JOINT STUDY SESSION OF THE
ACADEMIC AND STUDENT AFFAIRS AND
DIVERSITY AND MULTICULTURALISM COMMITTEES
DECEMBER 2, 2010
9:00 AM – 11:00 AM

WELLS FARGO PLACE
30 7TH STREET EAST
SAINT PAUL, MN

Please note: Committee/Board meeting times are tentative. Committee/Board meetings may begin up to 45 minutes earlier than the times listed below if the previous committee meeting concludes its business before the end of its allotted time slot.

(1) Review of Academic and Student Affairs Board Goal and Purpose of the Study Session
(2) Review of Schools of Thought and Best Practices in Remedial and Developmental Education
(3) Intersections of Demographic Data with Best Practices
  a. Preparedness of Minnnesota Students
  b. Achievement Gap
(4) Current Practices within the System
(5) Relationship of Best Practices, Minnesota Demographics, and Current System Practices
(6) Discussion

Academic and Student Affairs Committee Members
Christine Rice, Chair
Duane Benson, Vice Chair
Christopher Frederick
David Paskach
Tom Renier
Louise Sundin
James Van Houten

Diversity and Multiculturalism Committee Members
Louise Sundin, Chair
Duane Benson, Vice Chair
Jacob Englund
Alfredo Oliveira
Christine Rice
James Van Houten

MINNESOTA STATE COLLEGES AND UNIVERSITIES
BOARD OF TRUSTEES

Agenda Item Summary Sheet

Committees: Academic and Student Affairs
Diversity and Multiculturalism

Date of Meeting: December 2, 2010

Agenda Item: Joint Study Session on Remedial and Developmental Education

☐ Proposed Policy Change ☐ Approvals Required by Policy ☐ Other Approvals ☐ Monitoring

☒ Information

Cite policy requirement, or explain why item is on the Board agenda:
Board members have requested background information on the current status of remedial education nationally and within the Minnesota State Colleges and Universities system.

Scheduled Presenter(s):
Scott Olson, Interim Vice Chancellor for Academic and Student Affairs
Whitney Harris, Executive Director, Diversity and Multiculturalism
Mike López, Associate Vice Chancellor for Student Affairs
Leslie Mercer, Associate Vice Chancellor
Craig Schoenecker, System Director for Research
Campus Developmental Education Practitioners

Outline of Key Points/Policy Issues:
Issues to be discussed include the need for remedial education in higher education, the scope of remedial education nationally and in Minnesota State Colleges and Universities, the effectiveness of remedial education and subsequent success of students to take remedial classes, promising practices, and new models of remedial education. In addition, campus presenters will provide information about remedial education at their colleges.

BOARD OF TRUSTEES
MINNESOTA STATE COLLEGES AND UNIVERSITIES

INFORMATION ITEM
JOINT STUDY SESSION ON REMEDIAL AND DEVELOPMENTAL EDUCATION

BACKGROUND

The Academic and Student Affairs Committee of the Board of Trustees has established as one of its goals for this year to "Study the pros and cons of moving responsibility for remedial education from the state universities to the state colleges." During this joint study session, member of the Academic and Student Affairs and Diversity and Multiculturalism committees will review a considerable amount of information about remedial education in order to have a better perspective on a very complex topic.

Research-based Best Practices for Developmental Education

Presenter: Hunter R. Boylan, Ph.D.
Professor and Director, National Center for Developmental Education
www.ncde.appstate.edu

I. Institutional practices

A. Designate a full-time administrator to be responsible for campus-wide developmental education.

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B. Insure a seamless transition between all levels of developmental education as well as between developmental and college level courses.

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C. Develop a philosophy statement to guide developmental education activities.

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D. Develop a set of goals and objectives for the campus-wide developmental education effort.

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E. Establish a combination of "top-down" and "bottom-up" support for developmental education.

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F. Review the language used to describe developmental programs and students in publications, discussions, and in classes.

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G. Insure that the needs of developmental education are represented in resource allocation and planning decisions.

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II. Program practices

A. Establish learning communities.

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B. Require underprepared students to take student success courses.

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C. Use supplemental instruction, particularly video-based supplemental instruction.

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D. Use technology to support, not replace instruction.

_____

E. Use formative evaluation to understand and revise programs and procedures.

_____

F. Promote faculty and staff training and development.

_____

G. Use case management/intrusive advising.

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h. Accelerate the process of completing developmental courses.

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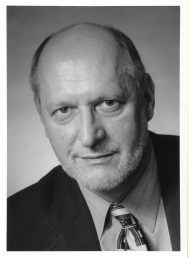
In Research in Developmental Education, 12 (2), 1-4.



Hunter R. Boylan is Director of the National Center for Developmental Education at Appalachian State University in Boone, NC 28608. The author wishes to acknowledge the contributions of Michael Dale, Associate Professor in Appalachian State University's Department of Leadership and Educational Studies.

Remedial Versus Developmental Education

The debate over where to do developmental education or whether to do it at all is fraught with misunderstandings, oversimplifications, half-truths, and some outright lies. Many educators and legislators simply do not understand the issue in all of its complexity. Many university faculty and administrators harbor distorted notions of what developmental education is, what it does. and what its true role should be in academe.

A critical misunderstanding in this debate is the distinction between 'remedial" and "developmental' education. Colleges and universities have long offered precollege-level courses designed to teach the basic academic skills necessary for success in college(Brier, 1984). These served students who were quite competent as poets, writers, or philosophers but lacked mathematical skills or students who had excellent potential as scientists, mathematicians, or engineers but had difficulty with the written word. TIEN, also served some students who were deficient in several basic skills.

Traditionally, these students were enrolled in what were called remedial classes. These were designed specifically. to compensate for deficiencies in prior learning. As educational researchers began to understand the factors behind successful college performance, it was recognized that although remedial courses were valuable, they were often not sufficient (Maxwell, 1985). Students fail to do well in college for a variety of reasons, and only one of them is lack of academic

preparedness. Factors such as personal autonomy, self-confidence, ability, to deal with racism, study behaviors, or social competence have as much or more to do with grades, retention, and graduation than how well a student A-rites or how competent a student is in mathematics (Astin, 1977: Chickering. 1969; Higher Education Extension Service, 1992: Sedlacek, 1987).

Recognition of this caused those who taught remedial courses to integrate personal development and academic development into coursework and to add support services such as assessment, counseling, learning centers and laboratories, or advising to their repertoire of interventions. The result was much more than simple remediation of academic skill deficiencies. Instead, it combined remedial instruction with personal and academic development. Subsequently, this process became known as 'developmental education.' Developmental education is not a euphemism for remediation. It is a far more sophisticated concept involving a combination of theoretical approaches drawn from cognitive and developmental psychology. (Chickering, 1969; Erikson, 1968; Kohlberg, 1975@ Perry, 1970).

Modern developmental education involves a range of services designed to promote personal and academic development. These services may include counseling; advising; tutoring; topical workshops: individualized instruction; and courses to enhance study skills and strategies, promote critical thinking, or introduce students to the rewards and expectations of college. They may, also include precollege basic skills or remedial courses. In developmental education. remediation is only one of several possible options along a continuum of interventions ranging from occasional tutoring to brush up on forgotten material to a complete batten- of in-depth remedial courses. The choice of interventions is based on assessment information combined with the professional judgement of developmental educators.

Admittedly, there are some institutions where remediation in the traditional sense is still practiced. Such institutions offer only a few remedial courses. But these institutions are not representative of current scholarly thought or even typical practice among most developmental programs.

Issues in the Developmental Education Debate

A second set of issues in this debate have to do with whether or not developmental education is needed in higher education and, if so. where such activities should be placed. The seven points, outlined as follows. address these issues.

1. Students Need Developmental.

Education estimates from the National Center for Education Statistics (I 99 1) indicate that, depending on the state and the type of institution, anywhere between 16% and 40% of each year's incoming students for any given institution are, to some degree, inadequately prepared for college-level academic work. A few need to develop their reading and study skills. Some need to develop their writing skills, and many need to develop their mathematics skills. Of these students, some

may develop their skills through tutoring, workshops, or individualized instruction. Others may, need one or more remedial courses in order to fully develop their skills. Without this skill development they will be unable to pass even introductory courses in some subjects.

Developmental education courses and services help students develop these skills. The National Study of Developmental Education (Boy1an. Bonham, & Bliss, 1992) indicates that, with the help of developmental programs, underprepared students can pass courses and graduate at rates equal to or greater than those of better prepared students. Without this help large numbers of potentially successful students would be unable to complete college.

2. Most Colleges Need to Admit Underprepared Students.

The nation's most elite institutions like Harvard, Stanford, Colgate, Amherst, or Brown can afford to be highly selective and admit only, the very best prepared students. Most nonselective public and private institutions cannot. They cannot do this for at least two reasons. First, these institutions are committed to making higher education accessible to the citizens of their state or region. They exist, at least partially, to provide a pool of highly literate and well-trained workers and professionals who will promote the economic development of their state or region.

The available pool of any sort of student, let alone the academically, talented ones, is simply not large enough to sustain economic development. According to Hodgkinson (1985) we are 'entering an era in which youth will be in short supply in America' (p. 18). As Hodgkinson also notes, '... in 1950, seventeen workers paid the benefits of each retiree. By 1992, only three workers will provide the funds for each retiree and one of the three workers will be a minority" (p.3). Of these workers, a great many will have grown up in poverty and been denied educational opportunities, and many of the more advantaged will still have failed to master basic literacy and problem solving skills (Hodgkinson, 1985).

Furthermore, as the Carnegie Commission (I 980) predicted 15 years ago, the number of 18-year-olds in the population has declined dramatically since 1973 and most states are experiencing a noticeable decline in the number of high school graduates. Consequently, institutions must take some risks in admitting underprepared students in order to expand the potential pool of workers and professionals educated at the postsecondary level.

Second, these institutions must sustain at least minimal levels of enrollment in order to function. To sustain enrollment, they cannot limit themselves only to those who are immediately full prepared for college level work. Today, there are fewer students in the 17-22 year old age bracket, and a smaller percentage of these are graduating from high school now than in l980 (Hodgkinson,1985). Consequently, colleges and universities must admit substantial numbers of students who are not yet fully prepared for college. This does not mean that such students cannot be successful. It simply means that they will need help in order to do so. Developmental programs provide this help.

3. Most Colleges and Universities Need Developmental Education

Colleges and universities which admit underprepared students do so on the assumption that with some developmental assistance their preparedness can be improved (Cross, 1976; Keimig, 1983; Maxwell, 1985, Roueche & Snow, 1977). If this assistance were not provided. institutions would either have to fail large numbers of students or lower their academic standards to accommodate student deficiencies. Most institutional administrators realize that neither alternative is acceptable. A potentially successful student who fails in college is a loss of human resources that cannot be easily replaced. Administrators also realize that the integrity of their institution is diminished if sophomore literature classes have to teach students how to write complete sentences, physics classes have to teach basic algebra, or otherwise talented students do not know how to study or engage in critical reflection. An investment in developmental education resolves this dilemma. It insures that students who reach advanced courses will have the skills necessary to do the work in these courses.

4. American Colleges and Universities Have Always Enrolled Underprepared Students

Students who are underprepared for college level work have always been present in American colleges and universities. In 1849, for instance, the University of Wisconsin established a College Preparatory Department for students who lacked the basic skills to be successful in the university, curriculum (Brier, 1984). According to a National Council on Education report appearing 4O years later, 80% of American colleges and universities had preparatory departments in 1889 (based on information in Brier, 1984, p. 3). Martha Maxwell reports that half the students enrolled at Harvard, Princeton, and Yale in the early, 1900's did not meet basic entrance requirements (Maxwell, 1985).

With the exception of a brief period lasting roughly from 1963 to 1973 when the children of the baby boom reached college age, American colleges and universities have rarely been able to engage in highly selective admissions (Boylan, 1988). The presence of underprepared students on college campuses today is not a new phenomenon. It cannot be blamed on affirmative action; affirmative action was not part of the nation's higher education policy in the 19th century. It cannot be blamed on developmental education; developmental education programs only serve the underprepared students already present on campus, they did not recruit them.

5. Developmental Education is Part of the Solution, Not Part of the Problem.

Some administrators and politicians have blamed the presence of developmental programs for a decline in academic standards. This argument is clearly specious. Those who work in developmental programs neither determine admissions criteria nor set academic standards. These are done by admissions officers, administrators, faculty committees, and state higher education executive offices.

Once these standards are set. however, it is the job of developmental educators to insure that students meet them. Students generally do not exit from developmental courses or programs until they are capable of doing college-level work. The purpose of developmental programs is to develop students skills so that they can meet academic standards. By improving students' academic

skills, developmental programs also make it possible for more students to persist in academe while meeting higher academic standards (Boylan, Bonham, & Bliss, 1992; Keimig. 1983: Roueche & Snow, 1977). Developmental educators, therefore, contribute to the preservation, not the decline, of academic standards.

6. Relegating Developmental Education to Community Colleges is Not the Answer.

The argument that developmental courses and programs should be offered solely by community colleges rather than by universities reflects a simplistic understanding of higher education. Developmental education is needed in all sectors of higher education, although different ranges of developmental services may be needed by different types of institutions. The more selective institutions, for instance, may need to provide tutoring and assistance with study skills and strategies. Less selective institutions may need to provide a complete battery of courses and services.

If all the university students who needed some form of help in order to succeed were relegated to the community colleges, several things could happen, most of them bad. Here is a summary of a few of them.

a. If anywhere from 16% to 40% of incoming students were denied developmental courses or services and directed to community colleges and not admitted to universities, many of these institutions would either have to shut their doors or dramatically decrease their courses and services. Underprepared students simply represent too large a percentage of many freshman classes to eliminate them and still function as a university. Many institutions would simply not be able to enroll enough fully prepared students to keep their doors open or their faculty gainfully employed.

b. If all underprepared students were suddenly relegated to community colleges, these institutions would, in most cases, be unable to handle the influx. Many community college administrators already complain that they cannot provide enough developmental courses and services to meet the needs of students currently enrolled. Having to serve hundreds of additional under-prepared students would, in all likelihood, overwhelm the capacity of many community, colleges to provide effective developmental education.

c. The only way in which students normally served by universities could be adequately served by community colleges would be to take resources currently assigned to universities and reallocate them to 2-year institutions. This would not be an unpopular move but, if actually done, would create a massive dislocation of university resources within state systems.

d. Underprepared students denied admission to universities are not, necessarily, likely to attend a community college instead. As an alternative. many might elect to attend private colleges that would welcome them and provide developmental courses and services. This would result in a major migration of students from state universities to less selective private colleges or, for those who could afford it, to other states.

e. An assumption behind the argument for relegating underprepared students to community colleges is that they could later transfer to state institutions once they have mastered basic skills and completed the transfer curriculum. Unfortunately, current research indicates that students who enter community colleges are far less likely to attain a baccalaureate degree than those who enter 4-year institutions (Grubb, 199 1). This is particularly true for minority students. According to the National Study of Developmental Education (Boylan, Bonham, & Bliss, 1992), only about 10% of the underprepared minority students entering community colleges intending to transfer to a senior institution actually do so. Forcing those less prepared students who desire a baccalaureate degree to enter first through a community college would most likely reduce the number of baccalaureate graduates in a given state. It would also have a greater negative impact on the educational attainment of minorities.

7. School Reform Initiatives Are Not Likely to Improve the Quality of High School Graduates in the Foreseeable Future.

Legislators and educators frequently confuse the funding of a solution with the actual solution of a problem. A few confuse passing legislation with accomplishing a solution regardless of whether or not the legislation is implemented effectively or actually, addresses the problem. A recent report funded by the U.S. Department of Education is illuminating in this regard. The report noted that, in some states. even massive infusions of money and 'heroic' efforts at school reform have failed to significantly improve the quality of high school graduates (Hodgkinson, 1993, p. 47). Furthermore, it is well known that, in spite of a spate of reports criticizing our educational systems and arguing for school reform, little improvement has been demonstrated nationally in SAT or ACT scores during the past decade.

School reform may be working, but its effects have yet to be demonstrated. Given this, it is unlikely that the academic skills of high school graduates will improve markedly in the foreseeable future. Until the academic preparedness of high school graduates improves, a gap between what many students are able to do upon graduation and what they must be able to do to succeed in college will continue to exist.

Furthermore, recent high school graduates are becoming an increasingly. smaller percentage of those who attend college. The average age of college students in the United States is increasing as more adults return to college. Of those students attending college in the fall of 1992. 35.1% were over the age 25. ("College Enrollment by Age," 1994, p. 15). This means that more &.an a third of today's college students attended high school at least 7 years ago. There is no evidence to suggest that these students are any better prepared for college than those in traditional age groups. and many of them may be less prepared. Nevertheless, if this trend continues, (and most experts predict that it will) current efforts at school reform are obviously going to be irrelevant for large numbers of older college students.

Conclusion

It is extremely likely that a gap in the academic preparedness of many college bound students will continue to exist at least well into the 21st century. What are some of the possible solutions to this problem?

Many state universities might decide or be forced to decide to take only the top 60% or so of current applicants. This would certainly reduce the number of underprepared students in college and the subsequent need for developmental courses and programs. As a result, however, most such institutions would be dramatically downsized while diverting thousands of students to less selective private institutions. Furthermore, although white students are still the majority of those served by most developmental programs, minority students represent a disproportionate share of developmental education clients. Minorities, therefore, would be among those most adversely, affected by such a solution. Substantial numbers would either not be admitted or, if admitted. would have no services available to help them overcome the academic effects of prior racism and discrimination. Under such circumstances, it is entirely possible that what little progress has been made in the educational attainment of people of color in this country could be completely erased within a decade.

Underprepared students might be forced to attend community colleges in order to obtain developmental education. This would overwhelm these institutions with underprepared students and make it even more difficult for developmental courses and services to be provided effectively. At the same time, this would result in a general reduction of baccalaureate degree attainment in those states where such a policy might be implemented. Since underprepared minorities are among the least likely to attain associate degrees and transfer to baccalaureate institutions (Boylan, Bonham, & Bliss, 1992; Grubb, 1991), this, too, would have chilling effect on educational opportunity.

Developmental programs might be eliminated with no changes in current admissions policies. This would mean that substantial numbers of students would enter college without the necessary prerequisite skills and have no way to develop them. Such a "sink or swim" policy might enable a few underprepared students to be successful through Herculean effort and whatever assistance faculty might be able to provide to them. Most of the underprepared students, however, would not survive. Cross (1976) estimates that only about 10% of the students who are unprepared for college work would be likely to graduate without developmental education courses and services. The consequence of this option, therefore, would be either massive failure rates or a general "watering down" of the curriculum at many institutions.

Legislative and administrative activities might be directed to improving developmental programs and making them more cost effective rather than eliminating them or shifting their location. Not all developmental programs are as good as then. could be. Although most programs are successful in improving their students' skills. the quality of practice across the nation is uneven (Boylan, 1992). Improvements in practice can be made and would improve the cost effectiveness of developmental education. Such improvement might result from providing better student assessment. more accurate diagnosis and placement. more training for developmental education professionals, improved

program evaluation, greater accountability for results, and a subsequent higher quality of service to students. Different institutions might engage in different types of developmental education activity. For instance, some combination coursework and academic support services might be more appropriate for community colleges and less selective universities whereas academic support services alone might be more appropriate for selective institutions.

This latter solution would not only work but would put state economies, institutional survival, educational opportunity, and the general educational aspirations of all our citizens at far less risk than the alternatives. Providing developmental education for underprepared students may, indeed, involve some costs. But those costs are considerably less than the potential costs of not providing it.

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Community Colleges and States Selected to Boost College Graduation Rates by Improving Remedial Courses and Strategies
Effort will build on promising remedial programs and inform others on innovative ways to help more students earn their college degrees

Bill & Melinda Gates Foundation
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CHAPEL HILL, N.C. -- Today, the Bill & Melinda Gates Foundation and MDC, Inc. announced $16.5 million in grants to 15 community colleges and five states to expand groundbreaking remedial education programs that experts say are key to dramatically boosting the college completion rates of low-income students and students of color.

A recent report from Jobs for the Future found that that nearly 60 percent of students enrolling in the nation's community colleges must take remedial classes to build their basic academic skills. For low-income students and students of color, the figure topped 90 percent at some colleges. Remedial classes cost taxpayers more than $2 billion a year, money that is mostly wasted as few students even complete the classes, let alone continue on to graduate.

The grants announced today will fund the Developmental Education Initiative, which will build upon the most promising programs developed through *Achieving the Dream: Community Colleges Count*, a multi-year national initiative to boost graduation rates at community colleges, particularly among low-income students and students of color. The remedial education models developed by the 15 community colleges receiving these grants represent some of the most promising work in the country aimed at boosting college completion rates among struggling students.

The lessons learned through *Achieving the Dream*—such as streamlining high school and college standards, using technology to boost basic skills, and the power of mentorships—are proving that these students can succeed when colleges develop programs that fit students' needs.

More than 133,000 students take remedial education classes in the 15 community colleges selected for these latest grants. The number of students moving from remedial to college-level courses improved 16 to 20 percent through these selected programs.

Achieving the Dream was launched as a partnership in 2004 with funding from Lumina Foundation for Education. Lumina is also committing $1.5 million to this latest initiative for evaluation and communications. Jobs for the Future is the advocacy partner for *Achieving the Dream*.

"The pressing need to shore up weak academic skills in first-year students is one of the most significant, but least discussed, problems confronting higher education," said Carol Lincoln, director of the Developmental Education Initiative and national director of *Achieving the Dream* for MDC. "Colleges that can figure out how to quickly and efficiently boost basic skills, particularly among students of color and low-income students, will play a leading role in helping them earn the college degrees necessary for economic success in America today."

The grants also will support state-level efforts in Connecticut, Florida, Ohio, Texas, and Virginia to implement new data collection systems that will help them better track the success of their remedial programs. A sixth state, North Carolina, will participate with its own funding. These states have also pledged to measure their progress against those in other states.

"Too many institutions have not developed powerful and effective ways to accelerate academic progress for students who start college underprepared," said Hilary Pennington, director of

Education, Postsecondary Success and Special Initiatives at the Bill & Melinda Gates Foundation. “By working together, states, community colleges, and local school districts can design programs to accelerate high-quality learning and shorten the amount of time it takes to earn a degree.”

The grants announced today advance the Gates Foundation’s efforts to help ensure every young person in the United States graduates from high school ready for college and obtains a postsecondary degree that prepares them to succeed in the global economy.

In today’s America, a college degree or postsecondary certificate is required to obtain a family-wage job and a shot at the middle class. Until recently, education reform efforts and national policies have focused on increasing access to college, but have done little to help students earn credentials that employers value. The Obama administration has called on the states and education leaders to work together to help the United States lead the world in percentage of college graduates by 2020.

The following is a summary of the grants announced today:

Connecticut Total Funds: $1,786,000	
State of Connecticut $300,000 over three years	Phase in common statewide placement standards and align remedial work with credit-bearing courses to accelerate progress toward degree completion.
Housatonic Community College $743,000 over three years	Expand its innovative self-paced math course offerings; introduce similar self-paced English courses; expand an intensive three-week math review course designed to improve placement test results; and offer college placement tests to incoming high school seniors so they can begin any needed development work during their final year of high school.
Norwalk Community College $743,000 over three years	Align remedial math and English with college-credit courses; expand learning communities, including linkages to a freshman seminar course; assist developmental students in establishing e-portfolios; provide support through the NCC Student Success center.
Florida Total Funds: $1,043,000	
State of Florida $300,000 over three years	Collaborate with K-12 to reduce the need for remedial education.
Valencia Community College $743,000 over three	Create a centralized remedial program to be used across four campuses; align high school, remedial, and college-level standards; expand a student

years	success course, supplemental instruction, and remedial learning communities; and embed reading skills into its remedial math courses.
North Carolina Total Funds: $743,000	
Guilford Technical Community College $743,000 over three years	Provide intensive advising and case management for remedial students; create a new Learning Assistance Center; and expand its student success course, learning communities, peer-led instruction program, and accelerated remedial courses.
Ohio Total Funds: $4,015,000	
State of Ohio $300,000 over three years	Develop a new performance-based funding system that would reward community colleges for helping students progress through remedial education and subsequent college-level courses.
Cuyahoga Community College $743,000 over three years	Implement Teaching and Learning Integrated Team model, which incorporates mentoring, online and in-person tutoring, supplemental instruction, and collaborative student learning. Provide faculty and staff training to integrate these services into course design.
Jefferson Community College $743,000 over three years	Integrate Adult Basic Education into the remedial education department and redesign remedial math and English courses following the National Center for Academic Transformation model. Expand professional development offerings.
North Central State College $743,000 over three years	Expand several pilot programs, including a self-paced learning lab, a program for adult GED students, an accelerated math boot camp, intensive advising, and the creation of a dedicated remedial education tutoring center. Continue high school outreach through placement test workshops for faculty.
Sinclair Community College $743,000 over three years	Conduct a policy and practice review that will guide programs for remedial students. Expand its Student Success Plan initiative, which offers high school students individual learning plans, coaching, and case management as well as online math modules with diagnostics.

Zane State College $743,000 over three years	Expand its remedial math advising program to all remedial courses, incorporate technology into remedial education courses with a mobile lab, and train faculty on how to further improve the classroom experience.
Texas Total Funds: $3,272,000	
State of Texas $300,000 over three years	Institute performance incentives to reward the state's colleges for helping more students advance through remedial education courses.
Coastal Bend College $743,000 over three years	Focus on improving remedial math programs by providing mandatory case management for students and by aligning remedial and credit-bearing math courses more efficiently.
El Paso Community College $743,000 over three years	Expand to four campuses its College Readiness Initiative, which aligns remedial and college entry and exit standards; provide case management for all remedial education students for 30 credit hours; and expand its "modular math" program.
Houston Community College $743,000 over three years	Align remedial math outcomes with college-level courses; expand "modular math" and learning communities that assign students to a cluster of courses as a group; and provide supplemental instruction in all remedial math courses.
South Texas College $743,000 over three years	Offer its Beacon Mentoring Program to all remedial students and create a task force to ensure courses align with students' career goals and that the curriculum is integrated across all three remedial subjects.
Virginia Total Funds: $1,786,000	
State of Virginia $300,000 over three years	Commission research to identify obstacles to completion, factors that correlate with student success, and high and low performing institutions to inform statewide goals for community colleges.
Danville Community College $743,000 over three years	Align remedial and college-level entry and exit standards. Form a Remedial Education Advisory Committee, represented by college faculty and staff and key stakeholders outside the college.

Patrick Henry Community College $743,000 over three years	Expand accelerated courses and skill-focused instruction, simultaneous enrollment in remedial and college-level courses, and a math lab requirement. The college will refine a diagnostic tool that identifies risk factors in remedial students and guides placement in appropriate interventions.

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Lumina Foundation for Education

Lumina Foundation for Education is a private foundation committed to enrolling and graduating more students from college—especially low-income students, students of color, first-generation students, and adult learners. Lumina's goal is to increase the proportion of Americans who hold high-quality degrees and credentials from 39 percent to 60 percent by 2025. The Foundation pursues this goal in three ways: by identifying and supporting effective practice, through public policy advocacy, and by using its communications and convening power to build public will for change.

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An NCPR Working Paper

The Impact of Postsecondary Remediation Using a Regression Discontinuity Approach: Addressing Endogenous Sorting and Noncompliance

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Abstract

Remedial or developmental courses are the most common policy instruments used to assist underprepared postsecondary students who are not ready for college-level coursework. However, despite its important role in higher education and its substantial costs, there is little rigorous evidence on the effectiveness of college remediation on the outcomes of students. This study uses a detailed dataset to identify the causal effect of remediation on the educational outcomes of nearly 100,000 college students in Florida, an important state that reflects broader national trends in remediation policy and student diversity. Moreover, using a Regression Discontinuity design, we discuss concerns about endogenous sorting around the policy cutoff, which poses a threat to the assumptions of the model in multiple research contexts. To address this concern, we implement methods proposed by McCrary (2008) and discuss the strengths of this approach. The results suggest math and reading remedial courses have mixed benefits. Being assigned to remediation appears to increase persistence to the second year and the total number of credits completed for students on the margin of passing out of the requirement, but it does not increase the completion of college-level credits or eventual degree completion. Taken together, the results suggest that remediation might promote early persistence in college, but it does not necessarily help students on the margin of passing the placement cutoff make long-term progress toward earning a degree.

Contents

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1. Introduction

Remedial or developmental education, defined as coursework below college-level offered at a postsecondary institution, is a topic of considerable debate in higher education.[1] The conceptual foundation for remedial coursework is straightforward — students are tested to determine whether they meet a given level of academic proficiency in order to enroll in college-level coursework. Deficiencies in tested skills are addressed through some form of supplementary instruction, most often remedial courses. Many are concerned, however, about the significant costs of remediation. Colleges and states devote substantial resources to remediation. One conservative estimate suggests that public colleges spend one to two billion dollars annually on remedial education programs (Breneman & Haarlow, 1998). More recently, a report found that remediation at Florida community colleges cost $118.3 million during school year 2004-2005 with 53 percent of this being paid by the state (Office of Program Policy and Government Accountability [OPPAGA], 2006). Not surprisingly, many policymakers have begun to question the need to pay for academic preparation that they believe should have occurred in secondary school, and many states have recently introduced plans to reduce the availability of postsecondary remedial courses or limit its cost (Merisotis & Phipps, 2000; Bettinger & Long, 2007). Remediation is also costly to students. While the courses often do not qualify for college credit, students must nonetheless pay tuition for them and bear the opportunity cost of foregone earnings. In 2003-04, Florida community college students who required remediation took an average nine credit hours of remedial coursework and paid an additional $504 for college prep coursework during their first year of college (OPPAGA, 2006, p. 4).

Meanwhile, student demand for remediation has increased in recent decades. Nationally, it is estimated that only one-third of students leave high school at least minimally prepared for college (Greene & Foster, 2003). Of those who enter higher education, over one-third are required to take remedial courses in reading, writing, or mathematics (National Center for Education Statistics [NCES], 2003). Remediation rates are particularly high at two-year community colleges, which open their doors to all students regardless of their level of academic preparedness (Dougherty, 1994). Based on longitudinal data from the high school class of 1992, nearly 60 percent of first-time community college students took at least one remedial course (Attewell, Lavin, Domina, & Levey, 2006), and similar numbers were found among community college students in Ohio (Bettinger & Long, 2007). In fact, partly due to the belief that remedial courses can be offered for a lower cost at community colleges, at least ten states have elected to

[1]The literature sometimes defines remediation as coursework that is retaken while developmental courses are classes that focus on new material. Here, however, the terms "remediation," "college prep," and "developmental education" are used interchangeably.

focus their remediation efforts at the two-year colleges and more are considering doing so (Bettinger & Long, 2007). This study focuses on remedial courses at two-year colleges, and so reflects this larger national trend.

Unfortunately, the ongoing debates about whether and where to offer remediation lack a large knowledge base about the effectiveness of the courses. The lack of research knowledge is due primarily to the unavailability of data but also to the failure of most research to account for the non-random assignment into remedial courses. By definition, less-prepared students are more likely to be placed in remedial education, and hence, straightforward OLS regressions on the impact of remediation on academic outcomes are biased due to selection (Bettinger & Long, forthcoming; Grubb, 2001). However, several recent efforts have attempted to address the selection problem using quasi-experimental approaches. Bettinger and Long (forthcoming) make use of differences in remedial policies across public institutions in Ohio to compare similar students who have had varying experiences with remediation based on the college they attend. This study instead uses a regression discontinuity (RD) design, which exploits the fact that remedial placement in Florida is largely based on a test score. This quasi-experimental approach assumes that in the absence of the treatment, a sample of students close to the cutoff will be academically equivalent due to some randomness in test outcomes around the discontinuity; thus, students who barely pass the remedial testing cutoff are good counterfactuals for their treated peers. Although this approach has been widely used in other contexts to obtain causal inferences when selection bias exists (Trochim, 1984; Angrist & Lavy, 1999; Van der Klaauw, 2002; Jacob & Lefgren, 2004; Lee, 2008), it has rarely been applied to the study of remediation programs in higher education. With the availability of new data sources, however, this may be changing.

This study uses the RD approach to compare students just above and below the placement test cutoff to examine the impact of postsecondary remediation on student outcomes. The few other studies on remediation using an RD design have generally used only very small samples and are thus difficult to interpret.[2] One exception is Martorell and McFarlin (2007), which also applies the RD approach to compare students in Texas. However, this paper extends the literature in several important ways. It uses a unique, large administrative dataset of college students in Florida to explore more contexts and issues concerning postsecondary remediation than earlier work as well as to comment on the challenges inherent in determining the causal impact of remediation. We detail the application of the RD approach to this research context, including ways to address noncompliance with the placement rule. Additionally, we address a major methodological threat to the RD research approach in much research: there may be

[2]See Aiken, West, Schwalm, Carroll, and Hsiung (1998); Lesik (2006); and Moss and Yeaton (2006). The difficulty in interpreting the results develops because the RD approach generally requires large samples in order to allow for the comparison of students around a narrow band of the remedial placement cutoff.

endogenous sorting around the policy cutoff. In the context of remediation, some students may be permitted to take the remedial placement exam multiple times in order to pass out of the courses, and this invalidates the fundamental underlying assumption of the RD design. We address this concern by applying the test of manipulation proposed by McCrary (2008) to provide a solution for the retesting problem and a sensitivity test for the more straightforward estimates. This should help inform future research on remedial programs as well as analyses using the RD approach to evaluate interventions in other contexts.

The other major contribution of the paper is to provide additional information on the impact of math and reading remediation on student outcomes. Using an incredibly rich data source, we provide detailed information on a number of outcomes for nearly 100,000 students. Moreover, because we focus on Florida, our estimates provide information about remediation that is relevant nationwide. Florida is one of the ten states that discourage the offering of remedial education at four-year institutions, which is a growing policy trend (Bettinger & Long, 2007; Jenkins & Boswell, 2002). The Florida community college system is also the third largest in the nation and enrolls nearly six percent of community college students nationwide.[3]

The results suggest remediation has limited or mixed benefits. After controlling for noncompliance and endogenous sorting around the placement test cutoff score, students on the margin of requiring math remediation were slightly more likely to persist to their second year than their non-remedial peers, but there was no detectable impact for reading. Meanwhile, the likelihood of passing subsequent college-level English composition was slightly lower for remedial students while no difference was found in future course performance for math remedial students. Finally, the impacts for both math and reading remediation are found to be positive in terms of total credits earned, but no statistically significant difference was found in terms of total college-level (non-remedial) credits earned. Taken together, the results suggest that remediation might promote early persistence in college, but it does not necessarily help community college students on the margin of passing the cutoff make long-term progress toward a degree.

The remainder of the paper is organized as follows. Section 2 provides a literature review and explains the methodological challenges associated with the evaluation of remedial education. It also provides background information on remediation in Florida and on the data used in the analysis. Section 3 details the research design and empirical strategy, including the RD research approach and application of McCrary (2008) to deal with nonrandom sorting. Section 4 discusses the results, and Section 5 presents our conclusions.

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[3]Source: Authors' computations based on the *Digest of Education Statistics* (NCES, 2004).

2. Literature Review and Background on the Florida Context

Is Remediation Effective? Methodological Challenges and Past Causal Estimates

While postsecondary remediation plays an important role in higher education, little is known about its effectiveness in improving the outcomes of underprepared students. There are reasons to believe that the effects of remedial courses could be positive or negative. Advocates claim that remediation is an important, necessary, and effective component of higher education. On the other side, critics argue that remediation is a barrier that increases the requirements that are needed before taking college-level courses, thereby lowering completion and transfer probabilities. Moreover, the literature suggests that placement into remediation may lower self-esteem and educational expectations, possibly due to a student being stigmatized by peers and faculty, and hence negatively impact student outcomes.[4]

Even though 35 to 40 percent of first-time college students are placed into remediation each year, the topic remains an understudied component of higher education. Early research on remediation has been mainly descriptive, simply comparing the outcomes of students in remediation to those not in remedial courses. However, selection issues preclude such a straightforward analysis because there are inherent differences between students placed in remediation and those who pass out of the courses. Unfortunately, until recently, few studies have been able to overcome these research concerns. Two reviews of the literature on remedial and developmental education found the bulk of studies to be "methodologically weak" with almost two-thirds reflecting "serious methodological flaws" (O'Hear & MacDonald, 1995; Boylan & Saxon, 1999). Another concern of the past research is that most studies often do not track students across time, which prevents analysis of longer-term outcomes such as degree completion.

With the availability of new data sources, several major studies on the impact of remediation have been completed in recent years. The first set of large scale studies, by Bettinger and Long (2004, forthcoming), use an instrumental variable strategy that combines between-college variation in remediation placement policies and the importance of distance in college choice to estimate the causal effect of remedial courses on higher education outcomes. This sort of comparison is possible in Ohio, the target state of the analysis, because institutional policies regarding remediation differ across the public colleges and universities. Therefore, two students with the same characteristics face dissimilar probabilities of remediation if they attend

[4]For a comprehensive discussion of advocates' arguments, see McCabe (2000). Deil-Amen and Rosenbaum (2002) provide the critics' perspective.

different schools. The analysis focuses on degree-seeking, traditional-age (18 to 20 years old), full-time undergraduates who entered a public college in fall 1998. Their results suggest that remedial students at Ohio colleges are more likely to persist in college and to complete a bachelor's degree in comparison to students with similar test scores and backgrounds who were not required to take the courses. Moreover, Bettinger and Long (2005) found that community college students placed in math remediation were 15 percent more likely to transfer to a four-year college and to take ten more credit hours than students with similar test scores and high school preparation. Overall, these results suggest that remedial classes have beneficial effects for students in Ohio.

Martorell and McFarlin (2007) instead examine the impact of remediation in Texas, a state with a single placement exam and cutoff score, similar to Florida. Using an RD design similar to the basic model of this paper, the study exploits information on college students' remedial placement exam scores to compare students just above and below the placement cutoff. Martorell and McFarlin find that remediation has little effect on a wide range of educational and labor market outcomes. The estimates are small and statistically insignificant but suggest that students are neither harmed nor greatly benefited by remediation.

Even with the recent research developments on the effectiveness of remediation, little is known about the causal impact of remedial courses on underprepared students beyond Ohio and Texas. Moreover, past causal results provide conflicting evidence with positive effects found in Ohio and no effect found in Texas. This paper provides additional estimates using an incredibly rich data source of nearly 100,000 students in Florida, a large, important state that reflects broader national trends in remediation policy and student diversity. Moreover, we discuss the application of the RD approach in this context, address the issue of noncompliance, and note concerns about endogenous sorting around the policy cutoff. To address the issue of endogenous sorting, we implement a solution using methods proposed by McCrary (2008) and discuss the strengths of this approach. The section below gives details on postsecondary remediation in Florida and describes the dataset we use to examine the impact of remediation in that context.

Postsecondary Remediation in Florida: Background and the Dataset

All first-time degree-seeking applicants for admission to community colleges and universities in Florida must be tested before registration to demonstrate certain basic skills before beginning college-level courses. Basic skills are measured using standardized test scores

on the Florida College Entry Level Placement Test (CPT).[5] The CPT is a computer adaptive college placement testing program and is part of the ACCUPLACER system, developed by the College Board at the request of the Florida Department of Education.[6] Students must meet certain statewide cutoff scores set by the State Board of Education to be considered "college ready." Incoming students who do not achieve minimum scores on the Elementary Algebra, Reading Comprehension, and Sentence Skills sections of the college placement test must take remedial classes before they begin college-level work in each subject. In other words, students are assigned to either remedial or college-level courses, depending on their scores on the standardized tests. Colleges may exempt students from taking the CPT if the students meet the appropriate college-ready scores on the College Board's SAT or the American College Testing Program's Enhanced ACT.

To examine the impact of remediation in this context, our study uses a unique dataset obtained from the Florida Department of Education K-20 Education Data Warehouse (EDW). EDW integrates existing and transformed data extracted from multiple sources into a single data repository focusing on students served in Florida's public education system as well as educational facilities, curriculum, and staff involved in instructional activities. Our data include information on test scores and demographic characteristics, including age, gender, race/ethnicity, citizenship, previous education (high school diploma, other diploma, or GED), and English language proficiency. For this study, the dataset focuses on the universe of first-time community college students who enrolled at any of the 28 Florida community colleges from fall 1997 to fall 2000 and sought at least an associate (two-year) degree.[7] Additionally, we focus on the sample who reported CPT scores. Among the 130,862 first-time degree-seeking students during the time period of this study, 75 percent (98,146 students) reported the CPT scores while 13 and 12 percent reported the SAT or ACT scores, respectively. Students for whom we have only SAT or ACT test scores are excluded due to artificial "stacking" at different discrete points when these scores are converted to CPT equivalents.[8]

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[5]High school students in dual enrollment programs are also required to take the CPT before enrolling in college-level courses.

[6]ACCUPLACER is designed to facilitate the evaluation and placement of college students in three basic skills areas: reading, writing and arithmetic. The purpose of ACCUPLACER tests is to determine which course placements are appropriate for students and whether or not remedial work is needed (College Board, 2003).

[7]Student are considered associate degree-seeking if the college classifies them as being in a two-year degree program based on voiced intent and/or first term course selection. Two-year degree programs include: Associate in Arts degree, Associate in Science degree, General Freshman, and Associate in Applied Science degree. Note that only students seeking an associate degree are required to take the CPT placement exam. Because we only include students with these scores in our analysis, we again reinforce our intent to focus on "associate degree-seeking" students.

[8]Although we have SAT or ACT information for students who did not take the CPT, they are excluded for two reasons. First, each test has different score ranges: SAT (200-800), ACT (1-36), and CPT (20-120), and

The main variables of interest in this study, assignment to remediation and participation status, are defined using test scores and longitudinal information on remedial education courses taken by subject (Math and Reading).[9] The dataset tracks term-by-term enrollment for all students in the sample for a total of six years for each cohort. For example, the cohort that began in fall 2000 is tracked until spring 2006, a total of 17 terms or 6 years of outcomes.[10] The term-by-term information includes course-taking patterns. The short-term outcomes investigated include whether a student enrolled and completed the first college-level course in the remediation area (college algebra and freshman English composition) and fall-to-fall persistence. Long-term educational outcomes include completion of a certificate, completion of an associate degree, and transfer to the Florida State University System (SUS). We also use two additional measures of educational attainment: total credits earned (remedial and non-remedial) and total non-remedial or college-level credits earned. All these outcome measures are computed within the six-year window allowed by the dataset.

Summary statistics of the dataset are provided in Table 1. The first column of numbers displays the characteristics of all students who entered a Florida community college for the first time from fall 1997 to fall 2000 while the second column limits the sample to those with CPT test scores, the main sample used in the analysis. Comparisons of columns 1 and 2 show few differences between the two samples. However, there are differences in remedial placement and educational outcomes because the students with only SAT or ACT scores (and no CPT score) were slightly better prepared.[11]

While the CPT is the statewide required tool to assign remediation, the data suggest that all students do not follow the straightforward assignment rules, and this has important implications for the empirical analysis. Such deviation from the assignment rule is common in studies that attempt to use discontinuities in test scores or other criteria to determine the causal impact of an intervention (Angrist & Lavy, 1999; Battistin & Rettore, 2002; Van der Klaauw, 2002; Jacob & Lefgren, 2004). In this context, the first issue of concern is students who, while having CPT scores that dictate they should take remedial courses, do not actually do so. The most likely

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though there are conversion rules between the tests, conversion leads to additional noise in the CPT distribution due to artificial "stacking" at different discrete points in the CPT score. Second, starting with the fall 2000 semester, the SAT and ACT scores required to be considered "college-ready" were increased in order to align them with the required scores of the CPT exam. Therefore, fall 2000 students with only SAT or ACT scores faced different requirements than earlier cohorts in the data.

[9]For simplicity, remedial writing classes are not analyzed here. Scores on the reading comprehension and sentence skills sections of the CPT are highly correlated (0.8), as are assignment and enrollment rates.

[10]There are three terms per year in Florida: fall, spring, and summer.

[11]Florida colleges accept SAT and ACT as placement scores if they meet a minimum standard. Students who submit such scores often have planned ahead of time to transfer to a four-year college, as these schools require the tests (personal communication with Dr. Patricia Windham, Associate Vice-Chancellor for Evaluation, Division of Community Colleges, Florida Department of Education, May 2006).

explanation for this noncompliance is that Florida rules permit students assigned to one particular remedial subject to take college-level courses concurrently in other curriculum areas for which they are qualified. Almost 52 percent of remedial math students in the non-complier group take advantage of this flexibility, but only a quarter of the students in reading do so. Another possible explanation is that some students might be discouraged by being placed into remediation and leave the institution prior to taking any credits. Analysis suggests that this explains as much as 14 and 19 percent of non-compliers in math and reading remediation, respectively (Calcagno, 2007).[12] Such noncompliance must be addressed in the empirical analysis, and our methods for doing so are detailed below.

A second and more serious concern is that some students may be able to take the CPT multiple times to increase their chances of passing the exam. This could result in nonrandom sorting around the policy cutoff, which is a concern for research using the method more generally (Imbens & Lemieux, 2008; McCrary, 2008; Lee, 2008). Research suggests that this is largely a difference in institutional policies (Windham, 2005; Lesik, 2006, 2007; Perin, 2006). The final two columns of Table 1 begin to examine this issue by calculating the mean characteristics and outcomes of students at institutions with no statistical evidence of endogenous sorting around the cutoff. The methods for identifying these schools are detailed below using methods proposed by McCrary (2008), and the results of these calculations are discussed as well.

[12]Yet another possible explanation is that some institutions might use an additional test for placement beyond the CPT or allow some students to enroll in college-level courses, thereby waiving their remediation requirement (Perin, 2006). However, our analysis suggests that less than two percent of the sample re-tested out of remedial courses using some other criteria.

5. Conclusions and Implications

This study provides a comprehensive evaluation of postsecondary remediation in a large, important state system that reflects broader national trends in remediation policy and student diversity. The study addresses limitations in the previous literature by first using a quasi-experimental regression discontinuity (RD) research design on a sample of nearly 100,000 students at the 28 community colleges in Florida. We discuss the application of the RD approach, address the issue of noncompliance, and implement a solution to deal with concerns about endogenous sorting around the policy cutoff. The application of the RD design is particularly beneficial to the study of college remediation. Moreover, our application of techniques to deal with threats to the assumptions of a sharp RD design could also help inform other research using the approach. This study also contributes additional evidence on the effectiveness of postsecondary remediation. While remedial education is a major investment at many colleges and universities, the literature provides very little information about the causal impact of remedial courses, and much of the recent evidence has been conflicting.

The results of this study suggest that remediation has both benefits and drawbacks as a strategy to address the needs of underprepared students. After controlling for noncompliance and endogenous sorting around the placement test cutoff score, students on the margin of requiring math remediation were slightly more likely to persist to their second year with estimates suggesting a 2.0 to a 3.8 percentage point difference. Similarly, the impacts of both math and reading remediation were positive in terms of the total (remedial and college-level) credits earned over six years. After dealing with endogenous sorting, our best estimates (Table 3 & 4, column 10) suggest that students in math and reading remediation earned 7.2 and 2.8 more credits than non-remedial students, respectively. However, no effect was found on total college-level (non-remedial) credits completed. Meanwhile, the likelihood of passing subsequent college-level English composition was slightly lower for reading remedial students while no difference was found in future math course performance for math remedial students. No discernable impact was found in terms of certificate or associate degree completion or transfer to a public four-year college. Overall, the results suggest that remediation might promote early persistence in college, but it does not necessarily help students on the margin of passing the cutoff to make progress toward a degree.

By studying a large, diverse student group and providing information on several outcomes not previously examined, this paper gives a larger perspective on the impacts of remediation than previous work and reconciles some of the mixed results found in other causal studies. Although much more positive effects were found in Ohio (Bettinger & Long, forthcoming), we also find that remediation appears to increase student persistence, but similar to the study on students in Texas (Martorell & McFarlin, 2007), we find that this increased

persistence has only a minimal impact on degree completion. The differences that do exist in the effects across these studies may be partly due to the different student populations under analysis. For example, this study includes nearly the entire universe of first-time degree-seeking students in Florida, while Bettinger and Long (forthcoming) focused on traditional-age college students who were allowed to complete their remediation at either two- or four-year public institutions. Additionally, states differ in where they locate the cutoff for placement into remediation, and so this is likely to generate slightly different populations of "students on the margin of passing the cutoff." As all three studies (Florida, Ohio, and Texas) all focus on this marginal student, differences in the cutoff could potentially explain differences found in the results.

The results suggest that the costs of remediation should be given careful consideration in light of the limited benefits. While there may be an initial return in terms of the increased likelihood of persistence, under the current design and implementation of remedial programs, it is questionable whether the additional costs to students, institutions, and the state are justified given that little to no effect has been found in terms of degree completionfor students near the cutoff placement. As noted above, students who require remediation incur additional monetary and opportunity costs, and in Florida community college students who required remediation paid an additional $504 for college prep coursework during their first year (OPPAGA, 2006, p. 4). However, because even a year of college without completing a degree has a return, the investment in remediation may not be wasted. Additional research is needed to carefully examine the full scope of costs and benefits. Moreover, by increasing early persistence, remediation may give colleges an opportunity to reach students with other types of programming and skill development that might keep them progressing toward a degree and other long-term benefits.

It is worth emphasizing that the research design we used only allows the identification of the effect of remediation on a subset of students who scored just above and just below the cutoff score. Estimates should not be extrapolated to students with academic skills so weak that they scored significantly below the cutoff point. Moreover, our analysis is a "black box" evaluation of the effectiveness of remediation in Florida. Successful interventions for specific remediation programs might already be in place at certain institutions, but unfortunately our data do not contain the necessary information to link remedial students to specific interventions.

The results also have important policy implications about the institutional implementation of remedial placement procedures. The analysis provides evidence that, although a state may have a common placement exam and statewide cutoff scores, the *actual* implementation of these policies could differ at the institutional level. In the case of Florida, mandated assignment to remedial courses and actual remedial enrollment rates differed at most institutions, especially below the cutoff. A surprising number of students with assessments

below those necessary to be exempt from remediation did not in fact enroll in the courses and instead directly entered college-level courses in the relevant fields.

State Departments of Education should explore this issue of noncompliance and consider the potential consequences of this practice. States could focus on creating better mechanisms to enforce statewide placement rules at each institution. Alternatively, policymakers could reconsider whether the current set of placement cutoffs accurately reflects the preparedness levels institutions deem suitable for deciding which students are ready for college-level material. Moreover, given the evidence presented in this paper, it may be the case that students who do not comply with the placement policy are actually saving themselves the costs of remediation while losing little in long-term benefits. By examining institutional practices more closely, states could gain much more understanding about whether it would be better to focus time and resources on enforcing compliance or to reconsider the remediation courses or affiliated programs offered to remedial students.

This study also documents the fact that retesting practices are not standard across the state nor even across remedial subject areas (retesting is more common for reading). The likelihood of allowing a student to retake the placement exam differs substantially by institution. As a result, the ability to routinely retest students at some institutions may threaten the validity of the test as a tool for accurate placement. Moreover, a policy that allows retests effectively lowers the relevant cutoff score and thereby weakens the original policy intent. It is also worth noting that the likelihood of retaking the remedial assessment appears to differ by student background (as shown in Figure 2). This suggests that the enforcement of placement policy differs by student group, thereby stoking concerns about equity across groups. To deal with this concern, states should consider explicit rules concerning retesting policies. Additionally, they should collect information on retesting by including in their databases all placement test scores, the number of attempts, and the time elapsed between each attempt. This would allow one to assess the implications of different retesting policies.

Besides providing a statewide evaluation of remedial programs in higher education, this study reveals several methodological issues that should be considered for further research. Researchers using quasi-experimental methods such as an RD design should be aware of multiple potential sources of bias that might invalidate the underlying assumptions of the statistical model (McCrary, 2008; Lee, 2008). As noted above, noncompliance and retesting (i.e., endogenous sorting around the policy cutoff) are serious concerns likely to appear in the postsecondary remediation context as well as other research settings. Non-experimental techniques such as instrumental variables can be used to deal with noncompliance. We suggest that endogenous sorting be analyzed case-by-case, although a non-parametric estimation of density functions for the assignment variable can help to identify potential manipulation in any

evaluation setting. Researchers should also conduct robustness checks by using available covariates as well as by focusing narrowly around the cutoffs.

While we have extended the research on postsecondary remediation through this study, additional effort is needed to estimate the impact of remedial courses on weaker students who are not necessarily close to the placement cutoff. Additionally, more work is needed on the effects of remediation relative to its costs. Future research should also focus on institutional policies, practices, additional services, and classroom strategies in order to explore differences in the effects of remediation by college and by particular ways of conducting remediation programs. It would be extremely useful to identify institutional characteristics and innovative approaches that appear to improve the success of remedial students and to evaluate them using rigorous research designs.

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JOINT STUDY SESSION OF THE
ACADEMIC AND STUDENT AFFAIRS AND
DIVERSITY AND MULTICULTURALISM COMMITTEES
DECEMBER 2, 2010
9:00 AM – 11:00 AM

WELLS FARGO PLACE
30 7TH STREET EAST
SAINT PAUL, MN

Please note: Committee/Board meeting times are tentative. Committee/Board meetings may begin up to 45 minutes earlier than the times listed below if the previous committee meeting concludes its business before the end of its allotted time slot.

(1) Review of Academic and Student Affairs Board Goal and Purpose of the Study Session
(2) Review of Schools of Thought and Best Practices in Remedial and Developmental Education
(3) Intersections of Demographic Data with Best Practices
  a. Preparedness of Minnnesota Students
  b. Achievement Gap
(4) Current Practices within the System
(5) Relationship of Best Practices, Minnesota Demographics, and Current System Practices
(6) Discussion

Academic and Student Affairs Committee Members
Christine Rice, Chair
Duane Benson, Vice Chair
Christopher Frederick
David Paskach
Tom Renier
Louise Sundin
James Van Houten

Diversity and Multiculturalism Committee Members
Louise Sundin, Chair
Duane Benson, Vice Chair
Jacob Englund
Alfredo Oliveira
Christine Rice
James Van Houten

OPENING DOORS

A GOOD START

Two-Year Effects of a Freshmen Learning Community Program at Kingsborough Community College

Susan Scrivener, Dan Bloom, Allen LeBlanc, Christina Paxson, Cecilia Elena Rouse, and Colleen Sommo

MARCH 2008

mdrc
BUILDING KNOWLEDGE TO IMPROVE SOCIAL POLICY

Executive Summary

Over the past few decades, a postsecondary credential has become increasingly important in the labor market, and college attendance has become more common. Unfortunately, however, many students leave college before receiving a degree, particularly those who are academically underprepared for college-level work. Many postsecondary institutions operate learning communities to promote students' involvement and persistence in college. Learning communities typically place groups of students in two or more linked courses with mutually reinforcing themes and assignments. They seek to build peer relationships, intensify connections to faculty, and deepen understanding of coursework. While learning communities are increasingly popular, little rigorous evidence on their effects exists.

As part of the Opening Doors demonstration and evaluation project jointly undertaken by MDRC and the MacArthur Foundation-funded Network on Transitions to Adulthood, six participating colleges operated innovative programs aimed at increasing students' achievement and persistence and, eventually, their graduation rates and earnings. Kingsborough Community College in Brooklyn, New York — a large, urban college in the City University of New York (CUNY) system — tested a program called Opening Doors Learning Communities. The program placed freshmen, most of whom failed one or more of the skills assessment tests that all incoming students take, into groups of up to 25 who took three classes together during their first semester. It also provided enhanced counseling and tutoring as well as a voucher for textbooks.

This report discusses the program's implementation and its effects on students up to two years after they entered the study. Using a rigorous research design, MDRC randomly assigned students either to a program group that was eligible for the learning community or to a control group that received standard college courses and services. Any subsequent substantial differences in outcomes can be attributed to the Opening Doors program.

In summary, the key findings from this report are:

- **The program improved students' college experience.** Students in the program group felt more integrated and more engaged than students in the control group.

- **The program improved some educational outcomes while students were in the learning community, but the effects diminished later.** Program group students passed more courses and earned more credits during their first semester.

- **The program moved students more quickly through developmental (remedial) English requirements.** Students in the program group were more likely to take and pass the college's English skills assessment tests that are required for graduation or transfer.

- **The evidence is mixed about whether the program increased persistence in college.** Initially the program did not change the rate at which students reenrolled. At the end of the report's follow-up period, however, slightly more program group members than control group members attended college.

How Was the Program Implemented?

Opening Doors Learning Communities — operated between 2003 and 2005 — placed groups of freshmen into three linked classes: an English course, usually at the developmental level; an academic course, such as health or psychology; and a one-credit orientation course. The instructor of the orientation course provided enhanced counseling to students, and the program provided enhanced tutoring as well as a voucher for textbooks.

The program was targeted to freshmen who planned to attend college full time during the day and who did not test into English as a Second Language. ESL students were excluded because they participated in another learning community program. For the same reason, students in four "career majors" were excluded for the first year of the study. Over three-fourths of the students were under age 21 when they entered the study. Reflecting the diversity of the student body at Kingsborough, 38 percent identified themselves as black, 27 percent as white, and 20 percent as Hispanic. Almost three-fourths of the students in the study reported that they or at least one of their parents were born outside the United States.

The following key findings on the implementation of Kingsborough's learning communities program are based on interviews with and surveys of the college's administrators, faculty, staff, and students.

- **The program's key features were all in place when operations began, and they remained in place throughout the study.**

Despite a compressed planning period, Kingsborough's program was well implemented from the start. This achievement reflects the college administration's strong commitment to the program and the study.

- **The learning communities varied in class size and the degree to which faculty integrated their courses.**

Over four semesters, Kingsborough ran 40 learning communities for the study: 31 with developmental English and 9 with college-level English. Owing to several challenges — including the difficulty of predicting how many students would test into each English level — class size varied from 6 to 25 students, with an average of 17.

All instructors developed a new syllabus or revised their regular syllabus for the learning community, and all learning communities had some joint assignments across classes. The degree of integration across the courses varied, however, as did the frequency of joint assignments. The instructors in most learning communities met regularly to discuss student progress and coordinate assignments, but, in a minority of communities, the instructors rarely met. Thus, the study provides a strong test of the structural features of the learning community, but it may not fully detect the effects of tightly integrating course curricula.

How Was the Impact of the Program Evaluated?

As noted above, to determine the effect, or "impact," of Kingsborough's program, MDRC assigned students, at random, to either a program group or a control group. Random assignment occurred just before students registered for classes. The study is tracking both groups over time to determine whether the learning community program results in better outcomes for students. Random assignment ensures that the motivation levels and personal characteristics of students in the two groups were similar when the study began; hence, any subsequent differences in outcomes can be attributed to the program. The study is estimating the *value added* of Opening Doors, above and beyond what students normally receive. Kingsborough offers a rich array of academic programs and services, so the bar is set relatively high for the program to surpass. Also, the study examines whether the *package* of reforms and enhancements in Opening Doors at Kingsborough led to different outcomes, compared with standard classes and services. The study will not, however, disentangle the effects of each component.

Did the Program Make a Difference?

This report discusses the program's impacts on a range of educational outcomes. The learning communities program directly affected students during their first semester at Kingsborough. Many higher education experts believe that students' academic and social experiences during that first semester play a substantial role in their future success — that students who develop strong initial connections with the material they study, with other students, and with faculty are more likely to persist in college than students who do not. Also, at Kingsborough, students who make better progress in meeting their developmental English requirements may be more motivated to stay in school.

This report presents impacts for the full research sample at Kingsborough (1,534 students) for up to two years after students entered the study. The key impact findings follow.

- **The program improved students' experiences in college.**

When surveyed approximately a year after entering the study, students in the program group reported that they felt more integrated at school and were more engaged with their coursework, instructors, and fellow students and had a stronger sense of belonging than did control group students. They were more likely to say that their courses required critical thinking and that they had acquired valuable academic and work skills. Finally, they were more likely to rate their college experience as "good" or "excellent." These findings strongly suggest that the learning community program provided a markedly different experience for students. These results are similar to findings from some past studies of learning communities.

- **The program improved several educational outcomes for students during the semester that they participated in the learning community.**

MDRC examined students' academic performance by using transcript data from Kingsborough. Newly enrolling students were randomly assigned for the study just before the start of their first semester in college (enrollment occurred in four different but contiguous semesters: fall 2003, spring 2004, fall 2004, and spring 2005). The first semester that each student was in the study is called the "program semester."

Figure ES.1 illustrates some key outcomes during the program semester. The solid bars show the average outcomes for program group members, and the white bars show the averages for control group members. The difference between each pair of bars represents the program impact, if any, and asterisks indicate whether an impact is "statistically significant," meaning that it is unlikely to be due to chance. (All impacts discussed in the Executive Summary are statistically significant.) As the two sets of bars at the left of the figure show, students in the program group attempted and passed about half a course more at Kingsborough during their first semester in the study than control group students did. They also earned almost one more "developmental credit" (called an "equated credit" at Kingsborough). Developmental courses do not earn college credit, but they do count in determining whether a student is attending school full time. Program group members were also more likely to pass all their courses during the first semester (not shown).

- **The positive effects on educational outcomes diminished in later semesters of the two-year follow-up period.**

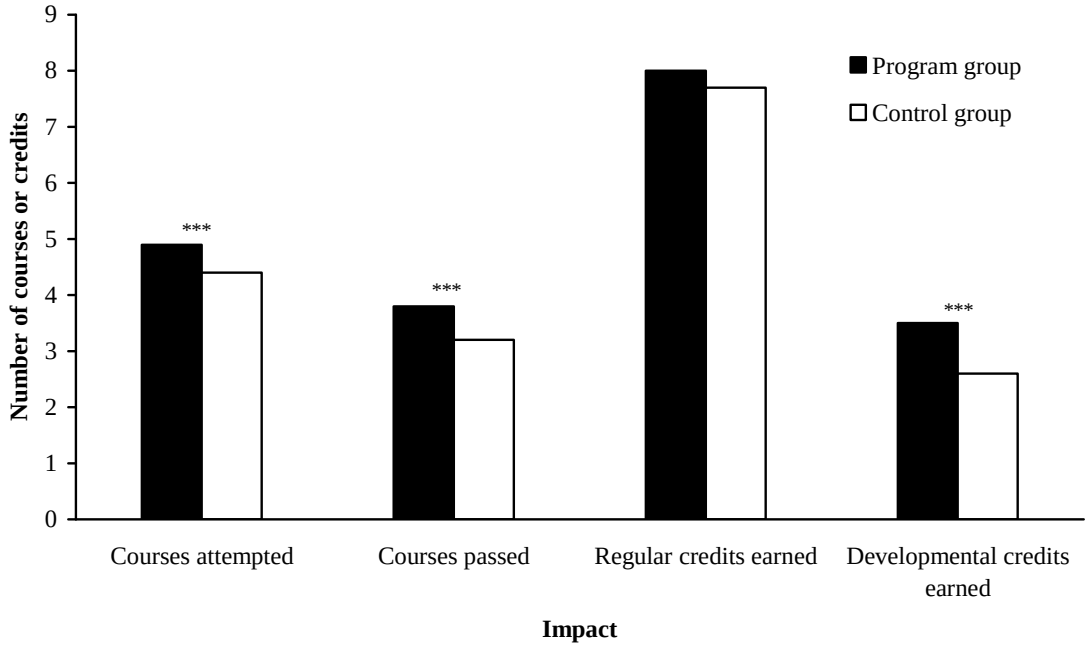
The program generated a small increase in the number of credits attempted and earned in the first postprogram semester, but the effects dissipated later. By the end of the

The Opening Doors Demonstration

Figure ES.1

Key Impacts During the Program Semester

Kingsborough Community College Report



SOURCE: MDRC calculations from Kingsborough Community College transcript data.

NOTE: Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

two-year follow-up period, program group members earned an average of two and a half credits more at Kingsborough than control group members. (This gain is primarily due to impacts during the program semester and, to some extent, during the first postprogram semester.)

- **Opening Doors Learning Communities helped students move more quickly through the college's developmental English requirements.**

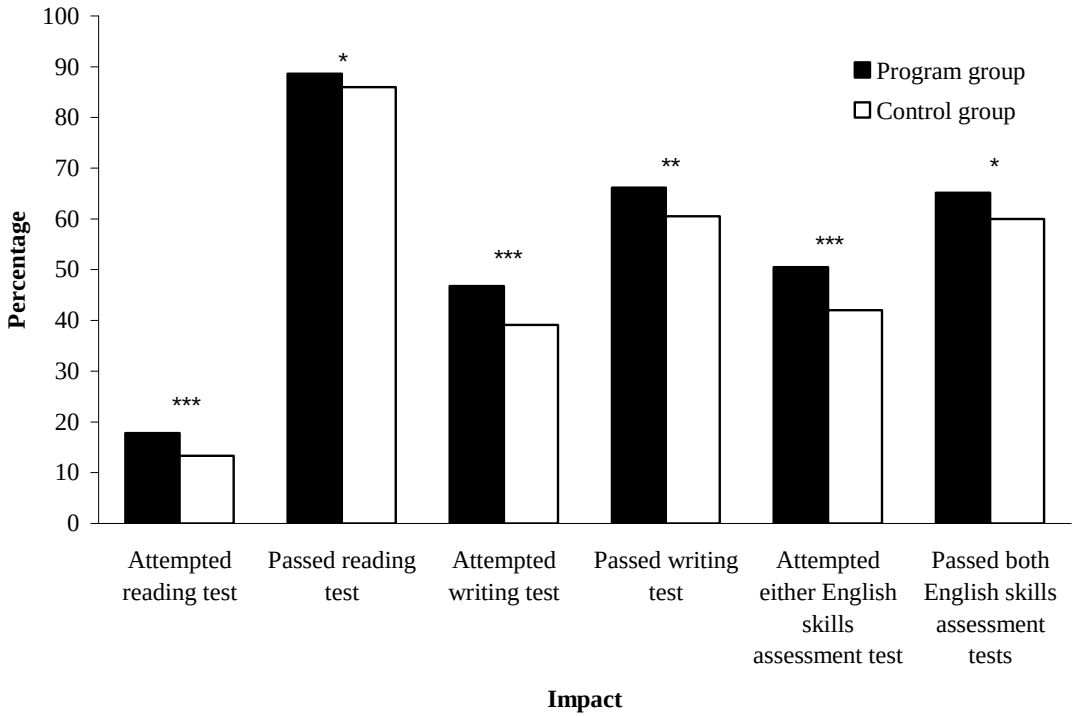
A goal of Kingsborough's program was to help students more quickly complete developmental requirements and progress to college-level English. To enroll in the college-level course at Kingsborough, students must first pass the CUNY reading and writing skills assessment tests. (Students must pass the reading, writing, and math skills assessment tests in order to transfer to a four-year CUNY institution.) Students take the skills

The Opening Doors Demonstration

Figure ES.2

Impacts on English Skills Assessment Tests

Kingsborough Community College Report



SOURCE: MDRC calculations from City University of New York skills assessment test data.

NOTES: Outcomes include data from the program semester through the second postprogram semester.
Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

tests prior to enrolling; if they do not pass the reading and writing tests, they typically can retake them only after they pass specific developmental English courses.

Figure ES.2 shows the proportion of the two research groups who took the tests during their first three semesters in the study and passed the tests by the end of that period (including students who passed the tests before starting their freshman year). The program increased the proportion of students who attempted and passed the tests. Although not illustrated in the figure, most of these impacts are driven by effects in the first (program) seme-

ster. It is notable, however, that the control group members had not "caught up" in terms of test taking and passing by the end of the follow-up period.

MDRC also examined progression through English courses for different subgroups of the research sample. Among the subset of the sample who failed both English skills assessment tests before starting their freshman year, program group members were more likely than their control group counterparts to enroll in developmental English during their first two semesters. Program group members who failed one of the tests before entering college were also more likely to enroll in developmental English during their first semester and were more likely to enroll in and pass college-level English during their first two semesters. The program did not affect progression through English courses among students who had passed both English assessment tests before starting their freshman year.

- **So far, the evidence is mixed about whether Kingsborough's program increases student persistence in college.**

A central goal of all the Opening Doors programs is to increase persistence in college. Initially, Kingsborough's program did not change the rate at which students reenrolled. In the last semester of the follow-up period, however, a difference emerged: 53 percent of the program group registered for at least one course that semester at Kingsborough, compared with 48 percent of the control group. Data from the National Student Clearinghouse, which provides enrollment information at most colleges in the nation, shows a similar effect on persistence emerging that semester. MDRC plans to continue tracking outcomes to see if this effect remains.

What Are the Implications of the Results?

Opening Doors Learning Communities at Kingsborough substantially improved students' experiences in college and some key educational outcomes while they were in the program, but, for the most part, the effects did not persist. MDRC plans to track sample members' outcomes for at least three years after their random assignment to the study to determine the longer-term effects on their academic performance, persistence, and graduation as well as on their later employment rates and earnings. Thus, the results in this report are not the last word on Kingsborough's program. That said, the findings point to the following conclusions.

- **Kingsborough's learning community model shows promise as a strategy to help students move through developmental education.**

Many students begin at community colleges academically underprepared for college-level work. Research shows that approximately 60 percent of freshmen beginning at

community college need at least one developmental-level course.[1] Students with very low skill levels can spend a year or more in developmental courses, and many leave school before completing developmental requirements. A key challenge is how to help students meet these requirements so they can eventually complete college.

This report's findings suggest that Kingsborough's Opening Doors Learning Communities model is one strategy that college administrators could consider. Students in the program group were more likely to pass the English skills assessment tests — the gateway to college-level English. Also, program group students who failed one of the tests before entering school were more likely to take and pass college-level English during the follow-up period. It is important to highlight that Kingsborough's program included English in the learning community. As a result, students in the program group were required to take English, and, as discussed above, the program substantially increased the proportion of students who took developmental English. Because students must pass developmental classes before retaking the assessment tests, this program feature is central to the impact on test taking and passing.

- **The results from Kingsborough suggest that the jury is still out on whether learning communities improve students' persistence.**

As noted, Kingsborough's program did not increase students' retention in college until the third postprogram semester, and MDRC will collect more follow-up data to determine whether the effect continues. At this juncture, however, it is worthwhile to consider the absence, so far, of a strong program effect on retention.

Kingsborough's program was based on the hypothesis that a more engaging and successful first semester would lead to more successful future semesters and higher rates of retention. One may wonder, however, how much change in college attendance is reasonable to expect from a one-semester program. Individuals make life choices, including whether or not to remain in college, based on myriad factors — many outside the college environment.

Even if Kingsborough's program does not lead to substantial retention effects, it could still generate increases in degree receipt, transfer, and other longer-term outcomes, since the program group students who were still enrolled at the end of the report's follow-up period are somewhat further along in school than the control group members.

- **Enhanced services that last longer than one semester may have a more substantial effect on students.**

[1]Clifford Adelman, *Principal Indicators of Student Academic Histories in Postsecondary Education, 1972-2000* (Washington, DC: U.S. Department of Education, 2004).

Kingsborough's program lasted one semester. The college's administrators decided that there was no practical way to maintain the linked-course structure after the first semester, since students needed and wanted to take a variety of different courses in subsequent semesters. Also, the program was designed on the assumption that students' early experiences at college influence their later success, and administrators believed that students should transition into the regular college community as quickly as possible.

The question of how long a learning community program should continue is complicated. That said, the results from the Kingsborough study suggest that participating in a learning community program for more than one semester may yield more substantial effects — the positive effects on academic outcomes were by far the largest during the first semester. If the options of a multiple-semester learning community or participating in a different learning community after the first semester are not possible, colleges could offer other kinds of enhanced services in later semesters, such as intensive counseling or more financial support.

It is worth noting that, in some of the other sites in the Opening Doors demonstration, the early results follow a similar pattern: Effects are largest when students receive enhanced services, and they diminish or even disappear after the services end.

* * *

The study at Kingsborough is of a specific program model, targeted to a certain group of students, in a particular setting. Other learning community models, target groups, and institutional settings may well lead to different results. Another rigorous study, the Learning Communities demonstration, was launched in 2006 and is using random assignment to test the effects of learning communities in up to six colleges or universities. The demonstration is part of the National Center for Postsecondary Research, funded by the U.S. Department of Education.

PROMISING INSTRUCTIONAL REFORMS IN DEVELOPMENTAL EDUCATION

A Case Study of Three *Achieving the Dream* Colleges

Elizabeth M. Zachry

December 2008

ACHIEVING THE DREAM℠
COMMUNITY COLLEGES COUNT

mdrc
BUILDING KNOWLEDGE TO IMPROVE SOCIAL POLICY

Executive Summary

A large proportion of first-time community college students enter schools each year in need of developmental education, but few succeed in making it through these programs to college-level courses, let alone earning a certificate or a degree. Such discouraging outcomes have spurred many colleges across the country to focus on improving developmental education through a variety of interventions, including increased student advising, more professional development for faculty, and revision of the instruction and curriculum within developmental education courses themselves. In recent years, much of this work has been undertaken as part of Achieving the Dream: Community Colleges Count, a bold, multi-year, national initiative launched in 2003 by Lumina Foundation for Education. Achieving the Dream seeks to help more community college students succeed by reshaping the culture and practices inside community colleges and the external forces that affect their behavior. More specifically, the initiative encourages colleges to:

1. Commit to improving student success
2. Identify and prioritize problems
3. Engage stakeholders in developing strategies for addressing priority problems
4. Implement, evaluate, and improve strategies
5. Institutionalize effective policies and practices

To assist in this work, Achieving the Dream provides colleges with a number of supports, including professional coaching and grants totaling $450,000 over the course of five years.

This report examines the experiences of three of the eighty-three colleges currently involved in Achieving the Dream: Guilford Technical Community College in Greensboro, North Carolina; Mountain Empire Community College in Big Stone Gap, Virginia; and Patrick Henry Community College in Martinsville, Virginia. Using the Achieving the Dream model as a framework, each of these colleges chose to focus on improving developmental education as one of its priority areas, and each developed interventions to reach developmental learners who have a variety of skill levels and experiences.

In detailing these instructional interventions, this report has three primary aims: (1) to highlight the components of several instructional reforms in developmental education, (2) to examine how colleges used the Achieving the Dream model of institutional reform to

implement these interventions, and (3) to document ways in which such interventions can be implemented at other colleges across the nation. Unlike many MDRC studies, this analysis is based not on a random assignment evaluation of these instructional reforms but, rather, on a qualitative study of the implementation of these reforms. As such, the instructional reforms highlighted here are suggestive of promising practices in developmental education, rather than definitive judgments about their effectiveness.

Key Findings

Guilford Tech, Mountain Empire, and Patrick Henry each took a unique approach to reforming developmental education instruction. Their reforms sought to meet the varied needs of their student populations, including techniques to increase the success of developmental education students who have low skill levels, techniques to reach developmental education students with higher skill levels, and techniques suitable for learners with a variety of abilities.

When instituting new reforms on their campuses, each of the colleges closely followed the three broad steps recommended by Achieving the Dream. Each undertook an analysis of their students' achievement and developed specified priority areas for reform, around which they then instituted interventions to improve students' success. Most of the instructional reforms that these colleges implemented were still in the pilot stages, but each of them showed promising trends in increasing students' achievements, as evidenced by evaluations undertaken by the colleges. Though their programs varied, their experiences hold many lessons for the implementation of instructional reforms in developmental education, both for colleges hoping to institute similar reforms as well as for policymakers and leaders who hope to help colleges undertake this work.

Considering Change: Analyzing Student Success, Developing Priorities for Improvement, and Researching Strategies for Reform

The colleges in this report tended to have similar experiences with using Achieving the Dream as a model for implementing instructional reforms in developmental education.

- **Achieving the Dream's focus on a culture of evidence helped the colleges become more comfortable with analyzing student outcomes data and using this analysis as a basis for reform.**

Each of the colleges in this report undertook a data analysis process similar to that suggested by Achieving the Dream. The colleges analyzed the student cohort data that they submitted to the Achieving the Dream database and examined such matters as graduation, persistence, and course pass rates. The colleges also undertook more detailed analyses, us-

ing state data or their own institutional data on programs and students to investigate the success of particular courses and groups of students.

- **As encouraged by the initiative, the colleges analyzed student outcomes data for subgroups defined by income status and by race or ethnicity. This analysis did not prove to be particularly useful.**

National studies have shown that low-income students and students of color tend to have lower persistence and graduation rates than upper-income and white students. Achieving the Dream encourages colleges to disaggregate student data by race and income to see whether similar trends exist on their campuses and, if so, to develop interventions that try to "close the gap." The colleges profiled in this report did not always find an analysis of differing racial and income student subpopulations to be useful, either because low-income and minority students made up a majority of their overall student population or because the achievement of these students differed little from the rest of the student body.

- **The identification of priority areas for reform grew fairly naturally from the colleges' analyses of student outcomes. However, they found that they needed more time for intensive research and planning in order to identify and develop strategies that met these priorities.**

The first year of Achieving the Dream was intended to be a planning year, with the primary focus to be on analyzing student outcomes data to identify areas of improvement. In subsequent years, colleges were expected to pilot interventions designed to make students more successful. Some of the colleges emphasized the need for a longer planning and development period before implementing strategies. The choice and development of interventions continued to take place after the colleges' initial planning year in Achieving the Dream, with some strategies being piloted during the second and third year of their implementation grant period.

Implementing Change: Piloting Interventions to Improve Student Success

Although the colleges in this report implemented differing instructional reforms, several themes can be seen in their goals and experiences.

- **The colleges' instructional reforms sought to accelerate students' progression through developmental education, to reduce their financial aid challenges, and/or to increase student engagement.**

The colleges identified three key challenges to address: students' slow progress through developmental education course levels, the depletion of their financial aid, and the lack of engagement in their learning. Two colleges developed interventions aimed at in-

creasing students' progression through developmental education, by accelerating instruction (Mountain Empire's Fast Track Math) or by providing more intensive instruction and revising the assessment of students' progress (Guilford Tech's Transitions program). These programs also had the added benefit of preserving students' financial aid for college-level courses; students could move more quickly through the programs, or, in the case of Guilford Tech's Transitions program, instruction was provided tuition-free. Two colleges also focused explicitly on increasing students' engagement in their learning, by providing more interactive instructional models (Mountain Empire's Peer-Led Team Learning and Patrick Henry's Cooperative Learning).

- **The colleges developed instructional models with differing levels of timing and intensity to meet the needs of lower- and higher-skilled developmental education students.**

The colleges' interventions provided different levels of instruction depending on students' needs. One college (Mountain Empire) developed more rapid, review-like instruction to better suit the needs of developmental education students with higher-level skills. Colleges also created more intensive instructional programs for developmental education students with lower skills, such as the Transitions program at Guilford Tech and the Peer-Led Team Learning program at Mountain Empire.

- **Faculty leadership was critical for developing and implementing instructional reforms in developmental education. The colleges' support of faculty, through paid leave time and professional development, also played an important role in the implementation of these interventions.**

The colleges highlighted the important role that faculty members played in developing and implementing the instructional reforms in developmental education. While a supportive administration was important, the colleges emphasized that instructional reforms were most successful when developed and led by faculty members. Faculty members also emphasized the important role that paid leave time and professional development played in their ability to plan and implement these instructional reforms at their schools.

Scaling Up or Scaling Down: Monitoring Program Success as an Achieving the Dream College

After implementing pilot interventions, Achieving the Dream colleges are expected to monitor and evaluate the success of these strategies. The Achieving the Dream initiative provides a set of guidelines to assist colleges in this process, since evaluation and research are new undertakings for many community colleges. The initiative lays out a sequential plan for developing evaluations, moving from (1) more qualitative, formative feedback

evaluations, which provide preliminary information on the implementation of an intervention, to (2) more sophisticated summative evaluations — quantitative analyses of student outcomes within an intervention. Regardless of their abilities on entering the initiative, Achieving the Dream hopes to help colleges improve their evaluation capacity. As described below, the three colleges in this report had similar experiences with evaluating their instructional strategies:

- **The colleges tended to have moved beyond the formative evaluation stage to the early stages of summative evaluation, which track the success of an intervention by comparing the outcomes of a group of students who received the intervention with the outcomes of an analogous group of students who did not receive the reform.**

Formative evaluations are typically conducted when a program is brand-new, to determine whether services are being delivered as intended and to offer suggestions for improvement. *Summative evaluations* try to measure program effects on student achievement or other outcomes. While their methods differed, the colleges generally compared the achievement of students who received an instructional intervention with the performance of students who did not receive the reform.

- **Based on their own evaluations, the colleges found that their instructional reforms were meeting with some level of success. Generally, the colleges found that their reforms had increased student persistence, improved their advancement through developmental education, and/or improved their engagement in their learning.**

In their evaluations of their interventions, the colleges found that the students who had received the instructional intervention tended to have greater success than a comparable group of students who had not received the intervention. The colleges examined a variety of achievement measures when looking at students' success, including students' advancement through developmental course levels, their persistence from semester to semester, and course pass rates. The colleges found that students who received their intervention had improved success in at least one of the benchmarks.

Implications for Institutional Reform: Revising Developmental Education Instruction as an Achieving the Dream College

A number of lessons can be gleaned from these colleges' experiences implementing new instructional reforms in developmental education. The implications for practice, policy, and Achieving the Dream are discussed below.

Implications for Practice: Being Faculty-Focused in Order to Become Student-Focused

- **Fostering faculty leadership was critical in the development and implementation of instructional reforms in developmental education.**

While a supportive administration was seen as important, each of the colleges emphasized the role that faculty members had in instituting instructional reforms at their colleges. Faculty leaders were seen as the main instigators in bringing new instructional and curricular reforms to the school, and they generally played a critical role in the development of the reforms. The importance of faculty leadership may have been even more pronounced with these types of reforms, given that they sought to revise classroom practices and instruction.

- **Supporting professional development for faculty, either through trainings or through release time for curriculum development and planning, was also a necessity for the successful implementation of instructional reforms.**

Supporting faculty through professional development also played an important role in the implementation of instructional reforms at these schools. The colleges tended to give faculty members leave time to research and develop their instructional interventions, and they supported the growth of these initiatives through supplemental training.

Implications for Policy: The Importance of Flexibility

- **Flexible course-credit systems may enhance colleges' ability to implement new instructional interventions.**

A flexible course-credit system, which allowed the colleges to implement courses at various levels of intensity, helped one college (Mountain Empire) to develop instructional reforms that were tailored to the needs of its student population. The State of Virginia permits colleges to create developmental courses ranging from one to five credits, which, in turn, allowed Mountain Empire to develop one- and two-credit Fast Track Math courses along with its other, more intensive three- to five-credit developmental math courses. States that have more restrictive credit systems may potentially limit this instructional flexibility.

- **Increased flexibility in the use of state funds may assist in colleges' ability to build bridges across programs and departments.**

One college (Guilford Tech) was able to develop bridges between its developmental and adult basic education departments in an attempt to better assist lower-skilled develop-

mental education students. This connection was aided by the flexibility in North Carolina's adult basic education funding, which allows a subset of students who have low skill levels to be educated using adult education funds, even if these students already have a high school diploma or a General Educational Development (GED) certificate. Such flexibility in funding streams may aid other colleges in connecting programs and departments that serve similar types of students.

Implications for Achieving the Dream: Reflections on the Initiative's Support and Guidelines

- **Achieving the Dream grants played an important role in colleges' ability to pilot new interventions and strategies.**

Each college that joins Achieving the Dream receives $450,000 over the course of five years to support the implementation of the initiative and its goals at their schools. Guilford Tech, Mountain Empire, and Patrick Henry each discussed how the Achieving the Dream grant provided important seed money for developing new interventions at their colleges. They emphasized that the grant gave them greater flexibility to support staff in researching and implementing new strategies at their schools.

- **The colleges emphasized that Achieving the Dream had given them a more structured framework for tackling the challenges facing their institutions. The colleges found that they had a greater focus on student success than they had had before joining the initiative.**

While each of these colleges had some level of experience with institutional research, they all emphasized that Achieving the Dream had helped them create a broader interest in student achievement and the results of new reforms. The colleges believed that Achieving the Dream had helped them better focus on student success and the development of specific interventions toward this end.

* * *

Many colleges are looking to improve the success rates of developmental education students, and Achieving the Dream has played an integral role in helping colleges undertake this work. This report is a beginning look at specific type of reforms that colleges undertook in developmental education: the revision of instruction and curriculum as a means of increasing student success. Subsequent reports will examine the implementation and trends in student achievement at all 26 Round 1 Achieving the Dream colleges (in Florida, New Mexico, North Carolina, Texas, and Virginia) and at 13 Round 3 Achieving the Dream colleges (in Pennsylvania and Washington State). In addition, specialized reports will focus on

the costs, student perceptions, and impacts of specific educational interventions or student services at selected Achieving the Dream colleges.

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Rethinking Developmental Education in Community College

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Community colleges are charged with teaching students college-level material, yet a majority of their students arrive with academic skills judged too weak to allow them to engage successfully in college-level work in at least one subject area. Colleges address this problem by providing extensive programs of developmental education designed to strengthen students' skills so they can successfully complete college-level courses.

This Brief, based on a longer paper, reviews evidence on students who enter community college with weak academic skills, and it summarizes study findings on the effectiveness of developmental education. (Note that the terms developmental education and remediation are used interchangeably throughout.) It suggests that, on average, developmental education is not very effective in overcoming student weaknesses. The Brief concludes with recommendations for a broad reform agenda based on a comprehensive approach to assessment, more research that tracks students through their early experiences at college, a blurring of the distinction between developmental and "college-level" students that could improve pedagogy for both groups of students, and strategies to streamline developmental programs and accelerate students' enrollment in college-level courses.

Developmental Assessment

Developmental education assessments are in reality high stakes tests. Failing such tests often leads to remediation, which has high costs for students as well as for community colleges and the public sector. Yet, despite the importance of test outcomes, there is no national consensus about what level of skills is needed to be college ready or about how to assess that level. Although versions of Accuplacer and Compass are the most common, many different tests are used to determine developmental need, even, in some cases, within one state; furthermore, even when the same test is used within a state, institutions are often free to choose their own cutoff scores. Attempts to articulate a comprehensive understanding of what skills and knowledge are needed to succeed in college (see Conley, 2005) highlight the narrowness of the assessments used for remedial placement, which measure only some of the skills needed for a successful college experience. Students who pass the placement assessments may still lack many of the skills and knowledge that are essential for success in college. Indeed, students with similar scores vary widely in their subsequent academic outcomes.

Developmental education assessments are designed to determine a student's skill level, yet assessment scores may do little to reveal what type of help students need to be successful in college. Students who share the same low score on a mathematics placement test could face very different problems. For example, some students may have learned math successfully but scored poorly because they had been out of school for many years; other students may never have learned in high school the math being assessed; others may have taken the appropriate courses but failed to learn the material nonetheless; still others may be immigrants who had trouble understanding the English used in the math placement test. Each of these four groups of students, all with the same assessment test score, probably needs very different types of services to prepare them to be successful in college-level mathematics.

Participation in Developmental Education

Incidence of Weak Academic Skills

Two different analyses of community college students — one using data from the National Education Longitudinal Study (NELS) (Attewell, Lavin, Domina, & Levey, 2006) and the other (by the author) based on data on more than 250,000 first-time students at colleges participating in the Achieving the Dream: Community Colleges Count initiative — indicate that nearly 60 percent of students take at least one developmental education course during their community college career. While high, this proportion still underestimates the number of students arriving at community colleges with weak academic skills: in some states developmental courses are not mandatory for students with demonstrated skill deficiencies, while in the others, students, professors, and colleges often find ways to exempt students from the courses even if they meet the eligibility requirement for them. Thus it is reasonable to conclude that two thirds or more of community college students enter college with academic skills weak enough in at least one major subject area to threaten their ability to succeed in college-level courses.

Progression through Developmental Education

Students struggle, in particular, with developmental math courses. NELS data show that 68 percent of students pass all of the developmental writing courses in which they enroll and 71 percent pass all of their developmental reading courses, but only 30 percent pass all of their developmental math courses (Attewell et al., 2006).

Students are often referred to a sequence of developmental courses of increasing difficulty in one subject area because their skills are considered to be more than one level below college-entry level. Yet some students never even

begin their developmental course sequence. In the Achieving the Dream sample, one fifth of all students referred to developmental math and one third of students referred to developmental reading did not enroll in any developmental course within three years. Many others failed to complete their sequence. Only 44 percent of those referred to developmental reading completed their full sequence, and only 31 percent of those referred to developmental math completed theirs. Further, the more courses in the referred sequence, reflecting a greater skills deficiency, the more likely students were to fail to complete it.

Degree completion for remedial students is also rare. Less than one fourth of developmental education community college students in the NELS sample completed a degree or certificate within eight years of enrollment. In comparison, almost 40 percent of community college students in the NELS sample who did not enroll in any developmental education course completed a degree or certificate.

The Effectiveness of Developmental Education

Even though developmental education students are less likely than non-developmental students to complete degrees, it is not necessarily true that developmental education itself contributes to worse outcomes or even that it does not improve student outcomes. It is possible that developmental students, who have, on average, weaker skills than other students, would have even poorer outcomes if they did not avail themselves of remedial services. Indeed, some research that controls for entering academic skills and other demographic characteristics has found that developmental students in community colleges do as well as students who never participate in developmental education. Controlling for student characteristics, Attewell and his colleagues (2006) found that students who enroll in developmental reading are more likely to earn a degree, though those who enroll in developmental math were found less likely to do so.

Such studies do not, however, account for unmeasured differences that may exist between developmental and non-developmental students (more motivated students might, for example, find ways of avoiding remediation, thus skewing the results). Several recent studies address this problem. They use large, longitudinal state datasets and quasi-experimental methods to derive more reliable estimates of the effects of developmental education on *those students near the cutoff score* for developmental placement. These include studies of Ohio by Bettinger and Long (2005), of Florida by Calcagno and Long (2008), and of Texas by Martorell and McFarlin (2007).

The studies give mixed results — the Texas and Florida studies suggest students gain little from developmental classes while the Ohio study shows some positive results. Yet, among other limitations, these studies do not provide much insight into the effectiveness of developmental education for students with very weak skills. Moreover, these studies measure the *average* effects of all developmental education offered in a state, which actually represent a broad range of remedial programs and pedagogies.

There is in fact no strong consensus about how to carry out developmental education most effectively. As a result, the content and organization of remediation varies widely. Many in the field argue that assessment should be mandatory and that appropriate counseling and support services should be made available. The use of learning communities to provide developmental education has also gained wide attention recently, and some researchers are enthusiastic about this practice. An MDRC random assignment study of a learning communities program provides some evidence for its effectiveness (see Scrivener, Bloom, LeBlanc, Paxson, Rouse, & Sommo, 2008). But with the exception of this MDRC study, there is very little research that reliably measures the causal impact of different approaches to remediation. Still, if particular practices really are effective, the disappointing research on the overall effects of remediation suggests that they have not so far been widely adopted.

The Costs of Developmental Education

The modest benefits of developmental services need to be evaluated in relation to their significant costs to the state and the institution, and especially to students. A recent study calculated the annual cost of remediation at $1.9 to $2.3 billion at community colleges and another $500 million at four-year colleges (Strong American Schools, 2008). Reports from various states cite expenditures of tens or hundreds of millions of dollars annually.

Developmental education carries significant financial and psychological costs to students. While in developmental classes, students spend money, accumulate debt, and, in many cases, sacrifice financial aid eligibility. In addition, taking developmental courses lengthens the time required to complete a degree, which has been shown to be a factor in reducing the probability of degree completion (Horn & Nevill, 2006). Moreover, students referred to developmental classes, most of whom are high school graduates, are often discouraged when they learn that they must delay entrance into credit-bearing classes; they may become frustrated and leave college (Deil-Amen & Rosenbaum, 2002). Thus, resistance to remediation may help explain the low enrollment and high attrition rates of developmental students, and it may be a reason why faculty and advisors help students avoid developmental education by using loopholes and exceptions in regulations and guidelines (Perin, 2006).

Discussion and Conclusion

Summary of Findings

The broad picture of developmental education outlined here shows an extensive system that involves thousands of dedicated counselors and professors carrying out a crucial community college function. At the same time, however, the system is characterized by uncertainty, a lack of consensus on either the definition of being college ready or the best strategies to pursue, high costs, and varied and often unknown benefits. This picture is further complicated by the bewildering plethora of remediation assessments and cutoff points used around the country, many of which may have only a weak relationship to subsequent educational performance. Indeed, many students who test out of remediation nonetheless struggle in their college courses, and their educational outcomes are poor. Thus, a sharp distinction in the services received by developmental and non-developmental students is not justified.

Overall, fewer than one half of students who are referred to developmental education complete their recommended sequence. What is more, many students who do complete their developmental courses do not go on to enroll in the associated college-level courses. The evaluation data concerning developmental education are equally

discouraging. Much of the research on developmental education is suggestive but cannot reliably measure the effect of remediation or differentiate among various approaches. The handful of more definitive studies shows mixed results at best.

Although this picture is pessimistic, there are some reasons to temper that pessimism. Findings from Ohio (Bettinger & Long, 2005) and several studies of individual colleges show more positive results. Also, it may be that students make significant progress in developmental education, but their skills still do not reach the college-level standard. Getting a student from a sixth to a tenth grade math level is a significant accomplishment, even if such improvement is not enough to provide a solid foundation for a college education. Finally, the aggregate results found in large studies can obscure strong programs at individual colleges.

Recommendations

The above caveats notwithstanding, it is difficult to escape the conclusion that the developmental function in community colleges is not working well. The analysis presented here suggests some promising areas for exploration and innovation, however. I suggest that any comprehensive strategy to improve the developmental function in community colleges should include a reform and research agenda focused on the following three recommendations:

1. Rethink assessment, focusing on understanding what students need in order to be successful in college rather than simply concentrating on placement within the sequence of a curriculum. Two students with the same score on an assessment test may need different types of assistance to be successful in college-level courses, as evidenced by the weak relationship between test scores and subsequent measures of student success in developmental and college-level courses. Moreover, the blizzard of assessments and cutoff scores suggests that there is no consensus about what constitutes being college ready or how to measure it. The growing national movement for better high school-college alignment may offer a framework within which progress can be made on answering these questions (Achieve, 2006; Kirst & Venezia, 2004).

2. Abandon the dichotomy between developmental and college-ready students for a wide range of students above and below current developmental cutoff scores by opening college-level courses to more students and by incorporating academic support assistance into college-level courses. Current policies on assistance distinguish between developmental and college-ready students as identified by assessment cutoff scores. Yet the discouraging evidence about the effectiveness of developmental education (especially for students who score around the cutoff point), the uncertainty about assessment strategies, and the absence of any clear relationship between student assessment scores and student outcomes, suggest that a policy based on categorizing students as developmental or college-ready is misguided. Students who score even slightly below the cutoff point are asked to spend time and money on services of dubious value, while those who score above it are assigned to college-level courses without special help, even though many of them have weak academic skills.

There are many approaches to incorporating extra support into regular courses. Perhaps the best known strategy — and one demonstrated to be effective for first-level college courses — is the supplemental instruction model, which relies on peer tutoring (International Center for Supplemental Instruction, 2006). Another approach, used by the Digital Bridge Academy at Cabrillo College in California, draws on a variety of experiential learning and other pedagogic strategies to incorporate learning into the pedagogy of actual college-level courses (Navarro, 2007). This approach, which is consistent with the accelerated learning strategy used in the K-12 sector and which has been found to have positive effects, eschews special programs for weaker students, maintaining that good pedagogy for those students is the same as it is for advanced students (Bloom, Rock, Ham, Melton, & O'Brien, 2001). The principle of dual enrollment or early college is also based on the notion that students benefit from being pushed to achieve at levels that traditionally were not thought to be appropriate for high school students. Preliminary assessments of the effect of dual enrollment on postsecondary outcomes are also encouraging (Karp, Calcagno, Hughes, Jeong, & Bailey, 2007).

3. For those students whose skills are so weak that they could not be successful even in augmented college-level courses, explicitly work to minimize the time necessary to prepare students for entry into those courses. Little is known about the effects of remedial courses on students with very weak skills, although there is evidence that students who are referred to developmental courses two or three steps below college-level rarely complete introductory college courses and are even less likely to complete degrees.

One objective should be to move low-skill students into college-level courses as soon as possible in order to minimize the expense and discouragement associated with remediation. The suggestions outlined above will facilitate this process. In addition, many colleges are now experimenting with accelerated strategies, and the results are encouraging. They include intensive bridge programs in the summer, such as the aforementioned Digital Bridge Academy, which includes a two-week intensive immersion program (Navarro, 2007). Since many students who complete one level of remediation fail to show up for the next level, another simple way to accelerate movement through various levels of remediation is to combine levels or eliminate any elapsed time between levels. At the Community College of Denver, for example, students can combine two levels of developmental math, reading, or writing to accelerate their progress (Baker & Brancard, 2008).

Contextualization of developmental education is another way to engage students and to allow them to make progress in their areas of interest while they are still in remedial classes. Indeed, some research suggests that teaching to adults is more effective when it is linked to meaningful applications (Rubenson & Schutze, 1995).

Growing Interest in Reform

Introducing these and other needed reforms will be an extremely difficult task, but now may be a good time to work on improving the developmental education function of community colleges. The last few years have seen a dramatic growth of interest in the strengthening of weak academic skills of college students. The promising practices discussed above are products of that new interest. Several states, including California, Texas, Tennessee, and Kentucky, are organizing comprehensive initiatives to improve their developmental programs.

In addition, a growing number of private foundations and the federal government have turned their attention to this problem, and as a result colleges all over the country are trying new approaches to developmental education. Developmental education is a core part of Achieving the Dream, a $100 million initiative, funded by Lumina Foundation for Education and many other funders, to improve student success at 84 community colleges (www.achievingthedream.org). The U.S. Department of Education's Institute of Education Sciences has funded a National Center for Postsecondary Research (NCPR, www.postsecondaryresearch.org), whose research is focused mainly on evaluating initiatives (primarily but not exclusively in community colleges) to improve outcomes for students with weak academic skills. The Bill & Melinda Gates Foundation has begun a major initiative designed to improve college opportunities for low-income youth and young adults. All these undertakings illustrate the growing focus on developmental education in policy, practice, and research.

There is also a growing commitment by colleges, state agencies, and researchers to more detailed analysis of student progression through college and to more systematic and rigorous evaluation of program interventions. The recent interest in using state longitudinal unit record datasets provides a tremendous opportunity to increase our understanding of the barriers that students with weak academic skills face. Some of the best research discussed above was based on these state datasets. All of these developments provide an opportunity for a major and much needed effort to rethink and strengthen developmental education.

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Scaling Up Learning Communities

The Experience of Six Community Colleges

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MARCH 2010

THE LEARNING COMMUNITIES DEMONSTRATION

Executive Summary

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Overview

Community college leaders are using many strategies to improve their students' ability to complete their studies, particularly their academically underprepared students. In recent years, these strategies have included adaptations of an approach long used in four-year colleges known as "learning communities," in which groups of students enroll together in two or more courses. Learning communities often feature thematically linked courses and offer an integrated curriculum that helps students to see connections between disciplines. Increasingly, colleges use learning communities to help academically underprepared students progress more quickly toward successful completion of their studies by linking a developmental course with a college-level course. Proponents of learning communities believe that linking courses in this way helps students get to know each other better or more quickly, enables them to see connections between disciplines, encourages them to engage more deeply with learning, and fosters stronger relationships with faculty. These experiences are expected to engage students and to ultimately improve their academic outcomes, including passing courses, persisting to the following semester, and earning a degree or certificate.

The Learning Communities Demonstration is a large-scale, random assignment evaluation of learning communities programs at six community colleges. During the first year of the demonstration, all six colleges expanded their learning communities programs and, in the process, faced similar challenges in selecting courses to link, recruiting and supporting faculty, filling the learning communities with eligible students, and helping faculty use instructional strategies such as curricular integration to enhance learning. By spring 2009, the colleges operated more than 130 learning communities serving around 3,000 students. This report describes the strategies the colleges used to scale up their programs while working to improve their quality, and the many complex challenges that are likely to be faced by any community college intent on scaling up effective learning communities — including scheduling, faculty engagement with and approach to teaching, and balancing developmental courses with traditional college-level courses. Key findings from the implementation study include:

- **A paid coordinator and committed leaders were essential to managing and scaling up learning communities.**
- **As coordinators clarified expectations and offered support, faculty responded by changing their teaching practices.**
- **Curricular integration remained difficult to implement widely and deeply.**
- **Student cohorts led to strong relationships among students, creating both personal and academic support networks.**

Foreword

Learning communities are not new. Their origin springs from the Experimental College established at the University of Wisconsin in 1927 by Alexander Meiklejohn. Responding, in part, to what he saw as the division of the curriculum into increasingly smaller units housed in specialized academic structures that separated students from the curriculum and the faculty, Meiklejohn developed an interdisciplinary, team-taught, two-year lower division curriculum that emphasized active learning and the integration of ideas from different fields of study and disciplines. Though short-lived, it established a way of thinking about the structure of the curriculum and students' relationship to it that set in motion the development of learning communities as we know them today.

The learning community initiatives that followed in the 1960s, such as those at Fairhaven College within Western Washington University, the Centennial Program at the University of Nebraska, and the University of California, Berkeley, though no longer active, served to lay the foundation for the learning community movement of the 1980s and beyond. Today, learning communities are found in a wide range of institutions — urban and rural, residential and commuter. Though many have been established in four-year colleges and universities, an increasing number have also been developed in community colleges. DeAnza College, Delta College, Kingsborough Community College, LaGuardia Community College, and Seattle Central Community College, among scores of others, have adapted learning communities to serve the particular needs of their students, many of whom begin college academically underprepared. They have done so, for instance, by including one or more developmental course in the set of courses that are included in the curriculum of the learning community. It is argued that by doing so students are better able to acquire needed basic skills when they have to apply them to the material in the linked courses.

Whether for students who require basic skills or for college-ready students who intend to transfer to a four-year institution, the success of learning communities depends not just on the formation of student cohorts through co-registration, but on the construction of shared learning environments that actively involve students in learning in ways that lead them to integrate the material of the linked courses that make up the learning community. Doing so requires that faculty work together to coordinate their separate courses and employ "pedagogies of engagement" (for example, cooperative or problem-based learning) that actively involve students in learning with others. More than anything else, faculty provide the key to successful learning communities — their collaboration and training the primary challenges that have to be met for learning communities to become fully effective.

This report is the first of several that will be released as part of the national Learning Communities Demonstration. A longitudinal study of learning communities at six community colleges, it is the first large-scale study to employ random assignment of students to gauge the impact of learning communities on student academic achievement in different institutional settings. With the sole exception of MDRC's evaluation of learning communities for students in developmental English at Kingsborough Community College as part of the Opening Doors demonstration, no prior study has employed this rigorous method to test for learning community impact. Though my own multi-method studies of learning communities, most recently with my colleague Catherine Engstrom, provide a detailed picture of their association with a range of outcomes in different college settings, final determination of their impact on academic outcomes, independent of student self-selection, awaits the results from this important study.

The findings reported here focus on the early implementation stage of the development of learning communities in the six colleges studied. It details the many challenges that institutions face in fully implementing learning communities, challenges that take time to meet. As is characteristically the case in the early stages of program implementation, there tends to be significant variation within colleges in the degree to which learning communities are completely established. It simply takes time to put in place the structures, incentives, and staff development programs that enable faculty to construct the sorts of learning environments that are the key to effective learning communities. In providing details of how six community colleges are moving to meet the challenges of implementing learning communities, this report provides a much-needed guide to other colleges as they consider developing or scaling up learning communities on their campuses.

Vincent Tinto
Syracuse University

Preface

With nearly half of all U.S. undergraduates attending community colleges, it is not surprising that the Obama administration's call for increasing the proportion of college graduates by 2020 is centered on these institutions. Community colleges offer educational opportunities to most of the nation's undergraduates who are first-generation, low-income, minority, and nontraditional students, yet retention and completion rates remain distressingly low. More than 40 percent of incoming community college freshmen are underprepared and must enroll in at least one remedial (or developmental) reading, writing, or mathematics course. And less than 30 percent of them will earn a certificate or degree within eight years. This situation must change if the nation is to achieve its goals in a competitive, global economy.

Learning communities — which are proliferating across college campuses and hold some promise for helping developmental-level students succeed — may be one way to make that happen. Learning communities are small groups of students who take thematically linked classes together in order to enhance their engagement with school, increase their understanding of interdisciplinary connections, and strengthen their cognitive skills. In some cases, developmental-level courses are linked with college-level courses, providing a useful context for the developmental-level work and allowing students to earn college credit immediately. This report describes the Learning Communities Demonstration, an ambitious initiative taking place at six community colleges that are testing different models of learning communities and scaling up their programs. MDRC is evaluating those programs as part of its participation in the National Center for Postsecondary Research, a partnership funded by the federal Institute of Education Sciences that also includes the Community College Research Center at Columbia University's Teachers College, the Curry School of Education at the University of Virginia, and faculty at Harvard University.

As Vincent Tinto, one of the nation's foremost experts on learning communities, notes in his foreword to this report, the Learning Communities Demonstration is the first large-scale random assignment study of this intervention. It builds on the promising results of MDRC's earlier study at Kingsborough Community College in Brooklyn, which found that students in learning communities moved more quickly through developmental English requirements, took and passed more courses, and earned more credits in their first semester than other students.

But while the Kingsborough study focused on program impacts, this report considers what it takes to build a strong learning communities program. Despite their growing popularity, learning community programs are not easy to implement and sustain and, for that reason, they often remain modest in scope at most community colleges. The six colleges described here learned valuable lessons about the inherent challenges in scaling up a learning communities program so that, instead of reaching a small number of students and involving just a few faculty

members, they can reach hundreds of students and enlist the participation of dozens of faculty members. Their experiences demonstrate that it is possible to meet those challenges, although not without some growing pains. It is our hope that this report will be helpful to other colleges that are looking to launch and start up their own programs. We also look forward to sharing the results on the effects of these learning communities on student achievement over the next two years.

Gordon L. Berlin
President, MDRC

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While it is impossible to name all the individuals who supported the project in these ways, we would like to single out the program coordinators and a few others at each college who were primarily responsible for building up their learning community programs, recruiting and supporting instructors, recruiting and enrolling students, and maintaining random assignment procedures for as long as two years: Donna McKusick, Lillian Archer, Cheryl Scott, Maureen O'Brien, Joy Jones, Nicole Baird, and Denise Richardson at The Community College of Baltimore County; Judy Alicea and Craig Johnson at Hillsborough Community College; Chyrell Botts, Beverly Hixon, Elaine Krieg, Patricia Ugwu, Patrick Nguyen, Lois Avery, and Maria Straus at Houston Community College; Rachel Singer, Peter Cohen, and Debra Sisco at Kingsborough Community College; Kay Lee, Jennifer McBride, Carol Roscelli, Anne Newins, and John Spevak at Merced College; and Susan Madera, Michele Cuomo, and Brian Kerr at Queensborough Community College.

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The Authors

Executive Summary

Community colleges are on a quest for answers to the urgent question of what they can do to help more students achieve their education and career goals. College leaders are trying new strategies in the face of alarmingly low persistence and completion rates, particularly among their academically underprepared students. In recent years, a popular response has been to enroll groups of students together in two or more courses, which are often linked thematically and share assignments. This course structure is called a "learning community."

Proponents of learning communities believe that linking courses in this way helps students get to know each other better and more quickly, which can lead to the development of social and academic support networks. The link, or "integrated curriculum," may also help students understand connections between disciplines and, in so doing, help them to both engage more deeply with learning and enhance their cognitive skills. Linking a developmental-level course and a college-level course, a popular approach, can additionally help students earn college credit immediately and give them a useful context for their developmental-level work. Finally, learning communities can provide a structure in which faculty can get to know students on a deeper level and keep tabs on their progress. These experiences are expected to improve academic outcomes such as course passing rates, persistence to the following semester (that is, reenrolling each semester), and earning a degree or certificate.

Little rigorous research has been done on the effect of learning communities on academic outcomes, particularly for students at the developmental level — that is, students who are not academically prepared to take college-level courses. Two exceptions are Tinto's evaluation of learning communities in 13 community colleges and MDRC's evaluation of learning communities for students in developmental English at Kingsborough Community College, as part of the Opening Doors demonstration (a multisite study that tested interventions at six community colleges designed to help low-income students stay in school and succeed).[1] The encouraging results from these studies paved the way for the Learning Communities Demonstration, a nationwide, large-scale random assignment evaluation of learning communities, funded primarily by a grant from the U.S. Department of Education to the National Center for Postsecondary Research, and supplemented with funding from the Bill & Melinda Gates Foundation, the Ford

[1]Cathy McHugh Engstrom and Vincent Tinto, "Learning Better Together: The Impact of Learning Communities on the Persistence of Low-Income Students," *Opportunity Matters* 1 (2008): 5-21; Susan Scrivener, Dan Bloom, Allen LeBlanc, Christina Paxson, Cecilia Elena Rouse, and Colleen Sommo, *A Good Start: Two-Year Effects of a Freshmen Learning Community Program at Kingsborough Community College* (New York: MDRC, 2008).

Foundation, the Kresge Foundation, Lumina Foundation for Education, and the Robin Hood Foundation.

Six community colleges across the country are participating in the Learning Communities Demonstration:

- The Community College of Baltimore County (CCBC) (Baltimore, Maryland)
- Hillsborough Community College (Tampa, Florida)
- Houston Community College (Houston, Texas)
- Kingsborough Community College (Brooklyn, New York)
- Merced College (Merced, California)
- Queensborough Community College (Queens, New York)

At each college, around 1,000 students who were interested in enrolling in learning communities volunteered to be in the study. About half were randomly assigned to the program group and half to a control group. Program group members could enroll in a learning community that fit their schedule and course needs; control group members were allowed to enroll in any course for which they were eligible or that was required, but could not enroll in a learning community. (Random assignment creates two groups that are similar both in characteristics that can be measured, like age or academic attainment, and in those that cannot be reliably measured, like motivation. This approach ensures that any difference in observed outcomes between the two groups of students — called *impacts* — can be attributed with confidence to the learning community experience.) Study intake began in fall 2007 and was completed in fall 2009.

As data become available, future reports will share findings on the impact of learning communities on academic outcomes. While these impact findings will be invaluable for informing the debate on how to improve student success rates in community colleges, college leaders and staff also need practical answers to the "how to" questions of learning communities: how to expand the program from a handful of learning communities serving a few dozen students to dozens of learning communities serving hundreds, how to motivate and support faculty, how to decide which courses to link together, how to make learning communities work for academically underprepared students, and how to deliver an integrated curriculum in the community college setting.

The six colleges in this study tackled all of these questions while participating in the Learning Communities Demonstration. Their experiences, which are the subject of this report, offer rich examples and many solutions to the real-world challenges likely to be faced by any

community college intent on designing, operating, and scaling up effective learning communities. The key findings are:

- A paid coordinator and committed college leaders were essential to managing and scaling up learning communities.
- As coordinators clarified expectations and offered support, faculty responded by changing their teaching practices.
- Curricular integration remained difficult to implement widely and deeply.
- Student cohorts led to strong relationships among students, creating both personal and academic support networks.

Implementation of the Learning Community Programs

The colleges in the study varied in the amount of experience they had with learning communities, ranging from a college that had run only a handful of learning communities taught by a few passionate instructors, to a college where learning communities had been fully institutionalized and served a substantial percentage of all incoming freshmen. To make it possible to rigorously evaluate these programs, leaders at each college had to be willing to scale up their program to offer six or more learning communities each semester, where each learning community in the program shared at least one common course, or "anchor" course.

A primary question for the demonstration is whether learning communities improve academic outcomes for students who enter community college with low basic skills. Therefore, the learning communities at CCBC, Hillsborough, and Merced each included a developmental English or reading course, and at Houston and Queensborough, each learning community included a developmental math course. Each of these "anchor" courses was linked with one of the following: another developmental course, a college-level course (usually the introductory course for an academic subject), or a "student success course" (designed to teach study skills and other strategies for succeeding in college). Kingsborough's program was an exception, in that it was designed only for continuing students in specific majors, and the anchor course was an "integrative seminar" that taught college success strategies appropriate for students who had passed through their developmental requirements and chosen a major. Beyond this, colleges adapted or strengthened their learning communities programs by, for example, adding enhanced student services or actively promoting integrative teaching practices (that is, curricular integration, or instructive strategies that connect the content of the linked courses).

Each learning communities program evolved over the course of the demonstration as colleges responded to the challenges of scaling up while maintaining or improving the quality of

their programs. Program coordinators worked hard to schedule the links, recruit and train new faculty to teach in the learning communities, coordinate between student services and academic affairs to schedule the learning community classes and promote the courses to students, and support faculty such that they collaborated with their teaching partner to integrate the linked courses. About a year into the demonstration, a series of focus groups and interviews was conducted at each college in order to document the implementation of the program up to that point. In addition, course syllabi from learning communities were collected and analyzed, and faculty who taught in the learning communities were surveyed. These data taken together tell the story of the extent to which the programs were implemented as designed, as well as how they grew and evolved throughout the first year of their participation in the demonstration.

Key Findings on Implementing the Three Core Elements of a Learning Communities Program

The findings in this report highlight the strategies that the six participating colleges used and the lessons they learned in the first year of the demonstration, with a focus on three core elements: how to design and manage a large learning communities program, how to train and support faculty to take full advantage of the structure of learning communities to improve teaching and learning, and how to incorporate extra support for students into the learning communities.

Designing and Managing Learning Communities

Although all of the colleges had operated learning community programs before the study began, new administrative structures were required for the demonstration because, in every case, the colleges expanded their programs. Running six or more learning communities per semester, taught by as many as a dozen or more instructors, while enrolling several hundred students, requires significant management and administrative support. The six colleges faced similar challenges attracting both faculty and students to the learning communities, but with time were able to achieve their goals and overcome many early obstacles.

- **A paid coordinator and committed college leaders were essential to managing and scaling up learning communities.**

Each site received a grant to support a coordinator position to oversee all project activities. The coordinator played an indispensable role and initiated a variety of activities, including recruiting faculty, organizing faculty development events, working with registration staff to enroll students in the learning communities, and assuming a host of other responsibilities. In addition to the important role of coordinators, clear and visible commitment from top leaders at the colleges can "make or break" an effort to scale up learning communities. For example, at

CCBC, learning communities became a primary strategy in the college's five-year plan to improve student achievement and retention, demonstrating the administration's support, which bolstered buy-in across faculty and student services staff. Strong examples of visionary leaders of learning communities were not always present at the outset of the demonstration. But over time, all six colleges experienced the support of champions at a high level in the college — support without which they would not likely have succeeded in implementing and scaling up their programs.

- **Recruiting and supporting enough motivated faculty were ongoing challenges at most colleges.**

Most of the colleges in the demonstration had operated only a few learning communities of the kind needed for the study prior to the demonstration. As a result, they had to scale up rather quickly as the demonstration got under way, doubling or sometimes tripling the number of learning communities they offered. To do so meant that they had to recruit faculty who might not otherwise have volunteered to teach in a learning community. Coordinators learned to use many strategies to motivate and support faculty, including offering incentives such as stipends or access to training, clearly communicating expectations about what it meant to teach in a learning community, and providing ongoing support to help instructors collaborate and integrate their courses. As a result of the program's long history, Kingsborough had a particularly well-developed strategy for recruiting, training, and supporting faculty. Administrators across departments approached faculty who they felt would do well in learning communities, who were then presented with detailed documentation of the expectations and supports for teaching in a learning community. Faculty who chose to get involved then went through a six-week training module with their teaching partner to plan their learning community. Faculty received compensation for participating in the training module and for each semester of teaching.

- **Choosing which courses to link together was initially difficult, but leaders soon learned how to strategically select courses that both met student needs and attracted enough students to fill the learning communities.**

Colleges that are expanding and strengthening learning communities need to make sure not only that there are trained and enthusiastic faculty to teach the new linked courses, but also that there are enough students to fill them. The colleges in the demonstration became much more adept at this as time went on. Program coordinators learned to choose links strategically to maximize enrollment, by analyzing past trends in enrollment patterns and considering factors such as the time of day when classes are taught and student course preferences. For example, at Queensborough, the learning communities originally linked two developmental-level courses. Students enrolled at a lower rate than expected, so program administrators reworked the offerings to link the developmental math course with a college-level course. The opportunity to im-

mediately earn college credit while simultaneously eliminating a developmental course requirement was much more popular among students, and there was little trouble filling the learning communities from that point on. Across the colleges, program coordinators also learned that marketing learning communities to appeal to students helped them meet their enrollment goals.

Teaching and Learning in Learning Communities

Proponents of the learning community model consider three components to be key agents of change in the classroom setting: faculty collaboration, integrative teaching practices, and pedagogy that promotes active, collaborative learning. The faculty members who teach in learning communities work in teams as "teaching partners" to create curricular connections between their courses. Such faculty collaboration is necessary for teaching partners to coordinate their courses and teaching practices, and to communicate with one another about their shared students. Courses are coordinated through integrative teaching practices — or curricular integration — when the course material is tied together by a learning community theme, aligned readings, joint assignments, and other strategies, in order to encourage students to see connections between the courses. Finally, teaching practices that emphasize active, collaborative learning — that is, teaching that pushes students to engage more actively with the material and with each other in intellectual discourse — are also thought to be a critical component of effective learning communities.

The extent to which teaching and learning changed at the six colleges depended in large part on the degree to which these three components were emphasized, the college's efforts at training and supporting faculty, and the faculty's response to training opportunities, while at the same time coping with the challenges of scaling up the program.

- **As coordinators became clearer and more specific about their expectations for collaboration, and as they put into place the support and training needed, many faculty responded positively to the challenges of changing their teaching practices.**

Faculty members with less experience teaching in learning communities were particularly responsive to the coaching and training that were offered. As coordinators began to feel more comfortable with clarifying and communicating expectations, faculty pairs met with each other more often to plan their learning communities, and there was a corresponding increase in practices such as developing themes for learning communities to emphasize interdisciplinary connections and assigning work that asked students to draw on those connections. This pattern was evident throughout the colleges but was particularly strong at Hillsborough. By the third semester of the demonstration, the coordinator was strongly encouraging faculty to adopt themes for their learning communities and develop assignments and projects that fit with these themes, such as censorship and immigration.

- **While many learning communities featured instructional strategies to engage and motivate students, curricular integration proved to be very difficult to implement widely and deeply.**

By the end of the first year of the demonstration, all six colleges had made an effort to bring more integrative practices into the classrooms of their learning communities — including those that did not initially emphasize this component in their programs. However, the use of these practices still varied widely, both within and across the colleges. Curricular integration proved to be very demanding and challenging to implement, especially when faculty were not adequately informed of or trained in these techniques. While at least one or two faculty pairs at each college managed to offer an integrated curriculum, on the whole most learning communities featured only superficial or sporadic attempts to help students see interdisciplinary connections. Students often didn't notice these efforts, and when they did their reactions were mixed.

Supporting Students in Learning Communities

By co-enrolling a cohort of 20 to 25 students in the same classes together, learning communities can create connections that will support students as they pursue their academic goals: connections with their fellow students, connections with faculty, and connections to the support services that are available on campus. These connections can lead to a heightened sense of engagement with and belonging on campus, which may in turn lead to stronger academic and personal support, and better academic outcomes.

Students can develop strong relationships when they take linked classes together as a group, as they see each other and work together regularly in multiple classes. Strong relationships between students and faculty occur when faculty work to be more accessible to their students and to be aware of any issues that students may be facing, through extra outreach, sitting in on their teaching partner's class, and communicating regularly with their teaching partner about the students in the cohort. Finally, students are connected to resources that are available on campus when support services are integrated into the learning community. This can happen when, for example, a student success course is included in the link, or by tying services into the classroom through a dedicated tutor or counselor, or through presentations made by service specialists on campus.

For the six colleges in the study, the success of the learning communities in creating connections for students stood out as a consistent and powerful theme.

- **Student cohorts in learning communities led to strong relationships among students, creating both personal and academic support networks.**

The experiences of the colleges in the demonstration show that student cohorts supported the development of strong personal and academic support networks among students, which increased their sense of community and willingness to ask for help. Across the colleges, students typically described seeing and working with the same people in multiple classes as their favorite aspect of the learning community. Students in learning communities reported that they felt more comfortable and more supported than they did in their stand-alone classes. This was particularly the case at Houston, where students spoke about the friends they had made in their cohort and the fact that they felt more comfortable asking each other for help because they knew each other well. Faculty members at Houston and across the colleges also observed that their learning community students supported each other, that they formed networks more quickly, and, in many cases, that the cohort increased accountability and seemed to improve attendance and even academic performance among their students.

- **The strongest connection to student support services seemed to occur when the support was integrated closely with the learning community, through a student success course or tied-in services.**

Linking with a student success course was a popular approach for connecting students to support services. Systematically implemented, tied-in services, such as outreach from program coordinators or tutoring, also supported the students in the learning communities. For example, Merced offered a learning community that linked developmental English with a student success course, and several others had supplemental instructors to assist students both inside and outside the classroom. These learning communities gave students additional tools to help them with their studies and navigating college life. Such programs require coordination and communication between the instructional and student services divisions in the colleges during the planning and implementation of learning communities.

Summary

Though the learning communities in each college's program were consistent with respect to the "anchor" course and student cohorts, significant variation across learning communities within the same college was observed, particularly in the level of curricular integration. In fact, the variation in instructional strategies seemed at least as great within colleges as across colleges. This variation was primarily a result of the faculty's varied levels of experience teaching in learning communities, and inconsistency on the part of program leaders to initially specify clear expectations about the program and hold faculty accountable for meeting those expectations.

However, as coordinators became clearer and more specific about their expectations for collaboration and integration, more faculty development took place, leading to more collabora-

tion among pairs. As new faculty gained more experience, many faculty members began to experiment with intentional integration such as assigning joint projects to their students. This is consistent with the view that learning community programs tend to go through certain "developmental" phases themselves, with the use of innovative instruction that takes full advantage of the learning community structure often taking time to reach its full potential.

Looking Ahead to the Impact Findings

Over the next year, a series of reports will be released that will include findings from the impact evaluation and updates from the implementation research. The implementation research reported here suggests that despite some improvement over time, one component of learning communities — curricular integration — was not consistently or fully implemented in all of the learning communities. Given the relatively low level of integration, and the variation across and within sites, it seems unlikely that any impacts would be the result of this particular instructional approach. Instead, it is more likely that impacts would derive from the stronger social relationships of students in learning communities, and the way that those relationships may have led to deeper engagement with and commitment to education among the students.

While the Learning Communities Demonstration was not designed to sort out which of the key components of learning communities are the mechanisms underlying any impacts, or which ones matter the most, it is expected to shed light on whether and how much learning communities as a whole can affect student outcomes. Combined with the results of the implementation research reported here, the impact findings stand to significantly advance what is known about what works to improve the success of community college students.