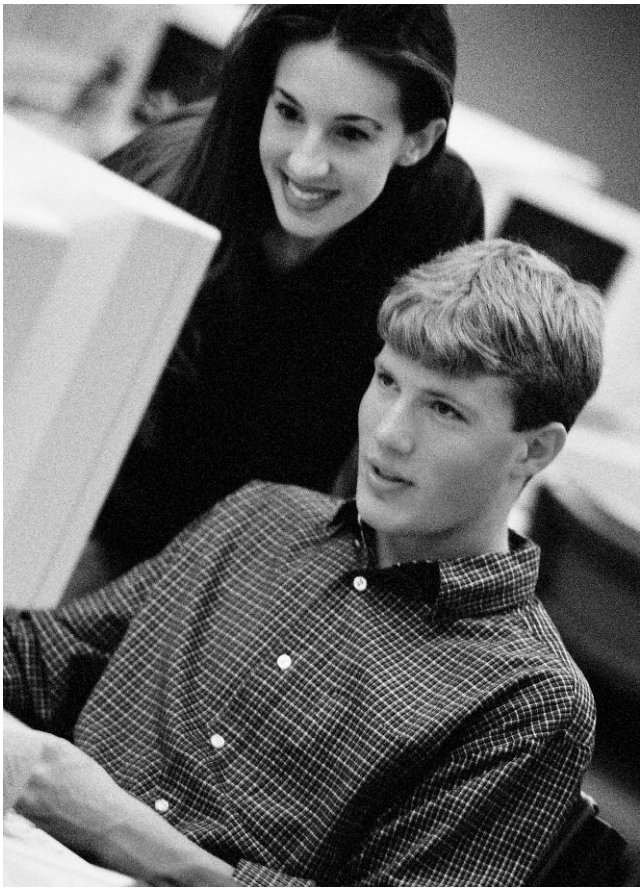
5. Supplemental student information, such as the Community College Survey of Student Engagement, to help identify and track institutional practices associated with student success

The corporate sector relies heavily on customer satisfaction surveys to benchmark its performance on key measures. Increasingly, states are promoting the use of surveys to better understand the student experience at their colleges and to help colleges improve the level of student attachment and engagement, and, ultimately, success. For example, the Community College Survey of Student Engagement asks students about educational practices that research shows are correlated with student learning and retention. CCSSE questions cover such topics as class participation, interactions with professors, time spent completing assignments, and satisfaction with support services. Between 2004 and 2006, the survey polled more than 250,000 students at 447 institutions in 46 states.

6. The ability to share student-level information among K-12, community college, and other higher education data systems in order to track student transitions

Creating student-level records that track a student's performance from high school through community college makes it possible to answer such questions as:

- How aligned are state graduation exams with college entrance requirements, as measured by the state exam scores achieved by students who test into college-level coursework on their community college placement tests?
- What percentage of a high school's graduates place into developmental coursework? Is that percentage decreasing as a result of community college and K-12 college-readiness partnerships?



The ability to track students who transfer to four-year institutions is of increasing importance. Sharing student-level data across community and four-year college systems makes it possible to answer such questions as:

- What percentage of a community college's entering students are achieving the positive outcome of transfer to a four-year institution?
- What percentage of transfer students eventually earn a four-year degree?
- Which community colleges are achieving the best results in preparing their students for four-year colleges, as measured by graduates' GPA and degree completion rate?

Some states, such as Florida, have created robust P-16 data warehouses that can link records across educational systems and construct longitudinal files to measure and track student progress through college. Other states have more modest information-sharing agreements to track a few key indicators across educational

sectors and institutions. Several state community college systems use the National Student Clearinghouse, a nonprofit organization that tracks and verifies student enrollment and degree completion information, as a source for transfer data.

7. The ability to link to other key state databases (e.g., state unemployment insurance and adult basic education), in order to assess graduates' improvements in earnings and employment, as well as state success in transitioning adult basic education students to postsecondary education

The Washington State study described above, which identified the added value of one year of college and a certificate to the employment and earnings of its low-income students, would not have been possible without the ability to match students' community college records to their unemployment insurance wage and employment data. The ability to link community college and state unemployment insurance data is critical to answer such questions as: Which training models are having the best success at moving low-income, less-skilled workers into better paying jobs?

Matching wage and community college records enables a state to track its success in placing graduates of occupational programs into higher paying jobs. For example, using matched data, the Connecticut system was able to determine that 2004-05 graduates of its credit occupational programs received a $326 weekly wage increase upon completion of their program, a $16,950 average annual increase.

For many low-income adults who have not earned a high school diploma or GED, adult basic education is the only on ramp to college. The ability to share information between adult basic education and community college systems enables a state to track the number of adult basic education students who make it to and through postsecondary education.

Essential Features of State Research Capacity to Support Data-Driven Improvement Strategies

States can play a critical role in driving improvement by mining longitudinal, student-level data to help identify effective strategies for increasing the success rates of students who are most at risk of not completing college. Examples of key issues to explore include:

- Differences in course-taking patterns or placement test policies that might account for why some institutions achieve better results than their peers in moving remedial math students through their developmental course sequence and first college-level math course;
- The impact of specially designed courses—such as freshman "skills for success" classes—in increasing first-year retention and course completion rates; and
- The impact of changes in state placement test score policies, such as implementing uniform, state-mandated minimum scores for placement into college-level coursework, in the retention and success rates of remedial education students.

State research capabilities to promote data-driven improvement should include:

1. The ability to produce research that helps focus institutional and state attention on key student performance issues and potential improvement strategies

The Evaluation Unit of the Florida Division of Community Colleges produces a monthly data brief on a key student performance issue that includes results by college. One recent brief examined the systemwide and institutional success rate of students who required developmental math coursework in making it through each stage of the mathematics pipeline from completion of developmental coursework to completion of a first college-level math course within five years *(See www.fldoe.org/CC/OSAS/FastFacts/FastFacts.asp).* Florida also has produced more in-depth, research-based reports that explore student performance issues and highlight potential improvement strategies. One report examined the impact on student retention and success rates of Student Life Skills courses, which are designed to help first-time students adjust to the academic and time-management demands of college. To the state researchers' surprise, the study found that enrollment in a Student Life Skills course was positively associated with increased rates of degree completion and transfer to a four-year institution for all student groups, including college-ready students who did not require developmental coursework (Florida Department of Education n.d.). These findings were later validated through a multivariate analysis conducted by the Community College Research Center at Teachers College (Zeidenberg, Jenkins, & Calcagno 2007).

Based on this evidence, several Florida community colleges have made enrollment in a Student Life Skills course mandatory for developmental education students and are strongly encouraging all students to take it.

Essential Features of State Research Capacity to Support Data-Driven Improvement Strategies

1. The ability to produce research that helps focus institutional and state attention on key student performance issues and potential improvement strategies
2. The ability to conduct analysis to inform the design of state policies aimed at increasing student success rates and to monitor their effectiveness
3. Support for colleges' use of data to identify promising interventions and track their impact by providing user-friendly access to longitudinal data, data programming and research support, and training for institutional research staff
4. Participation in cross-state projects that enable a state to benchmark the performance of its community college system against other states' and learn from their improvement efforts

2. The ability to conduct analysis to inform the design of state policies aimed at increasing student success rates and to monitor their effectiveness

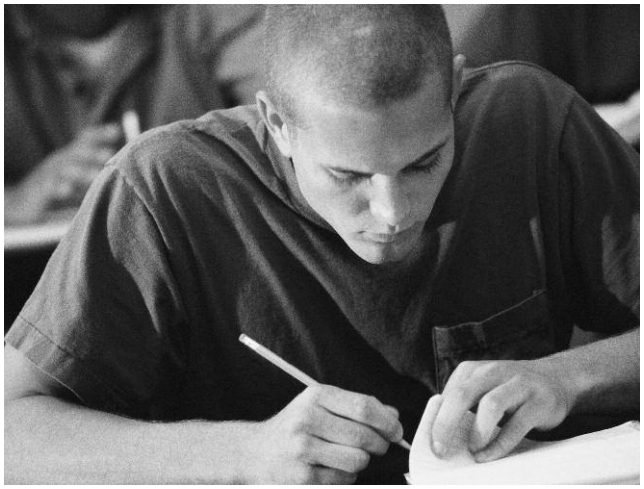
The North Carolina Community College System recently introduced common minimum scores that it expects all of its colleges to use to determine which students require developmental coursework. These cut scores were determined by analyzing the association between student scores on placement tests and their likelihood of subsequent success in college-level coursework in that subject area. North Carolina is using its longitudinal, student-level data system to monitor the impact of this new placement policy on student performance. Under contract with the Community College Research Center, Connecticut is using its student-level, longitudinal database to conduct a similar study that

States can play a critical role in driving improvement by mining longitudinal, student-level data to help identify effective strategies for increasing the success rates of students who are most at risk of not completing college.

will help inform its work with faculty across the Connecticut system to develop common learning outcomes and placement standards for first college-level mathemetics and English courses.

3. Support for colleges' use of data to identify promising interventions and track their impact by providing user-friendly access to longitudinal data, data programming and research support, and training for institutional research staff

Well-designed, state-sponsored research should fuel the appetite of individual campuses to examine their students' performance in greater depth and to test new ways to increase success rates. To meet this hoped-for institutional demand, states need to make longitudinal, student-level data more easily accessible to institutions.



Some states, including North Carolina and Massachusetts, are developing sophisticated querying systems that colleges can use to obtain customized reports or download data for analysis. Other states, including Florida and Washington, regularly conduct analyses for individual institutions or prepare analysis files for them. States are also training institutional research staff.

4. Participation in cross-state projects that enable a state to benchmark the performance of its community college system against other states' and learn from their improvement efforts

The Achieving the Dream Cross-State Data Work Group was formed because of a strong interest by participating states to share performance data and learn from one another's experiences. The work group's design drew upon the Southern Regional Education Board's State Data Exchange project. Two important features distinguish the Achieving the Dream data effort: its focus on using data to improve community college system performance for students at the greatest risk of not completing college; and its effort to create a system of more fine-grained intermediate benchmarks, or "early warning" flags, that states can use to determine if they are keeping college students who are more at risk on track to degree completion.

Conclusion

For nearly two years, the Achieving the Dream Cross-State Data Work Group has been engaged in the process of developing and refining measures of student progress that can guide institutional efforts, inform policymakers, and benchmark community college performance across states. By identifying intermediate milestones as well as final measures of student success, state data systems can help college leaders and policymakers improve the educational attainment—and life prospects—of the students who come through the doors of their community colleges hoping to find their way to a better future.

Performance measurement for educational change is complicated. There is no single measure that can tell us all that we need to know. The things that are easiest to measure tell us little about how to improve. But a coherent set of student performance measures tied to clearly defined strategic priorities can be used to drive an institutional agenda that will help community college students achieve their dreams of opportunity and advancement.

These measures must differentiate among students based on their prior preparation, track students over time and across institutions, and reward community colleges for doing better with the most challenged students. For these measures to be effective, state community college systems need the research capabilities to support data-driven improvement strategies. Adopting the features of data and performance-measurement systems outlined here are important steps in that direction.

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Tool to Track State Progress Implementing the Key Features of *Power Tools*

JFF has developed a short self-assessment tool to help states gauge the status of their efforts to implement community college data and performance measurement systems that incorporate the key features described in this report. This tool is included in the appendix.

Appendix:
Framework for State Policies to Support Student Success: Data and Performance Measurement Systems

	No/Under Consideration/ In Process/Yes	Elaboration/Comments
Features of a strong state performance measurement system		
Does the state have an economical set of student performance measures tied to a clearly defined, limited set of strategic priorities?		
Is the system based on longitudinal measures that track student progress relative to benchmarks?		
Do the system's performance measures distinguish among students based on initial level of college readiness? If yes, is this based on placement test data?		
Does the performance measurement system include controls for other student-level characteristics associated with different likelihoods of success, such as part-time versus full-time enrollment status or age at entry?		
Does the system include controls for institutional characteristics (e.g., size, resources for student) that allow for appropriate peer group comparisons of performance?		
Do the system's goals and benchmarks provide clear incentives for institutions to focus on raising the success rates of underprepared and underserved students?		
Does the system include reasonable time frames for achieving benchmarks, given high percentage of part-time students and students needing remediation?		
Does the performance measurement system include intermediate benchmarks that identify key first- and second-year "academic momentum" builders or predictors of long-term success?		
Do the system's reports allow students, policymakers, and practitioners to examine college and system performance and identify institutions that are achieving strong results with high-priority subgroups?		
Is there a process for revising goals and measures in light of latest research evidence about key predictors of student success?		

	No/Under Consideration/ In Process/Yes	Elaboration/Comments
Features of a robust state data system		
Does the state have a centralized data system to track the performance of community college students?		
Is the state data system built upon student-level unit records that track student performance across years and institutions?		
Does the system include demographic and program enrollment data?		
Does it include college placement test scores and other secondary school academic information?		
Does the state collect supplemental student information such as the Community College Survey of Student Engagement to help identify and track institutional practices associated with improved student outcomes?		
Does it include information on community college courses enrolled in and completed and grades earned?		
Does the state have the ability to share student-level information among K-12, community college, and other higher education data systems?		
Does the state have the ability to link to other state databases (e.g., state UI and adult education)?		
Features of state research capacity to support data-driven improvement		
Does the state have the ability to produce research on key student performance issues and possible improvement strategies?		
Does the state have the ability to conduct analysis to inform the design of state policies and monitor their effectiveness?		
Does the state have the ability to provide colleges with user-friendly access to longitudinal data, data programming and research support, and training for institutional research staff?		
Does the state participate in cross-state projects that enable a state to benchmark community college system performance against, and to learn from, other states?		

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