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## President's Message



<sup>[1]</sup>If Carnegie is looking for high leverage problems—places where DEED<sup>[2]</sup> can affect large numbers of students—community colleges are a good place to start. Nationally, more than 11 million students attend community colleges. Forty percent of all first-time freshmen begin in the two-year sector, and this includes more than 40 percent of African American and 50 percent of Hispanic students enrolled in higher education. With open door policies and relatively low costs, community colleges provide open access. But as the data illustrates, access does not necessarily mean success. Far too many students who enroll in community colleges do not complete a certificate, attain a degree, or transfer.

Because of their open access, community colleges have always offered a range of developmental or basic skills courses for students not prepared for the academic challenges of college-level work. Unfortunately, these courses, despite good intentions, can present an obstacle. This is clearly true of developmental mathematics, which typically consists of a sequence of three or four courses starting with arithmetic, then tracing the middle and high school curriculum through pre-algebra, elementary algebra, and intermediate algebra.

On some campuses, up to 90 percent of students test into this developmental mathematics sequence. Of those who actually enroll in such courses (placement is not mandatory in all states) success is elusive, with course pass rates hovering around 50-60 percent. For example, in California a statewide study shows success rates in basic algebra of about 50 percent. And with students' complex lives—juggling work, family responsibilities, and school—even those students who successfully complete a class may not go on to the next class in the sequence. The final result is that only a small percentage makes it through the multi-stepped sequence to a mathematics class that carries college credit. While numbers vary by campus, typically fewer than 10 percent of the students who start in the lowest level developmental math class ever enroll in a transfer-level class.

In choosing to work on the problem of developmental mathematics, Carnegie has clearly identified a high-leverage problem. And a wonderful group of researchers and practitioners are now moving ahead with this work, turning from a planning stage to active research and design.

### Statistics Pathway Network

The Statistics Pathway Network represents our first instantiation of Carnegie's new ways of working. Our initial focus on statistics is not arbitrary. In choosing it we seek a pathway that has immediacy to students' civic engagement, to 21st century careers, and to furthering students' educational opportunities. The network's aim is the development of a year-long alternative pathway that any student could enroll in during their first year of community college. The pathway would take students up to and through the equivalent of college-level statistics. Critical to our selection of statistics is the fact that key skills and concepts of basic mathematics, such as

arithmetic operations, number sense, visualizations, basic algebraic concepts and procedural fluency are foundational to statistical proficiencies. Thus we seek to strengthen students' basic math competencies in the process of introducing more sophisticated and relevant statistical applications, concepts and skills.

## Carnegie's Role

We do not see our task as that of an external developer of instructional materials and procedures that others are then asked to implement as we have designed them. Rather, Carnegie's job is to create the social-technical infrastructure to convene, sustain and support a Networked Improvement Community made up of practitioners, students, researchers and design/developers. It is this community, then, that will collectively design, develop, evaluate and refine the tools, assessments, curriculum and support services that will enable student success in the statistics pathway. Our responsibility is to assure that this community builds on the best of what already exists in the field (and what is known about what exists), that it has access to the external expertise it needs when it needs it, and that systematic social learning occurs about the problems confronted and the interventions attempted in response. In this latter regard, our goal is not to solve this problem in a few places but rather to orchestrate around the efforts of the network a common knowledge development and management system. Our goal is to ensure that whatever we develop and learn becomes a resource to others as this effort scales in subsequent years. We invite you to continue to follow our work through this website and, if you're interested, sign up for [our mailing list](#) <sup>[3]</sup> to receive regular updates.

[Anthony S. Bryk](#) <sup>[4]</sup>

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