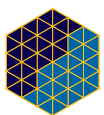# Learning Communities for Students in Developmental English

**Impact Studies at Merced College and
The Community College of Baltimore County**

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Dan Cullinan
Oscar Cerna
Stephanie Safran
Phoebe Richman

FEBRUARY 2012

THE LEARNING COMMUNITIES DEMONSTRATION

National Center for Postsecondary Research
www.PostsecondaryResearch.org

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For information about NCPR and NCPR publications, visit www.postsecondaryresearch.org.
For information about MDRC and MDRC publications, visit www.mdrc.org.

Overview

Across the United States, community colleges offer millions of students an open-access, low-cost postsecondary education. However, of the students who enroll in community college hoping to earn a credential or transfer to a four-year institution, only about half achieve their goal within six years. For students who enter college needing developmental (remedial) education in reading, writing, or math, this rate is even lower. Learning communities, in which cohorts of students enroll in two or more linked courses together, are often employed to improve these students' success. In addition to linking courses, learning communities often incorporate other components, such as faculty collaboration, shared assignments and curricula, and connections to student support services.

Merced College in California and The Community College of Baltimore County (CCBC) each developed learning communities designed to boost the academic success of their developmental English students. These colleges are two of the six in the National Center for Postsecondary Research's (NCPR) Learning Communities Demonstration, in which random assignment evaluations are being used to determine the impacts of learning communities on student success. At Merced, learning communities linked developmental English courses with a variety of other courses at the developmental and college levels. At CCBC, learning communities linked developmental English with a range of college-level courses and a weekly one-hour Master Learner session designed to support curricular integration and student learning. The key findings presented in this report are:

- Both Merced and CCBC implemented relatively advanced learning communities. A strong cohort experience was provided to students, and other aspects of the learning communities model were implemented with variation at each college. On average, the colleges succeeded in providing program group students with an experience that was substantially different from the experience of their control group counterparts.

- At Merced, learning communities students attempted and earned significantly more developmental English credits than students in the control group during the program semester. At the end of the subsequent semester, they had passed significantly more English courses than their control group counterparts.

- At CCBC, there were no meaningful impacts on students' credit attempts or progress in developmental English.

- On average, neither college's learning communities program had an impact on college registration in the postprogram semester, or on cumulative credits earned.

NCPR has now presented findings from all six colleges in the demonstration. They show that when one-semester learning communities have impacts, they tend to be concentrated in the semester in which students are enrolled in the program. The evidence to date suggests that one-semester learning communities programs by themselves are typically not sufficient to boost reenrollment or increase credit accumulation. However, this is not the final report on the demonstration; in 2012, NCPR will release a report that synthesizes the findings across all of the colleges studied and includes an additional semester of student follow-up at each college.

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Preface

Community colleges may offer the best opportunity for low-income, minority, and other students to earn a college credential. But achieving this goal is not simple, and many community college students never earn the credits required to receive a certificate or degree or to transfer to a four-year college. In 2006, the National Center for Postsecondary Research (NCPR) was funded by a grant from the Institute of Education Sciences, U.S. Department of Education, to tackle a critical question for our nation: How do we help students make the transition to college and master the skills needed to advance to a degree?

A keystone of NCPR's research agenda has been a rigorous, random assignment evaluation of learning communities, in which small groups of students take thematically linked classes together in an effort to boost their learning, academic persistence, and long-term success. With the release of this report, findings from all six community colleges in the Learning Communities Demonstration are now available. Merced College and The Community College of Baltimore County (CCBC), the subjects of this report, implemented semester-long learning communities that linked developmental (or remedial) English courses with a range of other courses.

The impacts of these programs were less impressive than originally hoped or predicted. Across the six colleges, when impacts were observed, they tended to be modest and concentrated in the semester in which the students were enrolled in the program. The most notable impact observed was at Merced College, where learning community students were significantly more likely to take and pass developmental English. But despite this progress in English at Merced, students at neither Merced nor CCBC experienced a measurable boost in reenrollment or an increase in total cumulative credits earned. Likewise, the evidence from other colleges suggests that one-semester learning communities programs by themselves are typically not sufficient to engender long-term academic improvements.

This is not the last word on the demonstration; a final report in 2012 will examine findings across all six colleges (as well as from another previous evaluation) and will offer a cross-site synthesis of the findings with an additional semester of follow-up. In the meantime, it appears that although learning communities may continue to play an important role at community colleges, they alone are unlikely to have a significant impact on students' long-term progress. Rather, broader programs or policies — which may build on or incorporate components from learning communities — may be needed to create new structures or pathways for student success.

Gordon L. Berlin
President, MDRC

Acknowledgments

Executive Summary

Across the United States, community colleges offer millions of students an open-access, low-cost postsecondary education. Many students take advantage of the opportunities made available by the community college system, and each year over one-third of the country's postsecondary enrollees attend community colleges.[1] However, of the students who enroll in community college hoping to earn a credential or transfer to a four-year institution, within six years only about half achieve their goal.[2] While the rates of degree or certificate attainment are low in general, rates are even lower for the many students who enter college having been assessed as needing developmental education in reading, writing, or math.[3]

Developmental (remedial) English — encompassing both reading and writing courses — is particularly important for community college students. First, for purely practical reasons, students referred to developmental English typically need to pass these courses to obtain a credential or to transfer to a four-year institution, and many schools require students to complete the courses as a prerequisite to enrolling in college-level English and many other classes. Second, and perhaps more importantly, academically underprepared students may need the skills taught in developmental English to succeed in their other academic pursuits. At the college level, English skills are fundamental to success in all courses, whether reading a biology textbook or writing a research paper in an anthropology course. In addition, many students who enter college having been inadequately prepared in English feel insecure about their abilities and uncomfortable asking their instructors for help.[4]

Learning communities are a strategy that many community colleges use to improve the academic outcomes of students in developmental English and other courses. The most basic learning community model coenrolls a small group of students in two or more classes together. More comprehensive learning communities include additional components such as teacher collaboration, shared curriculum or assignments, or the integration of student supports into the learning community classrooms. The theory of change for learning communities suggests that students will be more engaged in what they are learning and more connected with each other and with their instructors, and as result they will be more likely to master the course material, pass their classes, and stay enrolled from semester to semester.[5] When learning communities

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[1]Knapp, Kelly-Reid, and Ginder (2009).
[2]Radford, Berkner, Wheeless, and Shepherd (2010).
[3]Adelman (2004); Attewell, Lavin, Domina, and Levey (2006); Duke and Strawn (2008).
[4]Chabot College (2007).
[5]See Visher, Wathington, Richburg-Hayes, and Schneider (2008) and Smith, MacGregor, Matthews, and Gabelnick (2004) for a review of the literature. Also see Tinto (1997); Engstrom and Tinto (2008); and Malnarich (2003).

include advanced levels of curricular integration, it is further anticipated that students will better understand the material of one linked course in the context of the other. This contextual learning, in turn, may allow students to make deeper connections between content areas and to understand how their courses are relevant to other areas of their lives.

The Learning Communities Demonstration

The Learning Communities Demonstration is a national research project that is testing the effectiveness of learning communities in six community colleges across the United States: Merced College, in California; The Community College of Baltimore County (CCBC), in Baltimore, Maryland; Hillsborough Community College in Tampa, Florida; Houston Community College in Houston, Texas; Queensborough Community College in Queens, New York; and Kingsborough Community College in Brooklyn, New York. This report describes the findings from the programs at Merced and CCBC, which each offered learning communities for students in developmental English (including both developmental reading and developmental writing) with the goals articulated above in mind. Findings from the studies at the other four colleges can be found in previously published reports from the Learning Communities Demonstration.[6] This project is being conducted by the National Center for Postsecondary Research (NCPR), which MDRC, in partnership with the Community College Research Center (CCRC), the University of Virginia, and faculty at Harvard University, established through a grant (R305A060010) from the Institute of Education Sciences, U.S. Department of Education. Several foundations provided additional support to the Learning Communities Demonstration. [7]

The study at all six colleges was designed to describe the implementation and operation of the learning communities and to determine whether the programs succeeded in boosting their students' academic success. The study used an experimental design in which students who were interested in and eligible for the courses included in the learning community were randomly assigned to either a program group, whose members were strongly encouraged to participate in the learning communities, or to a control group, whose members could not participate in learning communities but were allowed to enroll in any other classes and received the college's standard services. By comparing outcomes for program and control group students, the study was able to gauge the "impact" — or net value added — of the program on key student outcomes. The primary outcome measures included passing of targeted courses, college reenrollment, and total credit accumulation. The learning communities studied in the demonstration

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[6]Visher, Schneider, Wathington, and Collado (2010) details the early implementation experiences of the six colleges in the demonstration. The other impact studies from the demonstration can be found in Weiss, Visher, and Wathington (2010); Weissman et al. (2011); and Visher and Teres (2011).

[7]The following foundations generously supported this project: the Bill & Melinda Gates Foundation, the Ford Foundation, Lumina Foundation for Education, and the Robin Hood Foundation.

lasted for one semester per cohort at each college, and transcript data were collected on students in both the program and control groups for the program semester and one or more subsequent semesters. In this report, student outcomes at Merced and CCBC are analyzed for the program semester and one subsequent semester.

At Merced College, most of the learning communities linked developmental writing either with another course at the developmental level (reading or math), with a student success course designed to prepare students for the demands of college, or with a college-level content course in a subject such as health, criminology, or music. At CCBC, developmental reading or writing was linked with a college-level content course such as health or psychology. Furthermore, CCBC's learning communities included a Master Learner session that provided students an extra hour of classroom instruction each week to support their work in the learning community courses. These program models are depicted in Figure ES.1.

Key Findings from Merced and CCBC

- Merced and CCBC had relatively ambitious goals for the implementation of advanced, semester-long, developmental English learning communities. In practice, a strong cohort experience was provided to students, and other aspects of the learning communities model were implemented with variation among the different links at each college. Overall, the colleges succeeded in providing the majority of program group students with an experience that was substantially different from that of their control group counterparts.

Merced's learning communities linked developmental English with a variety of other courses at the developmental and college levels. These learning communities included generally high levels of faculty team collaboration, with the expectation that this would facilitate high levels of cross-course content integration. In practice, this integration varied among the different links, tending to be most advanced in the learning communities where the faculty team members had more experience working together.

CCBC's learning communities linked developmental English with a college-level course and a weekly one-hour Master Learner session. The Master Learner session was not required but was offered as an opportunity for students in the learning community to meet together with an instructor who could provide them with additional help developing their study skills. Further, the Master Learner was intended to help students make connections between the content in each of the linked courses in the learning community. Apart from the Master Learner, CCBC's program did not initially include a strong emphasis on cross-course content integration, but over time the program's leaders sought to increase the level of curricular integration. However, the program's expansion during the course of the study, combined with new expectations and support for program implementation, led to significant variation in the implementation

The Learning Communities Demonstration

Figure ES.1

The Learning Community Model at Merced College and CCBC
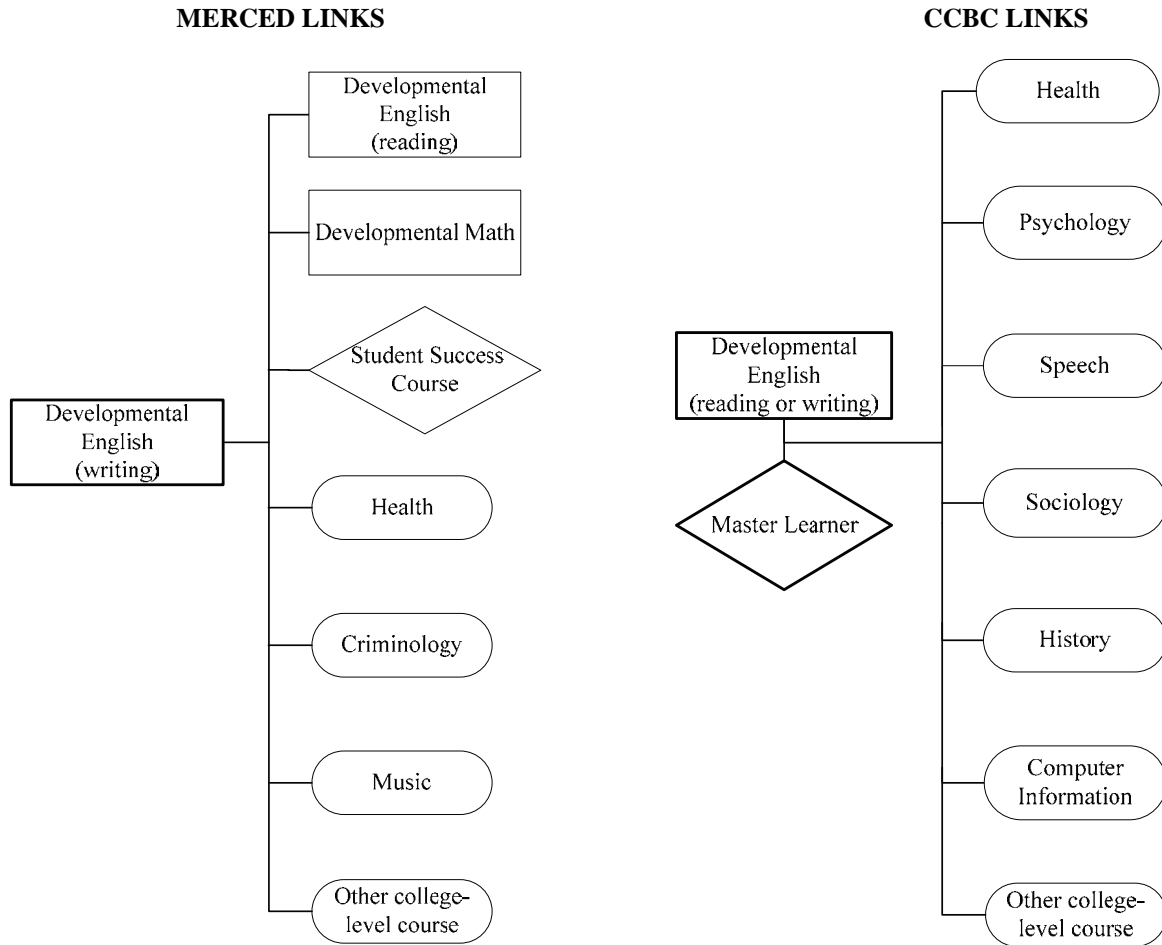
Learning Communities for Students in Developmental English

MERCED LINKS

CCBC LINKS

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                              Developmental                                    Health
                                 English
                                (reading)
                                                                              Psychology
                            Developmental Math

                                                     Developmental             Speech
                             Student Success          English
                                 Course           (reading or writing)
Developmental                                                                 Sociology
  English
  (writing)                       Health                Master Learner

                                                                               History
                               Criminology

                                                                              Computer
                                  Music                                       Information

                             Other college-                                  Other college-
                               level course                                    level course
```

NOTE: "Developmental English" includes both developmental reading and developmental writing courses. Components on the left of each diagram were linked with a course in one of the subjects on the right. At Merced, developmental writing was linked with a course in one of the subjects depicted on the right, with the exception of one learning community in spring 2009 that linked developmental reading with a student success course. At CCBC, there were roughly equal numbers of developmental reading and developmental writing links throughout the demonstration.

quality of the learning communities. The Master Learner sessions were particularly difficult to implement consistently.

Because of this inconsistency and their relatively high cost, CCBC discontinued this component after the demonstration ended.

- At Merced, learning communities students attempted and earned significantly more developmental English credits than students in the control group during the program semester. At the end of the subsequent semester, they had passed significantly more English courses than their control group counterparts.

At Merced, fewer than half the students in the control group attempted developmental English in the program semester; in contrast, about 60 percent of students randomly assigned to the program group took a developmental English course. Among these students who took developmental English in each group, the pass rates were very similar (about 81 percent). Thus, because students in the learning communities program group were significantly more likely to attempt developmental English, they also earned significantly more developmental English credits than their control group counterparts, putting them further ahead in the English sequence toward college-level courses.

In the subsequent semester, there were no significant differences in the credits that students in the program and control groups attempted or earned. However, cumulatively — at the end of the postprogram semester — students in the program group were still ahead of their control group counterparts and had passed an average of about one-third of a course more in the English sequence.

- At CCBC, there were no meaningful impacts on students' credit attempts or progress in developmental English.

At CCBC, developmental English courses are mandatory for all students who test into them. As a result, about 80 percent of control group students enrolled in a developmental English course in the program semester, leaving little margin for improvement on this measure. About the same proportion of students in the learning communities group as in the control group enrolled in developmental English. Students in both groups passed their developmental English courses at similar rates, and there was thus no significant difference in the number of English credits earned in the program semester or the postprogram semester. In summary, the learning communities program at CCBC had no impact on students' progress through the developmental English course sequence.

- On average, neither college's learning communities program had an impact on college registration in the postprogram semester, or on cumulative credits earned.

In addition to accelerated progress through the developmental English sequence (as observed at Merced), the learning communities' theory of change suggests that participation would lead to higher rates of reenrollment in college and credit accumulation — both necessary steps on the path toward earning a degree or credential or transferring to a four-year institution. However, contrary to the theory of change, learning communities students at Merced and CCBC were no more likely than their control group counterparts to stay in college in the postprogram semester. Furthermore, at neither college did learning communities have a significant impact on the total number of credits earned (English plus other credits) by students in the two semesters of the study.[8]

Conclusions and Looking Ahead

Some insight into the question of why the CCBC and Merced programs were found to have different impacts may be found in the differing policies at those institutions. At CCBC, students were required to take developmental courses if they tested into them and may not have been able to enroll in other courses until they did so. This was not the case at Merced, where the testing placement was a recommendation only, and many students delayed taking developmental courses. This may explain why the impact seen in the developmental English credits attempted at Merced did not occur at CCBC, where such courses were required for all students.

More broadly, this report adds to the body of rigorous research on learning communities; NCPR has now presented findings from all six of the colleges in the Learning Communities Demonstration. These findings, viewed together with findings from an earlier random assignment study of developmental English learning communities at Kingsborough Community College,[9] show that when one-semester learning communities have impacts, they tend to be modest and concentrated in the semester in which the program group students are enrolled in the learning communities. The evidence suggests that one-semester learning communities programs by themselves are typically not sufficient to boost reenrollment or lead to lasting increases in credit accumulation.

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[8]Merced's positive and statistically significant impact on developmental English credits earned did not translate into a significant impact on cumulative credits earned, because the increase was partially offset by small (and statistically insignificant) decreases in the number of both regular and other developmental credits earned.

[9]Scrivener et al. (2008).

However, there may still be a role for learning communities to play as possible catalysts for, or components of, institutional change and improvement. Learning communities may also be a part of broader programs or policies that seek to create structured and supported pathways for students throughout their college tenure.

This is not the final report on the demonstration, and there is still more to be learned about the promise and limitations of learning communities at community colleges. In 2012, NCPR will release a final report that synthesizes the demonstration's findings and lessons across all of the colleges studied. It will also include an analysis of one additional semester of student follow-up at each of the six colleges. With this cross-site perspective, NCPR will examine the learning communities theory of change alongside the impact estimates from the study. This analysis will seek to better understand how the theory of change does or does not align with the programs' measured impacts on progress in developmental education, reenrollment, and overall credit accumulation.

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Chapter 1

Introduction

Imagine sitting down to complete your first college assignment, opening your Psychology 1A textbook, and being unable to get through the introductory chapter. Many students enrolled in community college lack the basic reading skills needed to understand their textbooks, or the writing skills to complete a simple assignment. This lack of fundamental English skills can affect students' performance in all of their courses, as well as their self-esteem and confidence.[1]

Each year, nearly half of first-semester community college students enroll in precollege levels of reading, writing, or math courses. This statistic likely underestimates the percentage of students who are referred to remedial courses but choose not to enroll in them.[2] Placement into remedial, or developmental, courses is determined by standardized tests that students take when they enroll in college. Less than half of students who begin in developmental courses complete them and are able to go on to college-level work. The students who do not make this transition may lack academic preparation or motivation, or may carry financial burdens. They may struggle to balance the competing demands of families and jobs or do not feel a sense of belonging to the campus community. Learning communities — small groups of students who are enrolled together in "links" that consist of two or more courses — have emerged as a popular strategy to address some of these issues.

The Learning Communities Demonstration is a national research project that is testing the effectiveness of this strategy in six community colleges across the United States. Merced College and The Community College of Baltimore County (CCBC), the subjects of this report, are two of the community colleges participating in the project. The findings from Merced and CCBC are discussed together in this report because both colleges operated learning communities with developmental English courses (including both developmental reading and developmental writing). The other four colleges in the demonstration include Hillsborough Community College in Tampa, Florida; Houston Community College in Houston, Texas; Kingsborough Community College in Brooklyn, New York; and Queensborough Community College in Queens, New York. Findings from the studies at these four colleges can be found in previously published reports from the Learning Communities Demonstration.[3] This project is being

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[1]Chabot College (2007).

[2]Aud et al. (2011); Perin and Charron (2006).

[3]Visher, Schneider, Wathington, and Collado (2010) details the early implementation experiences of the six colleges in the demonstration; Weiss, Visher, and Wathington (2010) presents impact findings for Hillsborough Community College's learning communities; Weissman et al. (2011) presents impact findings for

(continued)

conducted by the National Center for Postsecondary Research (NCPR), which MDRC, in partnership with the Community College Research Center (CCRC), the University of Virginia, and faculty at Harvard University, established through a grant (R305A060010) from the Institute of Education Sciences, U.S. Department of Education. Several foundations provided additional support to the Learning Communities Demonstration.[4]

Learning Communities at the Two Study Colleges

Merced College is a midsized, rural community college in California's agricultural Central Valley. The college has a long history of running learning communities. For the Learning Communities Demonstration, Merced linked the three highest levels of developmental English with a variety of other developmental or college-level courses. Each learning community incorporated a creative and engaging theme, and instructors built their curricula around the link. For example, one developmental writing and Psychology learning community was called "In Search of Meaning and Consciousness," and it focused on understanding consciousness, the subconscious, and dreaming. Another link, "The Power of Stories," combined developmental reading with developmental writing and focused on understanding and building narratives. The college hoped that learning reading or writing in the context of another course — and a better understanding of and ability to use these skills in other classes — would help students perform better in all their course work and thus progress more steadily toward a degree or transfer.

CCBC is a large community college with three campuses and three extension centers scattered around the outskirts of Baltimore, Maryland. Like Merced, CCBC has a strong history of running learning communities and a dedicated group of core faculty who have supported the program over the years. For the Learning Communities Demonstration, CCBC linked the highest level of developmental reading or writing to a variety of college-level courses, hoping to start students early on the path to earning college credits. The CCBC model also included a weekly, hour-long Master Learner session that was designed to provide support and guidance to students as they worked through their linked courses. Although similar in many ways to a student success course (which teaches students techniques like study skills, time management, and navigating the college system), the Master Learner session was centered on helping students make connections between the content from the linked courses in each learning community and was meant to reinforce the instruction from those courses.

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learning communities at Houston and Queensborough Community Colleges. Visher and Teres (2011) presents impact findings for Kingsborough Community College's learning communities.

[4]The following foundations generously supported this project: the Bill & Melinda Gates Foundation, the Ford Foundation, Lumina Foundation for Education, and the Robin Hood Foundation.

The programs at both Merced and CCBC were evaluated during the process of scaling-up the number of learning communities offered and the number of students served.[5] Even with the pressures of scale-up, both colleges' learning communities programs were fairly advanced when compared with the other programs in the demonstration. However, although both colleges ran fairly strong, well-implemented learning communities, the programs had to increase their capacity to meet the enrollment needs of the study and were evaluated during a period of some change, rather than at a steady state.

After briefly discussing the background and context for the national Learning Communities Demonstration, this report describes in more detail the components of the program models at Merced and CCBC and discusses how faithfully these components were implemented. In addition, student academic outcomes and program impacts — changes over and above what students would have achieved in the colleges' standard classes and services — are presented for the semester when students were enrolled in the program, as well as for one semester after the program ended.

The Policy Context

Across the United States, community colleges provide students with an open-access, low-cost postsecondary education. Many students take advantage of the opportunities made available by the community college system, and each year over one-third of the country's postsecondary enrollees attend community colleges.[6] However, of the students who enroll in community college hoping to earn a credential or transfer to a four-year institution, only about half meet their goal within six years.[7] While the rates of degree or certificate attainment are low in general, they are even lower for students in need of developmental education, who comprise a significant proportion of the community college student body.[8]

Of the students who test into developmental reading, writing, or math, less than half complete the sequence of assigned courses. This number gets dramatically smaller for students who test at the lowest levels. And even fewer students go on to complete the first college-level course in the subject, often referred to as a gatekeeper course.[9] These low completion rates occur for a number of reasons, but mostly come from students who never enrolled in recommended courses, rather than from students who fail or withdraw from courses midsemester. Some researchers and practitioners argue that shortening or doing away with the developmental

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[5]As described in Visher, Schneider, Wathington, and Collado (2010), this was generally true at all six colleges in the Learning Communities Demonstration.

[6]Knapp, Kelly-Reid, and Ginder (2009).

[7]Radford, Berkner, Wheeless, and Shepherd (2010).

[8]Adelman (2004); Attewell, Lavin, Domina, and Levey (2006); Duke and Strawn (2008).

[9]Bailey, Jeong, and Cho (2009).

education sequence might propel students toward higher rates of degree or certificate attainment.[10] Others suggest that encouraging or requiring students to enroll in developmental courses early in their college careers will both give them the foundational skills they need and put them on the right track.[11]

Developmental English — a series of both reading and writing courses — is particularly important for community college students. For purely practical reasons, students need to pass through this sequence to obtain a credential or to transfer to a four-year institution, and many schools require students to complete the sequence as a prerequisite to enrolling in college-level English or many other courses. Perhaps more importantly, academically underprepared students may need the skills taught in developmental English courses to succeed in their other academic pursuits. At the college level, English skills are fundamental to success in all courses, whether reading a biology textbook or writing a research paper in an anthropology course. In addition, many students who enter college inadequately prepared in English feel insecure about their abilities and uncomfortable asking their instructors for help.[12]

For these students who test below college-level English, colleges choose to approach the developmental English sequence in a variety of ways. Most begin with basic reading and writing skills and help students work their way up to college-level composition and reading comprehension. However, while some colleges teach reading and writing skills simultaneously in combined English courses, others — like Merced and CCBC — separate the two into discrete developmental paths that focus exclusively on one skill set or the other. Proponents of teaching reading and writing separately believe it helps students focus on the fundamentals of each discipline and that the reading basics, in particular, tend to be overlooked when taught in conjunction with other content.[13] In addition, a divided developmental sequence allows students who are at different levels in reading and writing to address their needs without having to start with the lowest common denominator. In contrast, those who believe the two should be taught in tandem posit that reading and writing skills reinforce each other and that learning each component in a vacuum is not an effective way to prepare students for college-level courses in which they will need to use both simultaneously.[14]

This debate touches on another issue inherent to developmental English education: When students progress through developmental English without any connection to their other content areas, they may have a hard time applying the foundational skills they have learned to

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[10]Hern (2010); Edgecombe (2011).
[11]Moore and Shulock (2007).
[12]Chabot Community College (2007).
[13]Fisher and Ivey (2005).
[14]Goen and Gillotte-Tropp (2003).

their college-level courses.[15] A growing body of knowledge about this subject has suggested that students may be more successful when developmental English is taught using content from subject-area courses.[16] This type of contextualization of foundational English skills takes many forms in education practice, including developmental English learning communities.[17]

Why Learning Communities?

Learning communities are a strategy often used to improve the academic outcomes of under-prepared community college students. The theory of change suggests that students who are more engaged in what they are learning and more connected with each other and with their instructors are more likely to master the course material, pass their classes, and persist from semester to semester.[18]

For students in need of developmental English, learning communities may also help resolve the two issues noted above: the chasm between reading and writing instruction, and the lack of connection between developmental English and other content areas. The curricular-integration focus of learning communities, described below, is intended to help students understand the material of one linked course in the context of the other, which, in turn, allows students to make deeper connections between content areas and to understand how their courses are relevant to other areas of their lives. In the case of learning communities that link developmental reading with developmental writing, students are able to give concentrated attention to each skill, while also having opportunities to integrate the two and reinforce their learning. In learning communities that link developmental reading or writing with other content-area courses, students can develop their English proficiency in a meaningful way and apply their foundational reading or writing skills to the content of the linked class, often a college-level course.

The typical learning community model, regardless of the courses in the link, consists of four key components, although considerable variation exists in both how much these components are emphasized and how well they are actually implemented in colleges.[19] Table 1.1 lists the four components along with indicators of basic, midrange, and advanced versions of each. An advanced program model would include an advanced version of all four components described; a basic model would include the most basic versions, or only a subset of the compo-

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[15]Perin and Charron (2006).

[16]Brothen and Wambach (2004); Perin (2011).

[17]Baker, Hope, and Karandjeff (2009).

[18]See Visher, Wathington, Richburg-Hayes, and Schneider (2008) and Smith, MacGregor, Matthews, and Gabelnick (2004) for a review of the literature.

[19]Tinto (1997); Tinto (1998); Engstrom and Tinto (2008); Malnarich (2003); Visher, Schneider, Wathington, and Collado (2010).

The Learning Communities Demonstration

Table 1.1

Components of the Learning Community Model

Learning Communities for Students in Developmental English

Component	Basic	Midrange	Advanced
Linked courses and cohorts	Students in the links are a mix of learning community students and students taking the course as a stand-alone.	Most, but not all, of the students in the linked courses are in the learning community.	Cohorts are "pure": all students in all the links are part of the learning community. Courses are selected to promote integration.
Faculty collaboration	Teacher teams do not collaborate on curriculum or other matters.	Teacher teams communicate periodically throughout the semester.	Teacher teams spend time planning before, during, and after each semester. Instructors have access to professional development and ongoing support.
Instructional practices	Courses are taught as if they were stand-alone.	Teachers assign at least one joint project during the semester.	Syllabi are fully aligned, with an overarching theme; intentional integration, including several joint projects, joint grading rubrics, and joint attendance policies. Instruction includes project-based work and group work.
Student support	No extra support offered to students beyond what is normally offered.	Some extra support is offered but it is not integrated into the classroom.	Extra support is available and integrated into the classroom *or* required for students.

SOURCES: This framework draws on work by Tinto (1997, 1998), Malnarich (2003), and Smith, MacGregor, Matthews, and Gabelnick (2004).

nents listed. Below are brief descriptions of the four components and how they contribute to the overall theory of change of learning communities.[20]

Links and Student Coenrollment

Learning communities consist of groups of students who enroll together into two or more courses, often scheduled back-to-back. In basic learning communities, most students are enrolled in both courses together, although some mixing with non-learning communities students may occur. In addition, the connection between the two courses is not always made explicit with a common theme or set of goals. In more advanced learning communities, the linked courses are chosen deliberately to facilitate teaching that emphasizes the inter-connections between the two courses, and many learning communities are centered on a common theme that will be the focus of the semester. The theory of change posits that students enrolled together in linked courses experience an increased sense of support from their fellow students and their instructors, stronger engagement with the college community, and a feeling of accountability to succeed. These results should then increase rates of retention and reenrollment in the next semester.

Faculty Collaboration

As part of a learning community, instructors of the linked courses collaborate to plan and run their classes. In advanced learning communities, instructors meet at various points before and during the semester to discuss their students' progress, align their syllabi, and plan joint assignments. This collaboration between instructors helps develop the pedagogical practices typical of learning communities and holds students accountable for their attendance and behavior in both linked courses. In more basic learning communities, although courses are linked in name, instructors do not tend to collaborate or share information about their shared students. The theory of change supporting faculty collaboration suggests that it promotes the deeper learning that occurs in learning communities and enhances students' sense of support in the college community. Some colleges offer paid release time or a stipend as well as profession-al development to support instructors as they implement the learning community model.

Instructional Practices

Teaching methods in a learning community are focused on integrated instruction — teaching that emphasizes the interconnections between the two linked courses — and active and collaborative learning, which includes strategies like group work and hands-on assignments.

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[20]For a more detailed description of the practices associated with each component see Visher, Schneider, Wathington, and Collado (2010).

Instructors try to foster integrated learning by contextualizing course content both with the other course in the link and with students' own lives and the world around them. In a basic learning community, instructors might teach each course as if it were a stand-alone section, but in advanced learning communities, instructors assign group work and cross-course projects, align their syllabi across the two courses, and emphasize relevant connections throughout the semester. According to the theory of change, this form of contextualized, integrated learning helps students connect with the material, engenders deeper learning, and increases students' academic success in the learning community and other courses.

Student Supports

Many learning communities programs include enhanced student support services that provide students with increased access to tutors, designated counselors, or supplemental instruction in the classroom. Basic learning communities provide the same access to services that all students receive. Advanced learning communities often offer extra, dedicated support services or integrate additional help into the classroom. Some learning communities pair a student success course as part of the link, thus embedding extra support into the learning community itself. Curriculum in student success courses focuses on skills needed to succeed in college, with topics ranging from time management and study skills to money management and access to financial aid. The theory of change suggests that students who receive enhanced support services are less likely to drop out of college, more likely to return in subsequent semesters, and more likely to succeed academically.

Although learning communities programs often last only for a single semester, the learning communities theory of change suggests that the sense of engagement and support students feel on campus may be powerful enough to affect their enrollment from semester to semester. The theory also posits that their continued enrollment, along with the deeper learning they achieve in their classes, will eventually lead to increases in credit accumulation and graduation or transfer rates over what would have occurred without the program.

The Learning Communities Demonstration

The six programs in the Learning Communities Demonstration were selected to represent the variation in learning community models that exist in community colleges across the United States. Table 1.2 provides an overview of the colleges and their programs. Five of the six colleges designed programs to serve students in developmental education courses, while Kingsborough Community College tested a model that focused on students in designated majors.

The Learning Communities Demonstration

Table 1.2

Overview of the Learning Communities Demonstration, by College

Learning Communities for Students in Developmental English

Learning Community Program and College	Learning Community Program Model	Eligible Population
Developmental English or reading		
Merced College (Merced, CA)	• Developmental English linked with developmental reading or math, a college-level course, or a student success course • Links included cross-content themes developed by the learning community instructor pairs before the start of each semester.	• Assessed into three of the four levels of developmental English
The Community College of Baltimore County (CCBC) (Baltimore, MD)	• Developmental English or reading linked with a college-level course (for example, psychology, sociology, speech) • Master Learner Component — a faculty member (sometimes the developmental English instructor) sat in on a college-level course and conducted a weekly, one-hour, noncredit seminar on learning-to-learn in the context of the college-level course	• Assessed into highest level of developmental English
Hillsborough Community College (Tampa, FL)	• Developmental reading linked with a student success course • Student success course focused on acclimation to college, study skills	• Assessed into either of two levels of developmental reading • First-time students
Developmental math		
Houston Community College (Houston, TX)	• Developmental math linked with a student success course • Student success course focused on acclimation to college, study skills	• Assessed into lowest level of developmental math • First-time students at Houston
Queensborough Community College (Queens, NY)	• Developmental math linked with developmental or college-level English (fall 2007) or with a college-level course (spring 2008 and beyond)	• Assessed into either of two levels of developmental math • New students and students with less than a semester of credits
Career-focused learning communities		
Kingsborough Community College (Brooklyn, NY)	• Two linked courses recommended or required for an occupational major • Required attendance in an "integrative seminar," a one-credit course designed to help students make connections between their linked courses, course content, career plans, and the real world	• In targeted occupational major: accounting, allied health, business, criminal justice, early childhood education, liberal arts, mental health, and tourism and hospitality • Returning students and transfer students

Between spring 2007 and fall 2009, a total of 6,792 students across the six colleges volunteered to be part of the study. Nearly 4,000 of these students were randomly assigned to have the opportunity to enroll in a learning community that fit their schedules and course needs; the rest were allowed to enroll in any course for which they were eligible or that was required but could not enroll in a learning community. This method of random assignment of participants creates a study sample comprising two groups — a program group and a control group — that come from the same target population and are therefore similar in terms of their baseline characteristics. As discussed in the next chapter, random assignment ensures a high degree of confidence that any differences in the outcomes of sample members who are assigned to the program and control groups are due to the intervention being studied, rather than to preexisting differences between those who experienced the program and those who did not.[21]

With this report, findings are available from all six sites in the Learning Communities Demonstration. The findings have been generally consistent across past studies of learning communities programs.[22] Table 1.3 summarizes the main results from the Learning Communities Demonstration as well as from a study of a developmental English learning communities program conducted at Kingsborough Community College during MDRC's Opening Doors Demonstration in 2005.[23] The table indicates whether there were statistically significant impacts on the key outcomes measured in the studies, which include (1) passing the targeted developmental education course during the semester in which the learning community was run (the "program semester"), (2) reenrolling in college in the semester following participation in the learning community (the "postprogram semester"), and (3) earning more credits. The results vary somewhat for the different colleges and types of learning communities, but in general do not point to large or sustained impacts of learning communities on most of the measured outcomes. The evidence to date suggests that, compared with regular services, learning communities for students in developmental courses:

- Often have an impact on the percentage of students who pass a targeted course in the program semester,

- Generally do not have an impact on reenrollment, and

- Generally do not have an impact on cumulative credits earned.

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[21]For a description of the methodology of the Learning Communities Demonstration, see Visher, Wathington, Richburg-Hayes, and Schneider (2008).

[22]Engstrom and Tinto (2008); Richburg-Hayes, Visher, and Bloom (2008); Weiss, Visher, and Wathingon (2010); Weissman et al. (2011); Visher and Teres (2011).

[23]Scrivener et al. (2008).

The Learning Communities Demonstration

Table 1.3

Results from Random Assignment Evaluations of One-Semester Learning Community Programs

Learning Communities for Students in Developmental English

Outcome	Opening Doors Kingsborough	Learning Communities Demonstration					
		Merced	CCBC	Hillsborough	Houston	Queensborough	Kingsborough
	Developmental English	Developmental English	Developmental English	Developmental Reading	Developmental Math	Developmental Math	Career-Focused
Passed developmental course in program semester	+	+			+	+	NA[a]
Reenrolled in program college: first postprogram semester							
Earned more credits (cumulative)[b]	+						

SOURCES: Scrivener et al. (2008); Weiss, Visher, and Wathington (2010); Weissman et al. (2011); Visher and Teres (2011).

NOTES: The plus sign (+) indicates that statistically significant and positive impacts were found for the whole sample; a blank space indicates that no statistically significant impacts were found in either direction for the whole sample. No negative impacts of learning communities were found on these key outcomes for any of the six programs.

[a]NA = not applicable. The Learning Communities Demonstration at Kingsborough did not target developmental education or include a developmental course in the links.

[b]The number of cumulative semesters varied across sites: at Kingsborough (Opening Doors), there were four semesters of data; at Queensborough, there were three semesters of data; all other colleges in the Learning Communities Demonstration had two semesters of data.

A final report from the Learning Communities Demonstration is scheduled to be released later in 2012. It will describe findings across the six sites in the demonstration and will include further discussion of the implications of these findings for policy and practice. The report will include an additional semester of data from each college, pooled results across the sites on select outcomes, and a discussion of the cost of running learning communities.

Organization of This Report

The next chapter describes the environment at Merced and CCBC, the developmental English sequence at each college, characteristics of students in the sample, and the research methods and data sources used for this report.

Chapters 3 and 5 provide details about the implementation of the learning communities programs at Merced and CCBC, respectively. Chapter 5 also provides an overview of the costs of running learning communities at CCBC, where detailed cost data were collected. Chapters 4 and 6 describe the impacts of learning communities on students' academic outcomes at each college.

Chapter 7 reviews these findings across the two colleges and considers them in light of the findings at other colleges. The chapter also looks ahead to the demonstration's final report.

Chapter 2

The Study Participants, Recruitment, and Data Sources

The two colleges in the study, Merced College and The Community College of Baltimore County (CCBC), are located in different parts of the country and serve diverse populations. Merced is a midsized college located in the agricultural Central Valley of California. It serves about 11,000 students, with large Hispanic and white student populations. CCBC is a large, multicampus community college located in suburban Baltimore. It serves about 20,000 students, with large white and black student populations. Two of its campuses, Essex and Catonsville, were included in the study.

Table 2.1 presents more information about the population at the two colleges. The most striking difference is in the proportion of Hispanic students; Merced has about 40 percent, whereas CCBC has only 2.1 percent. The other noticeable difference is in the institutionwide one-year retention rates, which are markedly higher at CCBC than at Merced for both full-time and part-time students. These differences lend context to the descriptions of the differing programs at the two colleges and their respective study samples, which are presented below.

Developmental English at the Colleges

Both colleges in this report offered learning communities for students in need of developmental English (reading, writing, or both). Analyzing both colleges in the same report provides the opportunity to contrast the implementation and outcomes of developmental English learning communities in two different environments. In order to determine whether students are adequately prepared for college-level course work, community colleges typically administer placement tests to all new students. Those who test below the college level in reading or writing (or both) are referred to take one or more developmental English courses. Some colleges have a single series of courses, teaching reading and writing together at one, two, or more levels below college level. Other colleges divide their developmental English courses into separate paths, with discrete series of reading courses and writing courses. All of these developmental courses, whether reading, writing, or the two combined, are encompassed by the term "developmental English" in this report.

At Merced, developmental English is taught with a mixture of combined and discrete reading and writing courses, as depicted on the left-hand side of Figure 2.1. For students at the very lowest skill level, English 90 provided basic language skills in both reading and writing. At the next two levels up, reading and writing were taught in separate courses that students could take during the same semester, or could stagger if they chose or postpone entirely as they took other courses. At the final level, one level below college composition, reading and writing were

The Learning Communities Demonstration

Table 2.1

**Selected Characteristics of Students at
Merced College and CCBC**

Learning Communities for Students in Developmental English

	Merced	CCBC
Institution size	10,890	19,426
Undergraduate characteristics		
Gender (%)		
Male	38.9	37.0
Female	61.1	63.0
Age		
18-24	57.2	56.7
25-34	19.3	21.7
35 and older	23.5	21.6
Race/ethnicity (%)		
Hispanic	39.4	2.1
White	35.2	55.4
Black	5.7	30.9
Asian	10.9	4.2
Other	8.9	7.4
Enrollment (%)		
Full time	39.9	34.3
Part time	60.1	65.7
Full-time retention rate (%)[a]	35	59
Part-time retention rate (%)	26	42

SOURCE: MDRC calculations using U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) data.

NOTES: Distributions may not add to 100 percent because of rounding.

[a]According to IPEDS, this is the percentage of first-time degree/certificate-seeking students from the previous fall who either reenrolled or successfully completed their program by the current fall.

again combined into a single precollege composition and reading course. All of these developmental English courses except for the very lowest basic language and learning course were included in the Learning Communities Demonstration at Merced. Merced's learning communities generally had a focus on either writing, or writing and reading combined. Every learning

The Learning Communities Demonstration

Figure 2.1

The Developmental English Sequence at Merced and CCBC

Learning Communities for Students in Developmental English

Merced Developmental English Sequence
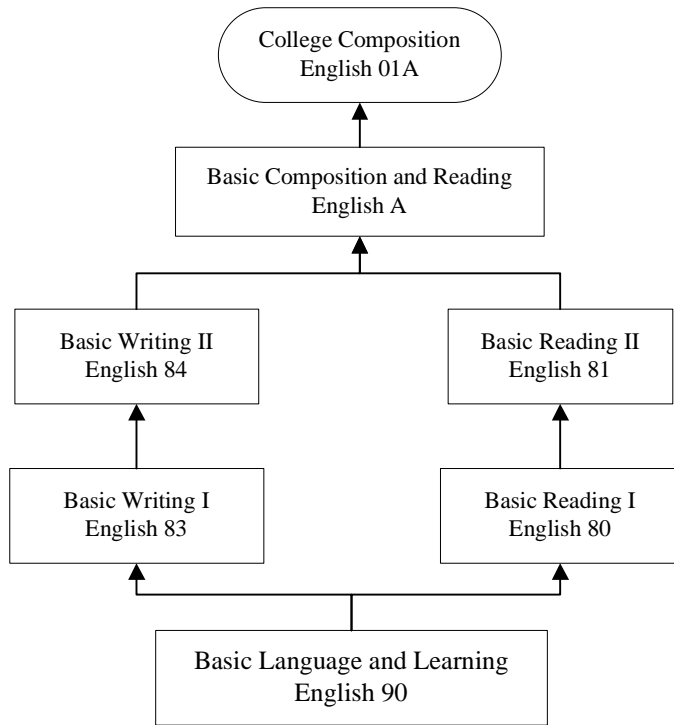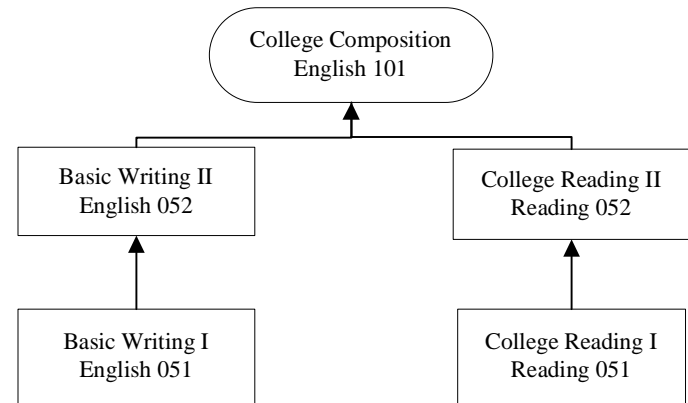
College Composition English 01A	First College Level
Basic Composition and Reading English A	One Level Below
Basic Writing II English 84 — Basic Reading II English 81	Two Levels Below
Basic Writing I English 83 — Basic Reading I English 80	Three Levels Below
Basic Language and Learning English 90	Four Levels Below

CCBC Developmental English Sequence

College Composition English 101	
Basic Writing II English 052 — College Reading II Reading 052	
Basic Writing I English 051 — College Reading I Reading 051	

community in the study except one included a writing course (sometimes linked with reading) or the English A combined writing and reading course.[1]

At CCBC, two levels of developmental English were offered; at each level, developmental reading and developmental writing were taught separately. For the purposes of the study, only the reading or writing courses one level below college level were included in the learning communities, in order to focus resources on the students who had the highest chance of getting to college level. As a result, students in the study sample at CCBC were all one level below college composition, whereas at Merced they could be as far as three levels below. Just over half of the CCBC learning communities in the study included reading as the developmental English link; the rest included writing.

As described above, at Merced, students who placed one, two, or three (out of four) levels below college-level English were included in the study. At CCBC, students who placed one level (out of two) below college-level English were included. This level of placement was determined by Accuplacer test scores; cut-off criteria were similar at the two institutions.[2] Because CCBC has fewer levels of developmental education, its cut-off criteria cover slightly broader ranges, while the Merced ranges are more narrowly defined. However, in the study sample, the students at CCBC did have higher average scores on both the sentence skills and the reading comprehension Accuplacer tests than the students in the Merced sample, by over 10 points on each test. Both the raw score and the level of placement indicate that sample members at CCBC were slightly more advanced than those at Merced in these subjects at baseline.

Recruitment and Enrollment in Developmental English Learning Communities

At both colleges, new and returning students were recruited and enrolled in the study provided they met two criteria. Students were required to have placed into developmental-level English and to be available to take one of the learning communities at the scheduled time. Initially, students age 18 and over were targeted for learning communities, but later the study was expanded to include students under 18 with parental consent.

The Random Assignment Process and Sample Size

At each college, students who were eligible for the Learning Communities Demonstration were given the opportunity to be in the study. About half (at Merced) or 60 percent (at CCBC) of those who chose to participate were randomly assigned to the program group; the others were

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[1]Only one Merced learning community lacked a writing component. Offered in spring 2009, this learning community linked Basic Reading II with Guidance 30.

[2]Safran and Visher (2010).

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assigned to a control group. The program group members could enroll in a learning community that fit their schedule and course needs; the 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. There were 1,424 program and control students in the Merced sample and 1,083 students in the CCBC sample.

Table 2.2 presents selected characteristics of the students enrolled in the study at Merced and CCBC at the time of random assignment. The first column shows descriptive data about the types of students who participated in the study at Merced; the second column shows data for the students who participated in the study at CCBC. Because the learning communities in the study were for students in need of developmental English, the study sample is not necessarily representative of the broader student body at these colleges.

The students in the study at Merced, while similar in characteristics to the overall student body, had slightly higher male and minority participation. The students were mostly single and childless, and roughly a quarter of the students were employed at the time of random assignment. About half the students had graduated from high school or received their GED certificate more than a year before random assignment. Over a third had already taken some college courses before they entered the study. About a third of the students reported that they were the first in their family to attend college, and about 40 percent spoke a language other than English in the home. This pattern is particularly relevant to the learning community links that focus on English courses, and it is explored further in the impacts analysis.

The students in the study at CCBC also had much in common with the overall student body, but with higher youth and minority participation. The students were mostly single and childless, and roughly half were employed at the time of random assignment. While some students may have stopped working or worked fewer hours after the semester began, many study participants may have been juggling the competing demands of work and school. About one-quarter of the students had taken college courses before the study semester. Fewer than 10 percent of these students spoke a language other than English in the home.

A Note on the Random Assignment Design

Random assignment creates two groups of students who are similar in both characteristics that can be measured, such as age and gender, and those that are more difficult to measure, such as

Table 2.2

**Baseline Characteristics of Sample Members
at Merced College and CCBC**

Learning Communities for Students in Developmental English

Characteristic (%)	Merced	CCBC
Gender		
Male	48.8	41.3
Female	51.2	58.7
Age		
17 - 20 years old[a]	65.4	77.2
21 - 25 years old	17.0	12.7
26 - 30 years old	6.2	4.3
31 and older	11.3	5.9
Race/ethnicity[b]		
Hispanic	56.9	4.6
White	17.2	32.6
Black	9.2	56.7
Asian or Pacific Islander	13.4	2.2
Other[c]	3.4	3.9
Marital status		
Married	9.6	3.3
Unmarried, living with partner	23.1	11.6
Unmarried, not living with partner	51.7	69.7
Decline to answer	15.5	15.4
Number of children		
None	72.6	84.5
One	11.6	7.5
Two	7.3	3.6
Three or more	8.4	4.4
Household receiving any government benefits[d]	37.3	17.2
Decline to answer	19.9	17.3
Financially dependent on parents		
Yes	32.8	42.0
No	49.3	45.1
Missing	17.9	12.9
Currently employed		
Yes	23.2	52.6
No	67.8	40.7
Decline to answer	9.0	6.6
Received financial aid during semester of random assignment		
Yes	27.6	45.9
No	44.1	33.4
Missing	28.3	20.8

(continued)

Table 2.2 (continued)

Characteristic (%)	Merced	CCBC
Highest grade completed		
11th grade	7.9	5.9
12th grade	87.0	90.9
Missing	5.1	3.2
Diplomas/degrees earned[e]		
High school diploma	83.5	90.7
GED	7.7	8.2
Occupational/technical certificate	4.3	5.2
None of the above	5.3	1.3
Missing	5.8	3.0
Date of high school graduation/GED receipt		
During the past year	42.8	61.9
Between one and five years ago	25.7	21.2
More than five years ago	19.0	12.2
Missing	12.5	4.7
Taken any college courses	36.8	24.2
First person in family to attend college	35.6	26.2
Missing	5.9	4.0
Own or have access to a working car	65.6	69.7
Missing	5.4	3.0
Language other than English spoken regularly in home	41.0	7.6
Sample size	1,424	1,083

SOURCE: MDRC calculations using Baseline Information Form (BIF) data.

NOTES: Calculations for this table used all available data for the 1,083 sample members who were in the spring 2008, fall 2008, spring 2009, and fall 2009 cohorts at CCBC, and the 1,424 sample members who were in the spring 2008, fall 2008, spring 2009, and fall 2009 cohorts at Merced College.

Random assignment ratios vary across cohorts. Estimates are weighted to account for probability of being assigned to the treatment group.

Missing values are only included in variable distributions for characteristics with more than 5 percent of the sample missing. Missing values include students who are missing a Baseline Information Form and students who declined to answer a particular question.

Distributions may not add to 100 percent because of rounding.

[a]The majority of students in the sample were 17 and older. Less than 1% of sample members were 16 years old at the time of intake.

[b]Respondents who said they were Hispanic and chose a race are included only in the Hispanic category. Respondents who said they were not Hispanic and chose more than one race are considered multiracial and are only included in the Other category.

[c]Other includes multiracial, Native American/Alaskan Native, and other race/ethnicities.

[d]Goverment benefits include food stamps, Temporary Assistance for Needy Families (TANF), unemployment insurance benefits, and Supplemental Security Income (SSI).

[e]Distributions may not add to 100 percent because categories are not mutually exclusive.

motivation and tenacity.[3] Any subsequent substantial differences in students' educational outcomes can be attributed, with a high level of confidence, to systematic differences in students' experiences after they were randomly assigned to a program that offered the opportunity to participate in a developmental English learning community.

Random assignment allows researchers to calculate unbiased estimates of the value added by the program, above and beyond what students normally receive at the college. It is important to remember that the impacts reported represent the average difference between what students would achieve if selected for the program group and what they would achieve independent of the program.[4]

A random assignment evaluation is an extremely reliable way to test a program's overall effectiveness, though like any research method, it has its limitations. Like many evaluation designs, random assignment does not typically make it possible to disentangle the effects of one program component from another. For the Merced learning communities program, for example, this study determines whether the entire package was effective. This package included the linking of two classes (creating cohorts of students), certain instructional strategies (such as integration of material across the two courses), and the qualities of teachers who taught in the learning communities.[5] The qualitative research conducted as part of this study can provide information about which components of this program package mattered most to the program's leaders and the faculty and students who participated in the learning communities. However, it cannot definitively determine which of these components mattered most for student outcomes such as passing courses or reenrollment in the next semester.

It is important to note that the analyses presented throughout the impact chapters of this report are "intent-to-treat" calculations. This means that comparisons are made between those students assigned to the program and control groups, whether or not they stayed enrolled at the college or chose to participate in the learning community program. Thus, the "program group" includes some students who did not actually take part in the learning community program. Students who chose to participate in the learning community, once assigned to it, may differ from those who chose not to. In order to retain the integrity of the experiment, the entire

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[3]The two groups should be similar in terms of averages as well as other distributional characteristics. Analyses of the program and control group characteristics at Merced and CCBC (not shown) demonstrated that random assignment was conducted successfully at each school, leading to research groups that were very similar when the program began.

[4]See Box 2.1 for a discussion of how to interpret the impact tables in this report.

[5]Teachers were not randomly assigned to teach in the learning community's classes or the control group classes. As a result, program impacts (positive, negative, or not statistically significant) may be influenced by teacher effects. See Weiss (2010) for more details on this subject. Notably, some program group teachers may also have taught unlinked versions of their courses — courses that were available to control group students — thus partially mitigating concerns regarding teacher effects.

How to Read the Impact Tables in This Report

The impact tables in this report share a common format. The abbreviated table below displays transcript data and shows some educational outcomes for students in the program and control groups. The third row, for example, shows that program group members attempted an average of 3.8 developmental English credits in the program semester and control group members attempted an average of 2.7 developmental English credits.

Because individuals were assigned randomly either to the program group or to the control group, the impacts of the program can be estimated by the difference in outcomes between the two groups. The "Difference" column in the table shows the differences between the two research groups' outcomes — that is, the program's estimated impacts on the outcomes. For example, the estimated impact on developmental English credits attempted in the program semester can be calculated by subtracting 2.7 credits from 3.8 credits, yielding an increase or estimated impact of 1.1 credits. Thus, the term impact refers to the "added value" of the program, or the program's effects that go above and beyond the effects of the services provided to the control group. This difference represents the estimated impact rather than the true impact because, although study participants are randomly assigned to the program and control groups, there is still a possibility that differences could be observed by chance.

Differences marked with one or more asterisks are statistically significant, meaning that there is a high probability that the program had an impact (positive or negative) on student outcomes. The number of asterisks indicates the probability that impacts would show up by chance even if, in reality, the program had no impact. One asterisk corresponds to a 10 percent probability; two asterisks, a 5 percent probability; and three asterisks, a 1 percent probability. The more asterisks, the more likely the program had an impact on student outcomes. For example, as the third row of the table excerpt shows, the program's estimated impact on attempted developmental English credits in the program semester is 1.1 credits. The three asterisks indicate that this difference is statistically significant at the 1 percent level, meaning that there is a 1 percent chance of observing a difference this large, even if the program actually had no effect on students' attempted credits. In other words, there is a 99 percent level of confidence that the program had a positive impact on the average number of credits that students attempted.

The statistical significance is calculated using the standard error of the impact estimate, shown in the last column. The standard error is a measure of uncertainty or variability around the impact estimate. Some useful rules of thumb are that there is about a 90 percent chance that the true impact is within plus or minus 1.65 standard errors of the estimated impact, roughly a 95 percent chance that the true impact is within plus or minus 1.96 standard errors of the estimated impact, and about a 99 percent chance that the true impact is within plus or minus 2.58 standard errors of the estimated impact. For example, in the third row of data below, there is roughly a 99 percent chance that the program's impact on average attempted developmental English credits lies between 0.07 and 2.13 credits, calculated as $1.1 \pm (2.58 \times 0.4)$.

Outcome	Program Group	Control Group	Difference (Impact)		Standard Error
Total number of credits attempted	7.8	7.2	0.6		0.6
Regular credits	2.7	3.2	-0.5	*	0.3
Developmental English credits	3.8	2.7	1.1	***	0.4
Other developmental credits	1.3	1.3	0.0		0.1

program group is compared with the entire control group, regardless of what members of each group chose to do.[6] Further, this is the best comparison to make if one is interested in the effect of instituting learning communities on a larger scale, because it is frequently the case that students (like everyone else) do not do exactly what they initially intend or are assigned to do. Thus, it is important to understand what would likely happen to students who are assigned to a given program, not just what happens to those who comply with a program's protocols.

Research Methods

This section describes the methods used to assess the impacts of learning communities at Merced and CCBC. The basic research methods are similar at both demonstration sites. For both Merced and CCBC, the impact analyses examine the differences in the outcomes between students in the program group (who were randomly assigned to receive the learning communities "treatment") and those in the control group (who were assigned to receive standard college classes and services). The baseline characteristics data described above document that observable characteristics are statistically indistinguishable for the two groups within each college.

The estimated program impacts presented in the impact tables for each college in this report control for the cohort in which students entered the study, as well as for students' scores on reading and writing placement tests.[7] At CCBC, where multiple campuses were included in the study, the campus is held constant in addition to cohort and placement test scores. Although the randomization of students into the program and control groups ensures that students are similar in terms of both observable and unobservable characteristics that may affect English-class and other outcomes, controlling for these types of characteristics often improves the statistical precision of the impact estimates.[8]

Students who were eligible entered the study at Merced and CCBC between October 2007 and August 2009. At both colleges, participation in learning communities began in spring 2008, fall 2008, spring 2009, and fall 2009. The study then followed each cohort of program

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[6]For a detailed description of intent-to-treat analyses, see Bloom (2006).

[7]The calculations are regression-adjusted with the outcome of interest on the left-hand side and a dummy variable for whether the student was assigned to the program group or not on the right-hand side. The cohort of entry is controlled for with a dummy variable for each cohort. Students' scores on writing and reading placement tests (Accuplacer) are held constant to improve the precision of the estimates. Some students are missing placement test scores; these students are included in the analyses for reenrollment in college, credits attempted, and credits earned. Their scores are imputed, and a dummy variable indicating that the score is missing is also included in the regression. Additionally, the regressions are weighted to account for the fact that the probability of being randomly selected into the program or control group changed over time. Finally, in order to account for common shocks to all members of a learning community, the standard errors allow for correlations in the error term within a given learning community.

[8]Bloom, Richburg-Hayes, and Black (2005).

and control group students over time. For the complete group of students at each college, registration for courses, credits attempted, and credits earned are analyzed for the program semester, the first postprogram semester, and cumulatively at the end of the first postprogram semester.

Data Sources

Implementation Data

Research staff conducted structured implementation research visits at Merced and CCBC during October 2008 and November 2009. During these visits, the research team interviewed college administrators, instructors, staff, and students. The interviews provided information on the operation of the programs and on key differences between the learning communities programs and the colleges' standard services (as could have been experienced by students in the control group). The research team also observed four sets of learning communities classes at Merced and two sets at CCBC. In addition, the team interviewed students in the program and control groups in six small focus groups across the two sites to understand their experiences at the colleges and, for program group students, in the learning communities. Both group and individual interviews were conducted with instructors who taught in learning communities. Interviewers also spoke with a small number of instructors who taught stand-alone versions of developmental English courses.

Research staff who provided technical assistance for the operation of the study also maintained detailed "site diaries." These diaries documented information on study intake and the random assignment process, the process of setting up and staffing the learning communities, and professional development activities. In addition, they documented changes in the learning communities programs, along with problems the programs encountered and solutions the colleges applied. These diaries also served as a data source for the implementation research.

Additionally, a short survey was administered to instructors who taught in learning communities and those who did not. Survey questions were designed to measure instructional strategies commonly associated with learning communities, participation in professional development activities, and teacher characteristics that might be associated with differences in teaching approaches, such as age, gender, seniority, and part-time versus full-time status.[9] This

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[9]The faculty survey at Merced had an overall response rate of 63 percent. A higher proportion of learning community faculty members responded (16 out of 23) compared with non-learning community faculty members (18 out of 31). At CCBC, the response rate was 71 percent. Again, learning community faculty responded at higher rates (20 out of 23) than non-learning community faculty (20 out of 33). However, 16 non-learning community faculty who were not originally targeted in the survey also provided responses. These 16

(continued)

survey was administered at all six colleges in the Learning Communities Demonstration with the intention of pooling data across all six colleges. While the number of responses from any single college is generally not sufficient to draw inferences about either group or how they differed, selected results from Merced and CCBC are reported here to help describe the programs and their institutional context.

Syllabi from about two-thirds of the learning community courses in the study were examined for evidence of practices commonly associated with learning communities, such as overarching themes, joint assignments, integrated syllabi, and project-based learning.

These qualitative data, survey data, and syllabi scores are used primarily in Chapters 3 and 5 of this report to describe the learning communities models and implementation at the two colleges, to illustrate how the programs differed from the colleges' standard services, and to describe the evolution of the programs over time. Chapter 5 also uses cost data obtained from CCBC to describe the resources allocated to learning communities at the college.

Impact Data

Immediately before being randomly assigned to the research groups at Merced and CCBC, students completed a short questionnaire called the Baseline Information Form (BIF). The BIF collected much of the demographic and other background information reported above as well as additional measures. Baseline data are used to describe the sample and to assess the success of random assignment at creating research groups that are statistically indistinguishable at the start of the study.

Merced and CCBC provided transcript and assessment test data for students (in both the program and control groups) participating in the study. These data are used in Chapters 4 and 6 to provide a detailed look at sample members' performance in college through various measures such as registration status, credits attempted and earned, and progression through the developmental English sequence.

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instructors were included in the final survey results at CCBC, for a total of 36 non-learning community faculty. For more detail on the faculty survey, see Visher, Schneider, Wathington, and Collado (2010).

Chapter 3

Merced College's Learning Communities Program

Nestled in the heart of California's Central Valley and sitting on 269 acres of land, Merced College has served its surrounding communities with affordable higher education for nearly 45 years. The college also provides the community with employment, transportation, and child care services, and has opened an additional satellite campus located 40 miles west of the main campus.

Faculty members at Merced had been experimenting with linking courses across different content areas for many years, and in the early 2000s, the college began to offer learning communities in structured ways through several coordinated programs. In 2007, the college won a grant to participate in Strengthening Pre-Collegiate Education in Community Colleges (SPECC),[1] which officially ushered in learning communities as part of Merced's course offerings. Another precursor model was the college's Puente program,[2] which was designed to provide academic support and college guidance to underserved students in a two- or three-course learning community program. Experience teaching in the Puente and SPECC models positioned faculty to pioneer more advanced learning communities as part of the Learning Communities Demonstration.

Merced made the decision to focus on developmental English in the Learning Communities Demonstration with two primary goals in mind. One goal was to help students to complete a developmental English course and move quickly through the developmental sequence and into college-level English. The second goal — considered by the college to be just as important as the first — was to improve students' reading and writing skills so that they could better grasp vocabulary and concepts that would help them succeed in other college courses. After a number of discussions between faculty leaders and administrators, the decision was made to structure the learning communities program to directly address both of these goals and to target students who had placed into developmental English courses.

Whether an intervention like learning communities makes a difference for students depends on several factors, beginning with whether or not the theory of change for the program

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[1]SPECC was a multisite action-research project that ran from 2007-2009, focusing on teaching and learning in developmental math and English courses at 11 California community colleges. See The Carnegie Foundation for the Advancement of Teaching (2008) for more details.

[2]The Puente program is cosponsored by the University of California Office of the President and the California Community College Chancellors' Office. Puente site team partners — consisting of an instructor and a counselor — help implement the program at campus sites across the state.

was correct. Other important factors include the strength of the program model, the fidelity with which essential components of learning communities were implemented, and the extent of the "treatment contrast" — or the difference between the experiences of the students who participated in the program and the experiences of those who did not.[3] In this chapter, the four key components of learning communities as introduced in Chapter 1 are described: (1) linked courses and cohorts, (2) faculty collaboration and support, (3) instructional practices such as curricular integration and active learning, and (4) student supports. Merced's fidelity to its intended program model is then examined using qualitative information from interviews with administrators, instructors, and students, as well as a survey of instructors. Finally, the "treatment contrast" between the program and control groups is discussed.

Summary of Findings

- The program at Merced succeeded in creating 12 different learning community links between developmental English and a variety of other courses. Nearly 400 students enrolled in these learning communities over the course of four semesters.

- Only about half the students assigned to the learning communities group enrolled in a learning community; however, students in the program group enrolled in developmental English at significantly higher rates than students in the control group.

- Learning community instructors and students considered the enrollment of students in cohorts — and the bonding that occurred within the cohorts — to be the most salient component of Merced's learning communities. Students who participated in learning community courses reported that they fostered meaningful relationships with the students in their cohorts and often with their learning community faculty members as well.

- Another advanced component of Merced's model was the generally high level of faculty team collaboration. Instructors paired in learning communities were generally active in creating linked syllabi, visiting each other's classrooms, and discussing the progress of individual students.

- Merced's learning communities were designed to include overarching themes and high levels of cross-course content integration. In practice, however, this integration varied among the different learning community links,

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[3]Cordray and Pion (2006).

and the level of integration was often determined by how long members of a learning community faculty team had worked together.

Program Model

As part of the demonstration, Merced's learning community model consisted of students enrolling in a developmental writing course that was linked to either a developmental reading or math course, a student success course, or an introductory college-level course (see Figure 3.1). Students who enrolled in the two linked courses of a learning community formed a cohort, and then progressed together through the semester.

At Merced, each of the learning communities was designed around a common theme shared between the two courses, such as writing about and understanding mathematical concepts or better understanding grammatical structure through storytelling. Two instructors were expected to work as learning community partners to develop and implement an interdisciplinary theme, integrate curricula, and create joint assignments intended to tie together their two classes. For the demonstration, the college offered a combination of long-standing learning communities and newer links that paired developmental writing with courses in other content areas, such as a music course or a criminology course. It was recommended that instructors also incorporate other campus support services into their curricula. This was not a requirement, however, and not all learning communities instructors did so.

Participating instructors received a $1,000 stipend for each learning community they taught per semester as compensation for the extra work of planning and integrating their learning community links. In some instances, faculty members could receive as much as $3,000 for teaching in three learning communities in one semester. Over the course of the study, however, the stipends for faculty who taught in multiple learning communities were reduced because of the increase in the number of faculty teaching in learning communities per semester and the decline in available funding for stipends.

Recruitment and Enrollment of Students into Learning Communities

Merced's learning communities were designed for both incoming freshmen and continuing students who assessed into developmental reading, writing, or both at either one, two, or three developmental levels below Freshman Composition (the first college-level English course at Merced). Learning community faculty leaders and academic advisers targeted and recruited eligible students to enroll in learning community links over the course of four consecutive semesters, beginning with the spring 2008 term. Eligible students who agreed to enroll in developmental English as part of a learning community and who consented to participate in the study were instructed to enroll at the time that they registered for courses. A learning communi-

The Learning Communities Demonstration

Figure 3.1

Merced College's Learning Community Model

Learning Communities for Students in Developmental English

LINKS

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                                    ┌─────────────────┐
                                    │  Developmental  │
                          ┌─────────│     English     │
                          │         │    (reading)    │
                          │         └─────────────────┘
                          │
                          │         ┌─────────────────┐
                          ├─────────│Developmental Math│
                          │         └─────────────────┘
                          │
                          │              ◇ Student
                          ├──────────   Success Course ◇
 ┌─────────────────┐      │
 │  Developmental  │      │
 │     English     │──────┤         ╭─────────────────╮
 │    (writing)    │      ├─────────│     Health      │
 └─────────────────┘      │         ╰─────────────────╯
                          │
                          │         ╭─────────────────╮
                          ├─────────│   Criminology   │
                          │         ╰─────────────────╯
                          │
                          │         ╭─────────────────╮
                          ├─────────│     Music       │
                          │         ╰─────────────────╯
                          │
                          │         ╭─────────────────╮
                          └─────────│  Other college- │
                                    │   level course  │
                                    ╰─────────────────╯
```
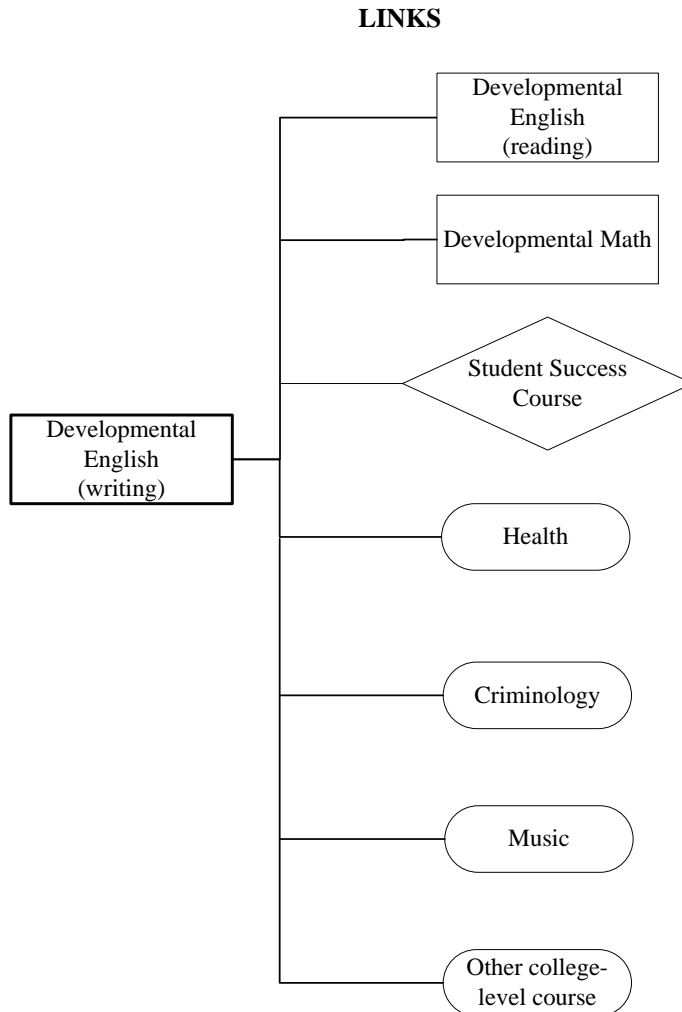
NOTE: "Developmental English" includes both developmental reading and developmental writing courses. As shown above, Merced College linked developmental writing with a course in one of the subjects depicted on the right, with the exception of one learning community in spring 2009 that linked developmental reading with a student success course.

ties program coordinator was hired near the start of the study to spearhead marketing and student recruitment efforts and to manage the logistics of the study and program, such as scheduling classes every semester.

Figure 3.2 outlines the registration and enrollment patterns of students in the program group and control group of the study. Although nearly all students in the demonstration (over 95 percent) initially registered and enrolled in courses at the college, many were no longer registered by the final day of the add/drop period (that is, the semester's census date) or were enrolled only in continuing education courses that carried no credits. As indicated in Figure 3.2, by the time of the program semesters' add/drop deadline at Merced, the registration rate had dropped to about 73 percent for students in both the program and control groups. This was substantially lower than at the other colleges in the demonstration (whose registration rates ranged between 82 and 94 percent).

In the program group, nearly 20 percent of the students stayed registered at the college but did not enroll in a learning community. Ultimately, only 54 percent of Merced's program group students participated in a learning community in the program semester. Regardless, the program had a substantial impact on enrollment in developmental English by the end of the add/drop deadline, as 60 percent of program group students enrolled in a developmental English course, compared with 44 percent of control group students.

These rates of registration and enrollment in developmental English are substantially lower than at the other colleges in the Learning Communities Demonstration, but may be typical for community colleges in California. Research suggests that many students in California initially register and enroll in courses but then decide not to stay enrolled in these courses (or at the college altogether) by the final day of the add/drop period, which usually comes after the first couple of weeks of the semester.[4] Some community college scholars have suggested that external factors such as conflicting work schedules, personal or family-related health issues, and financial instability alter many students' original course-taking plans.[5] In addition, recent research has found that "course shopping" — the frequent dropping and adding of courses before the add/drop deadline — is typical student behavior at many community colleges. This may be particularly true in California, where community college tuition is relatively low, and dropping courses may be easier and more common than in other states.[6]

For students who remained registered at the college at the end of the add/drop period, the relatively low numbers of those who enrolled in developmental English courses — in both

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[4]Perry, Bahr, Rosin, and Woodward (2010).
[5]Moore and Shulock (2007).
[6]Hagedorn et al. (2007).

The Learning Communities Demonstration

Figure 3.2

Merced College's Registration Patterns

Learning Communities for Students in Developmental English
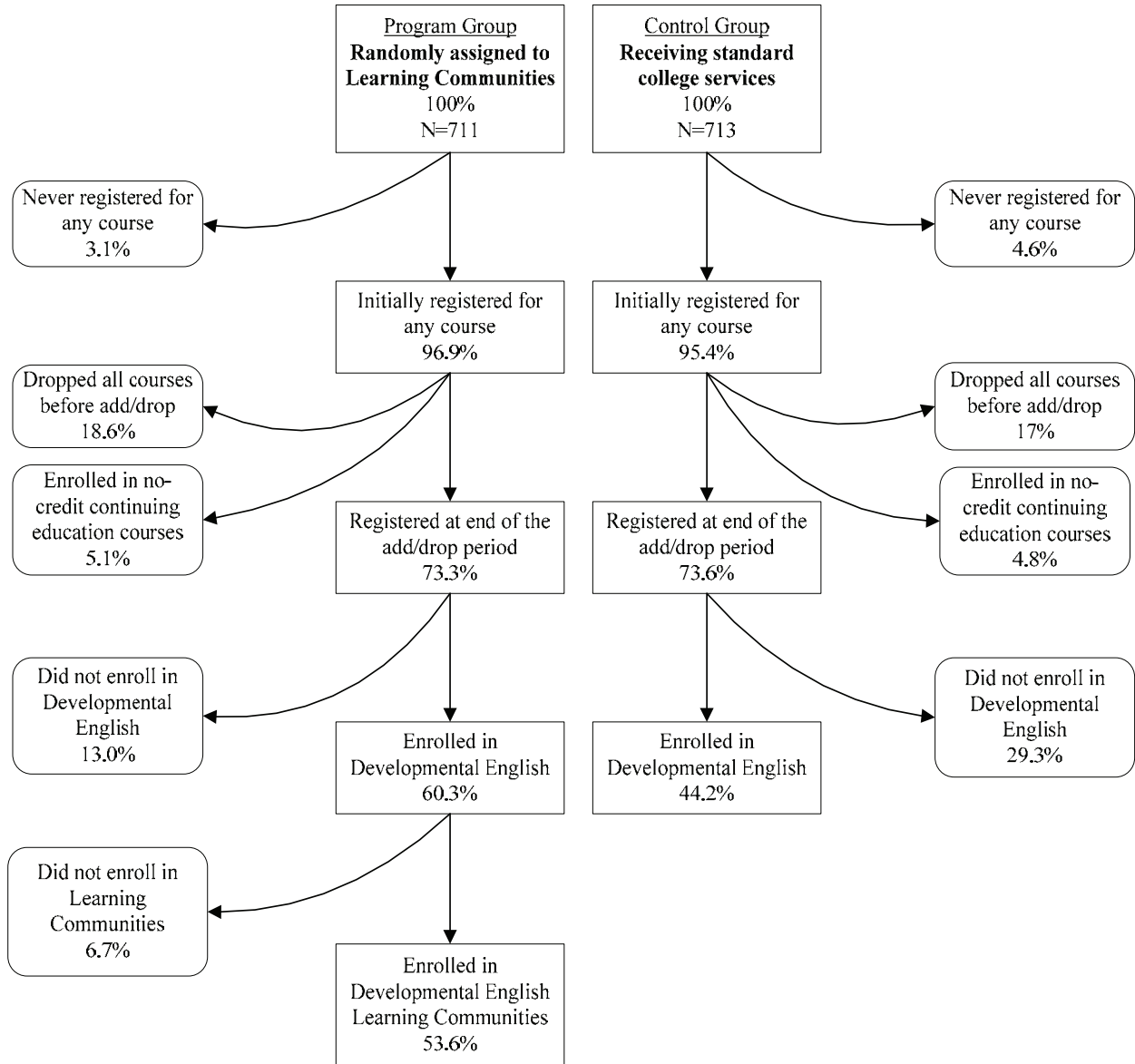
the program and control groups — were likely also a result of California's policy. The state places restrictions on community colleges' ability to mandate students to take developmental courses, even if they have been assessed and placed into those courses. Rather, students who test at the developmental level at Merced are typically encouraged to enroll in developmental classes, but they have two other options. First, they may delay their enrollment into developmental courses for however long they choose, potentially never taking these courses or the college-level courses to which they lead. Second, they may challenge the placement and enroll directly in a higher level of developmental English or college-level courses.

As shown in Figure 3.2, students at Merced often did not enroll in any developmental English in the first study semester, despite the recommendation. However, data suggest that few, if any, students challenged the placement or took developmental (or college-level) English courses out of order from the recommended sequence.[7] Thus, in the absence of a mandate to enroll in developmental courses at Merced, many students delayed but did not necessarily skip past taking their recommended developmental English course work.

Importantly, though, assignment to the program group — and the opportunity to be in a learning community — led students to enroll in developmental English at significantly higher rates than their control group counterparts (60 percent compared with 44 percent), despite the lack of a mandate to do so. This impact on course-taking patterns occurred early in the semester (before the end of the add/drop period), so it is difficult to know how much can be attributed to the content of or the academic experience in learning communities. There are several possible explanations for the significant impact on English participation. For example, students in learning communities may have made early connections with other students or faculty across the two classes, and this connection may have made them less likely than students in stand-alone classes to drop the class. Additionally, learning communities students may have stayed enrolled in their developmental English class because dropping the class also meant having to drop their other linked learning community course. Dropping both courses might have affected their financial aid status or eligibility for programs on campus that required them to maintain a certain level of enrollment.

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[7]Field research and anecdotal evidence suggest that students largely followed the recommended placement and order in the developmental English sequence. This is further evidenced by the fact that fewer than 7 percent of sample members attempted College Composition, and most or all of these students likely passed their developmental course first.

Implementation of the Learning Communities Program

Linked Courses and Cohorts

Merced's model called for each learning community to have students coenrolled in a developmental English course and another developmental-level or college-level course for one semester. The college succeeded in linking a developmental writing course with a developmental reading course, a developmental math course, a student success course, or an introductory course in subjects such as health, criminology, or political science. The number of developmental English learning communities offered at Merced grew from five in the first semester of the demonstration to nine by the third semester.

During the demonstration, the college's learning communities typically had lower enrollment numbers — averaging between 11 and 14 students per class during the first three semesters — than regular developmental English classes, which usually enrolled up to 30 students per class. Some instructors prefer to teach smaller numbers of students in order to provide more individualized attention and to more easily manage their classrooms. However, learning communities instructors at other colleges have sometimes said that small class sizes can change the community dynamic that exists in linked courses, making group work more difficult to coordinate and driving up per-student costs.[8] In addition, the colleges in the demonstration had to keep enrollment high to meet the requirements for the study sample size. As a result, a senior administrator increased the program enrollment criteria for learning communities to have a minimum of 17 students by the add/drop deadline. Eventually, the enrollment average increased to 22 students per learning community in the fourth semester of the demonstration.

Some of the learning community links were well established at Merced at the outset, while others gradually matured over the course of the demonstration. For instance, a few faculty pairs had already linked their two courses as part of the SPECC or Puente programs, while newer links were developed as a result of a combination of instructor interest and the need to scale up to the number of links required for the study.[9] As a result, some links were created very close to the beginning of the semester, leaving little time for planning. Nevertheless, all of Merced's learning communities — both established and new — incorporated interdisciplinary themes and titles, such as "Write about Life, Learn how to Live" (a developmental writing and health course link) and "Math with a Purpose, Writing with a Context" (a developmental writing and math course link).

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[8]Visher and Teres (2011).

[9]Merced also offered other learning communities that did not include developmental English courses and thus were not included in the study.

Both instructors and students generally saw the bonding that students experienced with the other students in their learning community as the strongest component of the program. Students who were interviewed said that they developed closer relationships with the students in their learning community courses than they did with the students in their other courses. Some students also noted that their learning community courses allowed them to work with other students in study groups or on cross-class projects, which they felt helped them to collectively learn the content and delegate tasks. A few students mentioned wanting to continue to take courses with the students in their learning community after the semester ended.

Most learning community instructors who were interviewed agreed that their students generally enjoyed being part of a cohort and that the development of strong ties among students was evident. Some instructors partially associated their students' increased level of engagement to their increased level of comfort in the classroom. Other learning community instructors mentioned how the bonding and the deeper connections helped build trust and support. One instructor noted:

> Attendance is much better in my learning community, and the grades are much better in the learning community. And I'm basically the same person…I think that since they spend more time with each other, they're more open. I have a much better rapport with them…[and] they seem to intermingle with each other. I think it's that sense of community.

Even in instances when students were not completing assignments or were in danger of failing, some learning community instructors believed that these students continued coming to class to be part of their cohort. As one instructor puts it, "Many of them should be failing. But they keep coming. They keep showing up. They're like, 'But I still want to try — will you keep me in if I keep coming?'" The instructor reasoned that the cohort experience gave students motivation to keep attending class (thereby not dropping out), even when they struggled. Other instructors also noted that the cohort experience taught students how to support each other's success.

Faculty Collaboration and Support

Merced's learning community model called for pairs of instructors to work together during the semester to create a substantive link between their two courses and to have certain resources — such as professional development and administrator/coordinator guidance — available as faculty support structures. Given that learning communities generally grew out of shared faculty interests and earlier working relationships, most learning community instructor pairs were successful at collaborating, even when the program was still being designed, though many felt that the administration did not fully support learning communities.

Almost all members of learning community instructor teams found some time to meet to plan their learning community syllabi. Although this was not a program requirement, it was an expectation carried over from the SPECC and Puente models. As mentioned in Chapter 2, faculty members who taught learning community courses in their respective institutions were surveyed during the demonstration. Of the 16 learning community instructors surveyed at Merced, almost all reported that they "collaborate with other faculty on syllabi or assignments for [their] course" at least once per term, with a little over half indicating they did so twice or more over the semester. Most learning community faculty also met throughout the semester to discuss or make changes to course content and lectures, as survey results reported that almost all learning community instructors "discuss course content with other faculty" at least once per term, and that over three-fourths do so twice or more over the course of the semester. Some instructors mentioned that staying in regular contact with their partners during the semester made it easier for them to see the parallels between both content areas and lesson plans. As one instructor remarked, "Because we are collaborating with another instructor, we become more involved with [each other's] curriculum. This collaboration often requires us to rethink and adapt our plans." Most learning community instructors generally agreed that the presemester time spent on planning and tweaking their curriculum paid off in the long run, as it helped to solidify the curriculum they would use again for future semesters.

Learning community instructor pairs were also encouraged — but not required — to sit in on each other's classes. While not all learning community instructors did this in practice, several did take time to do so. These classroom visits ranged from one instructor simply observing students' reactions to her partner's lectures, to having the visiting instructor convey to students how his partner's lectures were relevant to the assignments and discussions in his class (as reported by instructors in the writing course and student success course link). One instructor noted that by regularly visiting his partner's class and actively participating in the class discussions, he was offered the chance to help students integrate the content of the two courses and deepen their understanding. Other learning community instructors reported similar experiences. More than three-fourths of those who were surveyed reported that "communicating with other faculty about shared students" was "somewhat important" or "very important" to them.

Students mentioned that they appreciated when their learning community instructors worked in tandem. One learning community student conveyed how much she liked it when instructors worked together, even when they were not in class together. For example, when one instructor planned a test, the other instructor knew not to overburden the students with too many of his own assignments so that they could have time to prepare for the test. And faculty members also worked to teach their students how to better balance their time and energy to complete multiple assignments simultaneously, which would be a skill they would need in future college semesters. Other students mentioned that they liked their learning community instructors

because they understood their needs or could pinpoint when students were struggling in their other linked course.

Professional Development and Support

Coming into the demonstration, many of the learning community instructors had many opportunities to take part in professional development that introduced them to the foundations of learning communities. For instance, in the SPECC program, many learning community instructors participated in Faculty Inquiry Groups (FIGs), where they shared techniques that supported curricular integration and interactive classroom learning. One long-time learning community instructor recalled, "[FIGs] were some of our best meetings, where it was just a roundtable discussion about what linking assignments were and how to create them. [Learning community instructors] really got totally into it." At the start of the demonstration, a group of Merced learning community instructors also attended the Learning Communities Summer Institute held at Evergreen State College in Washington State. Around the same time, Merced also joined the San Joaquin Valley Learning Community Consortium, which put learning community instructors in touch with instructors at other colleges in Bakersfield, Sacramento, and other areas of the state where learning communities programs were already well established. Some learning community instructors recalled that by building on earlier conversations with colleagues at other learning community colleges, they better understood how to move from simply enrolling the same group of students into two courses, to carrying out well-designed plans for interdisciplinary themes and lessons.

Despite these successes in fostering professional development and faculty support, a few barriers to more extensive professional development emerged. For example, during the early stages of the demonstration (though not related to the learning communities program or study), Merced faculty conducted a campuswide boycott of college-sponsored professional development activities. The boycott was intended to press the college to increase the budget and the number of opportunities for professional development and make faculty development a priority for administrators. Thus early on, learning community instructors declined offers to take part in learning community trainings. As the boycott was reduced over time, however, learning community instructors once again participated in professional development opportunities. These included campus presentations by prominent outside academic experts in the field, such as professor Vincent Tinto, and faculty program leaders from other colleges, such as Kingsborough Community College, who spoke on the relevance and effectiveness of learning communities for student learning.

Another problem some learning community instructors faced was fatigue and frustration with the new program requirements as a result of participating in the study. As the program coordinator emphasized faculty participation in student recruitment and enrollment efforts for

the study, the mood of the learning community instructors generally shifted from feeling motivated and excited to feeling frustrated with the focus on enrollment and scale-up of the program. Some instructors conveyed resentment about changes in their meetings, which were originally focused on improving curriculum development and pedagogy but soon shifted to research-related matters. What started as monthly meetings about sharing pedagogical practices and discussing "the scholarship of teaching" became time for the learning communities coordinator to give updates on random assignment enrollment and to pass along strategies that faculty could use to recruit and enroll students into the study. Toward the end of the demonstration, however, the learning communities coordinator heeded instructors' concerns and made more of an effort to refocus faculty meetings on sharing and discussing effective classroom practices.

Although a few of the 22 learning community instructors decided to leave the program due to fatigue or difficulties teaching in a learning community structure, most stayed throughout the course of the demonstration. In fact, most who did report feelings of fatigue still believed in the value of the program and remained committed to participating.

Instructional Practices

For each learning community at Merced, instructors linked their two courses with an interdisciplinary theme, and presented a title and brief paragraph about the theme in the college's course schedule and program handouts. While all of the learning communities had a theme and title, there was notable variation in how well instructors integrated course content and assignments in the classroom, and notable variation in how well students understood how the content of both of their linked courses tied together.

Early in the demonstration, there was evidence that some learning communities integrated separate course curricula into one joint curriculum that made connections across themes and course assignments. Generally, the learning communities that linked developmental reading with developmental writing made the most direct connections. Students worked on writing assignments, such as essays and journal writing, related to what they read about in novels and persuasive essays. They simultaneously practiced their reading and writing skills by increasing vocabulary and identifying sentence and paragraph structure. Other learning communities offered creative, albeit often looser, cross-content themes. For instance, in the developmental writing and math learning community, the theme of ethno-mathematics introduced the idea that different ethnicities have distinct relationships to numbers. Students read and wrote about the diverse approaches to understanding mathematical concepts and formulas. As one of the instructors described it, "We're actually asking them to make a connection between writing about mathematics to essentially change their relationship to the core content of math."

Analyses of learning community syllabi suggested that most of the learning communities were able to link assignments and classroom activities.[10] Most links included at least one joint assignment, if not more, as part of both courses' syllabi. Some links were more advanced in integrating assignments, especially those whose learning community instructor pairs were more experienced and had shaped solid, shared curriculum plans over time. Newer partnerships often did not have the same level of integration in their courses, mostly because the partners were first learning to develop clear and meaningful interdisciplinary themes. It was expected that it would take time to know which lessons and assignments it made sense to link.

The degree of curricular integration generally depended on the number of semesters the instructors had previously spent as a learning community pair and on how much time they spent before and during the semester to align their course assignments and content themes. A few of the seasoned instructor pairs said that they believed that all pairs needed at least one semester together to learn how best to collaborate, as well as a commitment to "work out the kinks and do collaborative curriculum planning" before and during subsequent semesters. "After every semester," one long-time learning community instructor said, "it gets easier to do." She added, "I really think there's a learning curve with learning communities, and you really have to do the same learning community with the same partner a couple of semesters to really get it down." The learning communities coordinator also recognized the value of spending time to overcome the initial stumbling blocks: "I think it takes them a while before they make it a good idea and before they actually mesh together to get it right."

While each of the learning communities had an interdisciplinary theme, engaging students to develop deep and meaningful understanding of the cross-content themes proved difficult. About two-thirds of the 16 learning community instructors surveyed at Merced indicated that "helping students make connections between courses" was "very important"; yet there was little evidence that students recognized or appreciated these connections. While almost all the students who were interviewed agreed that they liked being part of a learning community, some openly questioned the cross-content connections being attempted in their links or felt confused about what connections they were supposed to make. One student said, "I thought the idea was great, but there's no real definition to each class I'm taking. It's just all the same thing. It's just that these two are linked together." Another added, "They're great teachers, and they both teach their own subjects very well," although the student noted having difficulty making the connections between the two courses.

Most students did acknowledge that their learning community instructors made regular efforts to work together on interactive classroom assignments, which included small group work, reflective content discussions and writing, and making subject matters relevant to their

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[10]See Appendix Figure A.1 for syllabi analysis results.

surroundings and everyday lives. There were, however, a few instances where students mentioned feeling "cheated out" of the benefits of having two instructors working together and having both instructors accessible to them if they had questions or concerns in either class. As one student pointed out, "There's not two instructors that help me — they're not together all the time. One's in there for only five minutes or for 15 minutes. There's no linked work." Another student echoed similar sentiments, saying, "My understanding of what I was going to be doing isn't what I'm doing. The [other learning community] teacher does come in for a little bit, but they don't really help us with anything."

So even though there were relatively high levels of faculty collaboration at Merced, and some of the more experienced faculty teams implemented high levels of curricular integration, it appeared that students in the learning communities — as at the other colleges in the Learning Communities Demonstration — often could not recognize or appreciate the contextualization attempted across the linked courses.

Student Supports

Merced's learning community model focused primarily on cultivating connections between different courses, having instructors work together, and connecting lesson plans and assignments. Aside from the developmental writing and student success course link, most other links placed little emphasis on integrating student support services as part of their learning goals and outcomes. As such, student services were generally not incorporated or emphasized in learning community lectures, activities, or assignments.

Most learning community instructors acted as the primary liaisons for students' access to support services. Although there were few examples of instructors tying support services into their learning community course syllabi, faculty survey results indicate that almost all learning community instructors referred individual students to campus services at least two or more times per semester. For example, most of the reading and writing learning community courses required (or at least strongly encouraged) students to spend time at the reading lab as part of their course requirements. Some learning communities also incorporated a Supplemental Instructor — or student leader who had knowledge of the course content — to take part in classroom activities. However, most learning community instructors said that they generally did not know how much their students actually sought out these services outside of class, if at all. It should be noted as well that instructors teaching stand-alone classes likely offered similar services as part of their courses.

As mentioned above, there was an exception in the developmental writing and student success course link, which integrated knowledge of and familiarity with student services into the classroom. The student success instructor provided students with information on students services and resources and also brought in guest speakers from the financial aid, advising, and

health offices so that students could get to know who the staff were and where the services were located. This learning community also incorporated a required writing assignment to teach students how to write personal essays in order to qualify for scholarships.

The learning communities program coordinator and some instructors mentioned an interest in having more student success courses in the program. The major obstacle to making this change was a lack of resources to get counselors to teach more learning communities student success courses without creating a counseling shortage at the college. One administrator pointed out that "because of the limited number of counselors that we have, we generally do not encourage them to teach more than one course as part of their load. If they start teaching too many classes, then we don't have anybody left to do the counseling."

How the Experiences of the Program and Control Groups Differed

When determining whether a program like learning communities makes a difference for students, it is important to examine the extent of the "treatment contrast" — or the difference between the experiences of students who participated in the program and those who did not. Table 3.1 compares learning communities with regular stand-alone courses with respect to the four key components of the learning community model. The following section describes in more detail the treatment contrast between the experiences of students in learning communities (the program group) and those assigned not to receive the intervention (the control group) during the demonstration.

Overall, there was a sufficient treatment contrast between program and control group students, particularly regarding course enrollment and classroom interactions. As noted earlier, students in the program group enrolled in developmental English classes at a significantly higher rate than those in the control group. This indicates that by offering the developmental English class as part of a learning community, the program encouraged students to enroll in developmental English, whereas students in the control group were more likely to delay enrolling in or never enroll in these classes.

Once program group students were part of a learning community, they reported notable differences in their classroom interactions with other students and instructors. For instance, students participating in learning communities said that the relationships they built among learning communities faculty and students were much stronger and closer than the ones they made in other college or high school classes. In contrast, some of the students in the control group said that they developed very few deep relationships with other students in their classes and even fewer deep relationships with their instructors.

However, some control group students who were interviewed also reported high levels of engagement in their stand-alone classrooms. Most mentioned having good relationships with

The Learning Communities Demonstration

Table 3.1

**Merced College: Characteristics of the Learning Communities Program
and Regular College Services**

Learning Communities for Students in Developmental English

Characteristic	Learning Communities Program	Regular College Services
Linked courses and cohorts	• Small groups of developmental English students were coenrolled in two linked classes. • Substantial accounts of student bonding in their cohorts.	• Students enrolled in any class, with all courses independent of one another.
Faculty collaboration	• Strong examples of collaboration among most instructor teams • Each instructor team developed and carried out collaborative plans for the semester. • Instructors were offered professional development.	• Instructors occasionally collaborated with each other informally. • Instructors were offered professional development.
Instructional practices	• Learning communities centered on clear, integrated themes for the two linked courses. • Variation existed in the level of integrated pedagogy and learning that occurred in the linked courses. • Each instructor team developed and carried out integrated syllabi and lesson plans. • Some students reported difficulties with understanding integrated ideas and themes between linked courses.	• Many instructors reported using integrated teaching, group work, and collaborative teaching strategies in their standalone classes.
Student supports	• Most linked courses did not formally offer student services as part of their lesson plans. • One link included a counseling course in which curriculum focused on student services. • Faculty were specifically encouraged to refer students to student services based on individual need.	• Access to regular campus services. No additional counselors, tutors, or advisers were provided as part of the course lesson plans. • Some faculty referred students to student services based on individual need.

SOURCE: MDRC field research.

their instructors and found their instructors to be accessible when they asked for help. A few of them noted that the transition from high school to college course work was difficult, but felt that the college provided more services to help them academically than their high schools did.

From the faculty perspective, many instructors said that there were noticeable differences between teaching and interacting with students within a learning community compared with regular classes. Like many of the learning community instructors who have taught (and continue to teach) stand-alone classes, one seasoned learning community faculty member offered this comparison: "When I've done my stand-alone classes, it's just totally different. Not as many students would come and seek resources or seek help as compared to in a learning community." Another instructor said that the big difference between teaching her learning community class and teaching a stand-alone class was the opportunity that learning community students have to reinforce ideas, knowledge, and skills they learn in one learning community class by applying them in the other class later in the week. She added, "From their participation in the [other learning community] class, it's apparent — these students came to my class ready to go. That never would have happened in a stand-alone class."

In terms of instructional practices, many of the non-learning community instructors who were interviewed mentioned using strategies similar to those in learning community classrooms in order to engage their developmental-level students in learning. For example, the strategies they mentioned included assigning project-based group work, connecting real-world issues to content lessons and ideas (such as talking in a political science course about the political rhetoric used during election year), or introducing skills such as higher-order thinking and multitasking as part of an English course. Like learning community instructors, these instructors liked the idea of faculty members collaborating, but outside of learning communities they found it difficult to do because of their teaching course loads and additional campus duties. Overall, both students and instructors involved in learning communities mentioned how linked courses provided more opportunities to make connections between different courses and ideas than stand-alone courses did, even when those connections were sometimes difficult to make.

The one component of learning communities at Merced where there appeared to be no contrast between the experiences of students in the program and control groups was student support services. Students appeared to receive similar dosages of exposure to student services in the classroom, whether or not they were in learning communities. Faculty both in and outside of learning communities said that they informed students about tutoring at academic support labs, advising, and book vouchers or loans, and that they recruited their students for other academic programs on campus. Moreover, students in both groups conveyed similar experiences regarding access to and use of campus services. For example, some control group students mentioned being part of Extended Opportunity Programs and Services (EOPS) — a state-funded support services program designed to assist low-income students with campus resources — which

provided book loans and additional advising. Another student mentioned using the Disabled Students Programs and Services (DSPS) office to get extra tutoring or classroom assistance.

Institutional Support for Learning Communities

Throughout Merced's participation in the Learning Communities Demonstration, external conditions and institutional influences affected the implementation and progress of the program. Several instances of institutional reorganization and administrative turnover affected the program, according to many of the key stakeholders who were interviewed. For instance, the program lost a key "administrative champion" early on after the retirement of a vice president who had been instrumental in showcasing and defending learning communities to the rest of the college. This vice president had garnered upper-level administrative support for the program. As one learning community instructor said, "The previous vice president was fantastic, unbelievable, supportive, very encouraging." Even though other administrators did share some interest in wanting the program to flourish, it proved difficult for anyone to match the amount of support the program received from the outgoing vice president.

The learning communities were also affected by the reorganization of the college's academic departments in the middle of the demonstration. As a result of institutional budget cuts and the redeployment of personnel, several academic areas merged into larger departments. These new departments were supervised by deans who at times did not have a full understanding of some of the new academic areas they now supervised. They also had to address other departmental priorities , such as such as defining curriculum standards, scheduling courses, and finding adjunct faculty to teach open courses each semester. As a result, these shifts in administrative structure seemingly left the strengthening of the learning communities program on the periphery of the college's institutional priorities.

Summary and Postdemonstration Program Changes

Initially, faculty excitement and interest stemming from earlier learning community endeavors and the commitment and support of senior administrative "champions" bolstered the learning communities program at Merced. The core learning community elements of student co-enrollment, faculty collaboration, and integrated curricular design were already strong as the college entered into the Learning Communities Demonstration, and these three components remained generally strong throughout the demonstration. Evidence of substantive relationship-building among learning communities students and instructors emerged throughout the program. Seasoned learning community faculty led the collaborative work that was planned and implemented by learning community instructor pairs and shepherded newer learning community instructors along the way.

Although in practice it was generally difficult to create meaningful cross-content knowledge as part of student learning (as was the case in all six of the colleges in the demonstration), learning community students generally recognized the efforts most of their learning community instructors made to work together to help students make connections between different disciplines.

Over time, the demands related to the study to scale up enrollment numbers and course offerings were enough to cause some learning community instructors to become disenchanted with the direction in which they felt that the program was headed. Moreover, institutionwide budget cuts that led to diminished funding for learning communities as well as institutional reorganization wore on faculty morale and reduced opportunities for professional growth. Even so, most instructors remained committed to seeing the program through the demonstration and continued to endorse the learning community philosophy.

As Merced's participation in the Learning Communities Demonstration ended, the college continued to make tough budget decisions across the campus, which certainly affected how the program could move forward. As the vice president of instruction put it, "I think our greatest challenge is fiscally....I don't foresee us eliminating [the program], I just think that we need to figure out how we're going to institutionalize it…to get a plan together and figure out what the objectives are and how to meet those objectives."

The program coordinator hired to manage the demonstration at Merced left the college near the end of the study, and a new faculty leader was assigned to coordinate the continued development of the program. This new coordinator showed a strong interest not only in continuing but also in expanding the program, as she felt that "learning communities were a useful way to engage faculty members and at-risk students simultaneously." This new coordinator was chosen by Merced's Faculty Senate to "formalize" the learning communities program procedures in order to establish a routine method for linking classes, outlining matriculation regulations, and identifying important student-learning outcomes to assess in future learning communities.

The new coordinator and learning community faculty worked with the college's Academic Senate to establish learning community policies and procedures for instructors regarding faculty team meetings and program responsibilities. These policies would introduce a more comprehensive plan and standard accountability measures so that faculty members would know the expectations for designing and teaching in learning communities, and administrators and funders could better understand the effects of learning communities on student outcomes, especially in light of the college's tight fiscal situation.

Chapter 4

Program Impacts on Educational Outcomes at Merced College

This chapter examines the impacts of learning communities on students' academic outcomes at Merced College. As described in Chapter 3, students who placed into developmental English (reading or writing) at up to three levels below college level were eligible to participate in the Learning Communities Demonstration. Merced's learning communities program linked developmental writing with a range of developmental and college-level courses, and provided students with a strong cohort experience. These learning communities included generally high levels of faculty team collaboration, and — for the faculty teams with experience working together — this often led to advanced levels of cross-course content integration.

The immediate goal of the learning communities at Merced was to improve students' performance and progress in developmental English. Since reading and writing skills are important for college-level course work, improved skills in these areas may further translate into improved overall progress toward a degree. This chapter examines differences in educational outcomes between students requiring developmental English who were randomly assigned to participate for one semester in a learning community, and those students randomly assigned to a control group. The chapter focuses first on the impact of the program on performance in the developmental English sequence; as described in Chapter 2, this sequence includes developmental reading and writing as well as the first college-level English course. Other key outcomes examined include total credits earned and rates of students' reenrollment in college.

The impacts of learning communities are measured for the semester during which the program took place, the postprogram semester, and cumulatively at the end of the postprogram semester. The impacts of learning communities are also examined for three prespecified subgroups: students who reported English as the primary language spoken at home in comparison with those who spoke another language, students with below the average developmental English test scores for the sample in comparison with those with higher scores, and females in comparison with males.

Key Impact Findings

- Merced's learning community students attempted and earned significantly more developmental English credits than students in the control group during the program semester. At the end of the postprogram semester, students in the Merced program group had passed significantly more English courses than those in the control group.

- Despite the positive impact on developmental English credits earned, there was no significant impact on total (developmental plus college-level) cumulative credits earned.

- Learning communities did not have an impact on rates of student registration in the postprogram semester.

- This pattern of impacts was consistent for all prespecified subgroups of students.

Results for the Full Sample

Table 4.1 looks at academic outcomes from Merced sample members' transcript data. The measures reflect average student registration in each semester, outcomes in English courses, credits attempted, and credits earned. These outcomes are tracked during the program semester and the postprogram semester separately, as well as cumulatively through the postprogram semester. This allows one to see whether there was an immediate effect of the program, and then whether these differences persisted after the program semester ended.[1]

English Progression Measures

As can be seen in Table 4.1, the number of developmental English credits attempted and earned was significantly higher for students in the program group than for those in the control group in the program semester. As noted in the previous chapter, all of the students in the study sample at Merced were assessed into developmental English (reading, writing, or both), and all expressed interest in enrolling in developmental English. However, after random assignment only 44 percent of students in the control group were enrolled in developmental English by the end of the add/drop period. In comparison, students randomly assigned to the program group were significantly more likely to be enrolled in a developmental English class, most often as part of a learning community. About 60 percent of program group members were enrolled in developmental English at the end of the add/drop period in the program semester, which translated into an average of 3.8 developmental English credits attempted, significantly more than the average of 2.7 developmental English credits attempted by students in the control group. This is a desirable outcome because these developmental courses are needed to prepare students who are assessed into them for college-level work. Furthermore, though not strictly mandated to do so, Merced students are generally expected to complete these courses before proceeding to college-level English courses.

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[1]See Chapter 2 for descriptions of the random assignment design and research methods.

The Learning Communities Demonstration

Table 4.1

Merced College Transcript Outcomes

Learning Communities for Students in Developmental English

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
Program semester				
Registered for any courses (%)	73.3	73.7	-0.4	3.7
Enrolled in a learning community (%)	53.6	0.1	53.5 ***	5.1
Total number of credits attempted	7.8	7.2	0.6	0.6
Regular credits	2.7	3.2	-0.5 *	0.3
Developmental English credits	3.8	2.7	1.1 ***	0.4
Other developmental credits[a]	1.3	1.3	0.0	0.1
Total number of credits earned	6.3	5.6	0.7	0.5
Regular credits	2.1	2.4	-0.2	0.3
Developmental English credits	3.2	2.3	0.9 ***	0.3
Other developmental credits	1.0	1.0	0.0	0.1
Developmental English[b]				
Ratio of passed to attempted (%)	*81.5*	*81.3*		
First postprogram semester				
Registered for any courses (%)	54.0	54.7	-0.8	3.9
Total number of credits attempted	5.5	5.5	0.0	0.5
Regular credits	3.4	3.4	0.0	0.3
Developmental English credits	1.3	1.3	0.0	0.2
Other developmental credits	0.8	0.9	-0.1	0.1
Total number of credits earned	4.3	4.4	-0.1	0.4
Regular credits	2.7	2.6	0.0	0.3
Developmental English credits	1.1	1.1	0.0	0.2
Other developmental credits	0.6	0.7	-0.1	0.1
Any course in English sequence[c]				
Ratio of passed to attempted (%)	*83.3*	*85.2*		

(continued)

Table 4.1 (continued)

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
Cumulative through first postprogram semester				
Number of semesters registered	1.3	1.3	0.0	0.1
Total number of credits attempted	13.5	13.0	0.6	1.0
Regular credits	6.3	6.7	-0.4	0.6
Developmental English credits	5.1	4.0	1.1 **	0.5
Other developmental credits	2.1	2.2	-0.1	0.2
Total number of credits earned	10.8	10.2	0.6	0.9
Regular credits	4.9	5.1	-0.2	0.5
Developmental English credits	4.3	3.4	0.9 *	0.5
Other developmental credits	1.6	1.7	-0.1	0.2
Number of courses in English sequence				
Passed	1.6	1.3	0.3 *	0.2
College Composition (%)				
Passed	5.0	5.1	-0.1	1.5
Attempted and did not pass	1.4	0.7	0.7	0.6
Did not attempt	93.6	94.2	-0.7	1.7
Sample size (total = 1,424)	711	713		

SOURCE: MDRC calculations from Merced College transcript data.

NOTES: Rounding may cause slight discrepancies in sums and differences.

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

The probability of being assigned to the treatment group varies within random assignment cohorts, and estimates are weighted to account for the different random assignment ratios. Estimates are adjusted by cohort and baseline English placement test scores. Standard errors are clustered by learning community link.

All measures are based on courses that sample members were still enrolled in at the end of the add/drop period.

[a]"Other developmental credits" are primarily developmental math courses, but also include non-degree-applicable college preparatory courses, such as English as a Second Language (ESL).

[b]"Developmental English" includes all required courses in the Developmental English sequence, including reading and writing. Ratio of passed to attempted is nonexperimental.

[c]"English sequence" includes all Developmental English *plus* College Composition. College Composition is the first college-level English course at CCBC and Merced. Ratio of passed to attempted is nonexperimental.

In addition to *attempting* developmental English at higher rates, students in the learning communities group were also significantly more likely than their control group counterparts to *pass* developmental English in the program semester.[2] As a result, program group members earned an average of 3.2 developmental English credits, compared with 2.3 for the control group. Interestingly, among students who attempted English in each group, the pass rates (the ratio of English courses passed to attempted) were very similar, suggesting that the increase in developmental English credits earned for the program group was driven by the increase in attempts. This can be seen in Table 4.1, which shows that the ratio of attempted developmental English courses passed is 81.5 percent and 81.3 percent for the program and control groups, respectively.

In the subsequent postprogram semester, as shown in the second panel of Table 4.1, there were no significant differences in the types or number of credits that students in the program and control groups attempted or earned on average. However, cumulatively — at the end of the postprogram semester — students in the program group were still ahead in the English sequence as a result of the advantage gained in the program semester. The third panel of Table 4.1 shows that learning communities students earned on average .9 more developmental English credits than their control group counterparts. This cumulative impact can also be seen in the number of courses passed in the English sequence, where there is a marginal positive impact of about a third of a course or, in other words, equal to about one in three program group students passing an English course (or an additional English course), over and above what they would have accomplished in the absence of the program.

Reenrollment and Credit Accumulation

As can be seen in the second panel of Table 4.1, just over half of the sample registered for courses in the first postprogram semester — a rate that is about 20 percentage points lower than in the program semester; these rates were similar for students in both the program and control groups. In other words, contrary to the learning communities' theory of change, the program at Merced did not increase students' likelihood of staying in college. This can also be seen by looking at the cumulative average number of semesters registered, which was 1.3 for students in both the program and control groups.

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[2]Table 4.1 uses a D or higher passing criteria for all transcript outcomes. This is consistent with Merced's general criteria for earning credits. However, the most common way of satisfying a required or advised skill at Merced is by completing the prerequisite course with a grade of C or better. Using this criterion for an analysis of passing developmental courses yields results wholly consistent, in both magnitude and statistical significance of impacts, with those shown in the table, but because students at Merced may proceed, through a challenge process, without having met the "C or higher" criterion, the more general "D or higher" criterion is presented in this report.

Furthermore, Table 4.1 shows that the learning communities at Merced did not produce any significant impacts on rates of credit accumulation in either the program or postprogram semesters. The program's impacts on developmental English credits attempted and earned did not translate into impacts on total credits attempted or earned, in part because program students may have been substituting developmental credits for regular credits (which may have been desirable given the college's goal of having students tackle their developmental English needs early in their college tenure). For example, on the cumulative measures, program group members earned an average of .9 more developmental English credits than their control group counterparts, but this increase in credits earned was partially offset by small (and statistically insignificant) decreases in both regular and other developmental credits earned.

Analysis of Students Who Registered in the Program Semester

One may ask if the low participation rate in Merced's learning communities may have hurt the program's ability to have a measurable impact on students' success. As described in the chapter on Merced's program implementation and shown in Figure 3.2, only 54 percent of students in the program group participated in learning communities. The remaining students in the program group — who did not participate in learning communities — were unlikely to have benefited from the program, yet are included in the analysis and thus may bring down the program's measured impacts.[3]

In order to address this possible dampening of measured impacts, an exploratory analysis was conducted for only those students (in both the program and control groups) who remained registered at the end of the add/drop period. In Merced's sample, just over one-quarter of the students were no longer registered for credit-bearing courses by this point in the program semester. This drop was nearly identical for students in both the program and control groups, and the baseline characteristics of these nonregistrants were similar across the two groups. An exploratory analysis can thus be conducted on the remaining 73 percent of students, termed "registrants." This analysis assumes that these registrants in the program and control groups are similar not only in their observed characteristics (such as age, gender, and prior college enrollment), but also in others (such as motivation and ability). Because the analysis makes this assumption about sample members rather than relying purely on the experimental random assignment design, the comparisons between outcomes of registrants are considered nonexperimental. (This comparison is depicted in Appendix Figure A.2.) These students are of interest because the registrants in the program group had a significantly higher rate of participation in

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[3]As described in Chapter 2, the primary analyses in this report are "intent-to-treat" calculations, which include all sample members, whether or not they stayed enrolled at the college or participated in the learning communities program.

learning communities than the full sample, and this analysis may thus provide a closer estimate of the impact of the learning communities on the students who actually participated in them.

As shown in Appendix Table A.1, this alternate analysis generally confirms the findings of the primary analysis. When nonparticipants are excluded from the calculations, the magnitude of impacts is somewhat larger for students who remained registered than for the full sample, but the pattern of impacts and the overall story remain essentially the same. Among registrants, students assigned to the learning communities group were more likely than their control group counterparts to both attempt and pass developmental English in the program semester. At the end of the postprogram semester, they maintained this "step ahead" in the English sequence. However, as with the full sample, learning communities had no significant impact on registrants' likelihood of reenrolling in the semester after program participation, and no significant impact on cumulative credits earned. This exploratory analysis thus suggests that the low participation rate at Merced was not the reason for the program's lack of impacts on reenrollment rates or cumulative credits earned.

Subgroup Analyses

In addition to examining the overall impacts of Merced's learning communities program, this study analyzes the results for three prespecified subgroups of students, defined using characteristics that were measured at or before the point of random assignment, to determine whether the program's impacts were larger or different for certain types of students.

Language Spoken at Home

Students who indicated that they speak a language other than English at home may have different experiences or outcomes in college than those whose primary language is English, and these differences may be most notable in English classes. For this reason, an analysis was conducted to determine whether these students benefited more or differently from Merced's developmental English learning communities program. Forty-one percent of the students in the study at Merced reported that they primarily speak a language other than English at home, and these students were found to be more likely to have enrolled in the learning community after having entered the study compared with students who speak English at home (59 percent compared with 50 percent). Apart from this one difference, there were no other meaningful differences in the impacts of the program on one group or the other.

Need for English Remediation

An analysis was also conducted to determine whether learning communities at Merced had a differential impact for those students with the greatest need for English remediation compared with those students with relatively better English preparation or skills. English

placement test scores were used to determine students' remediation needs in comparison with the median score for the sample members' standardized writing and reading tests averaged together. This analysis found no meaningful significant differences in impacts between these need-for-remediation subgroups.[4] One finding of note is that there was a statistically significant negative impact on regular credits attempted for those with relatively better English skills — a finding that seems to be related to the positive impact on developmental credits attempted by these students. Students in the program group were possibly substituting developmental credits for regular credits attempted — a pattern similar to the one seen for impacts on attempted courses for the full sample.

Gender

Because some community college outcomes have been found to differ by gender, and because the impacts of Kingsborough Community College's Opening Doors learning communities were somewhat larger for men than for women, an analysis was conducted to determine if learning communities at Merced had a differential impact by gender. This subgroup analysis found no meaningful significant differences in impacts between men and women.

Summary of Merced College Results

At Merced, learning communities program group students earned more developmental English credits in the program semester than their control group counterparts. This increase was likely a direct result of learning communities students attempting developmental English at higher rates in the program semester. Getting students to take developmental English courses early on was an important goal of the Merced learning communities program, making this outcome particularly relevant. This impact persisted to the end of the postprogram semester, indicating that, on average, learning communities students remained a "step ahead" in the English sequence as a result of their opportunity to participate in the program. However, there were no significant impacts found on student registration rates in the postprogram semester, or on total credit accumulation. In the final report, an additional semester of follow-up at Merced will be analyzed to determine whether this pattern of impacts was sustained.

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[4]Placement test data on reading and writing test scores were available from Merced for 74 percent of the sample. Those without scores likely took the placement test before September 2007, or never took it. The impacts on the subgroup with test information may not be exactly the same as those that would have been observed on the entire sample had their test scores been available.

Chapter 5

The Community College of Baltimore County's Learning Communities Program

The Community College of Baltimore County (CCBC) comprises three campuses and three extension centers located in suburban Maryland, close to the city of Baltimore. The three campuses originally constituted three separate colleges, two of which were established in the 1950s and the third in the 1970s. The three colleges were united under one institutional umbrella in 1998, but serve slightly different populations and retain somewhat distinct norms and cultures. Both the Catonsville and the Essex campuses participated in the Learning Communities Demonstration; the Dundalk campus did not participate because it is a much smaller campus with fewer students enrolled. Located southwest of the city of Baltimore, on land that was once a dairy farm, the Catonsville campus retains a somewhat quaint and bucolic feel. It sits on gently rolling hills filled with mature trees, and the historic manor house of the original estate now holds administrative offices. Located northeast of Baltimore City, the Essex campus has a more modern feel and boasts one of the state's most highly regarded associated nursing programs. Just before the Learning Communities Demonstration began, CCBC was in the process of developing a five-year plan for increasing student success, and an examination of the developmental education program was one aspect of that effort.

At the inception of the Learning Communities Demonstration, CCBC was running various types of learning communities, and there was a small but dedicated core group of faculty who had taught these learning communities for several years. For the demonstration to test learning communities with a similar "anchor course," CCBC chose to focus on scaling up the number of learning communities for students in developmental English (including both reading and writing). The college's goal was to improve academic outcomes for students in the highest level of developmental reading or writing, allowing them to move on to college-level classes and ensuring that they were well prepared to succeed in them. Instructors who had been teaching in learning communities for years felt strongly that the benefits of student cohorts and the increased support offered by learning communities gave a strategic advantage to students, and they were eager to see the program expanded.

Summary of Findings

- CCBC's learning communities were moderately advanced in design. The program featured strong links and cohorts, some emphasis on curricular integration, and a unique student support component, the Master Learner session,

which offered students an extra hour of instruction each week to support their work in the learning communities courses.

- CCBC's existing learning communities program had to be expanded significantly to meet the enrollment demands of the study. Due both to the required expansion and to the ambitiousness of the model, the program went through several changes during the course of the study: new links and new faculty collaborations were being formed, and expectations for program components were being clarified throughout.

- After the first semester of the program, administrators provided increased structure and professional development for faculty, but there continued to be variation in the implementation of most components of learning communities: the degree of faculty collaboration, the amount of curricular or thematic integration, the type of instruction offered, and the type and amount of support offered to students through the Master Learner Session.

- The cost for the learning communities program at CCBC was about $450 per student over and above the costs of standard nonlinked courses. The Master Learner comprised the majority of this cost; because of this and other difficulties with consistent implementation, the college chose to discontinue the Master Learner session after the demonstration ended.

As noted in Chapter 3, whether an intervention like learning communities makes a difference for students depends on several factors, including the validity of the theory of change, the strength of the program model, the fidelity with which essential components of the program (including linked courses and cohorts, faculty collaboration, instructional practices, and student support) are implemented, and the extent of the treatment contrast. The following section describes the program design and the theory of change for the learning communities at CCBC. Next, to shed light on how the study sample described in Chapter 2 was selected, the chapter describes the recruitment mechanisms and enrollment numbers for the program. This discussion is followed by an analysis that uses qualitative information from interviews of administrators, instructors, and students, as well as results of a survey of instructors, to examine the extent to which the key components of learning communities were implemented as originally intended. The treatment contrast between the program and control groups is then discussed. The final section describes the costs of the learning communities model at CCBC.

Program Model

CCBC's learning communities coenrolled students in a developmental English course, a college-level course (in one of a range of subject areas), and a Master Learner session designed

to provide extra student support. (See Figure 5.1.) The English course was one level below college composition in either developmental reading (RDNG 052) or developmental writing (ENGL 052). As the higher of two levels in each developmental course sequence, these courses are required for students who test into them, but the credits do not count toward graduation or transfer. The second course in CCBC's learning communities was a college-level content course, such as health or psychology, which was meant to provide context for students to practice the reading or writing skills they were learning in the developmental course. Experienced learning communities faculty felt that pairing the developmental course and the content course would help students see the relevance of the English skills they were being asked to master. In some cases the college-level course had developmental reading or writing as a prerequisite, which was effectively waived by the structure of the learning communities; students were permitted to enroll in the college-level course simultaneously with the prerequisite, providing some additional incentive to students to participate in the learning communities.

The third element of each learning community was the Master Learner session, which was designed to provide academic support within the context of the learning community cohort. It represented the beliefs of CCBC's leaders about how best to support students' development of college-level reading and writing skills. In this model the Master Learner — either the developmental English instructor or a third faculty member — attended the college-level course alongside students to model successful student behaviors such as taking notes, participation in class discussions, and asking questions.[1] Then she led a weekly, hour-long, non-credit-bearing session in which she assisted students in developing reading and writing skills as well as in mastering the course content necessary for success in the college-level course. The Master Learner session itself did not have a prescribed curriculum; rather, faculty were told to draw on the curriculum from the college's student success course but not to rely on it entirely, and to tailor their instruction to the particular college-level content course that was part of the learning community.

The learning communities program design at CCBC was moderately advanced in its level of expectations for the four key components of learning communities: linking and student cohorts, faculty collaboration, curricular integration, and student supports. The college's theory of change placed a significant emphasis on the potential benefits of student coenrollment. Program leaders and experienced learning community faculty believed that cohorts would allow for the development of strong, supportive relationships both between instructors and their students and among students, and that these relationships would result in students feeling a

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[1]Before the demonstration began, the learning community model required the Master Learner to complete all the assignments and take the exams for the credit-bearing course as well, in an effort to ensure that she or he would understand what students were struggling with; this expectation was dropped by the start of the demonstration because of the faculty time commitment required.

The Learning Communities Demonstration

Figure 5.1

CCBC's Learning Community Model

Learning Communities for Students in Developmental English

LINKS

Health

Psychology

Speech

Developmental
English
(reading or writing)

Sociology

Master Learner

History

Computer
Information

Other college-level
courses
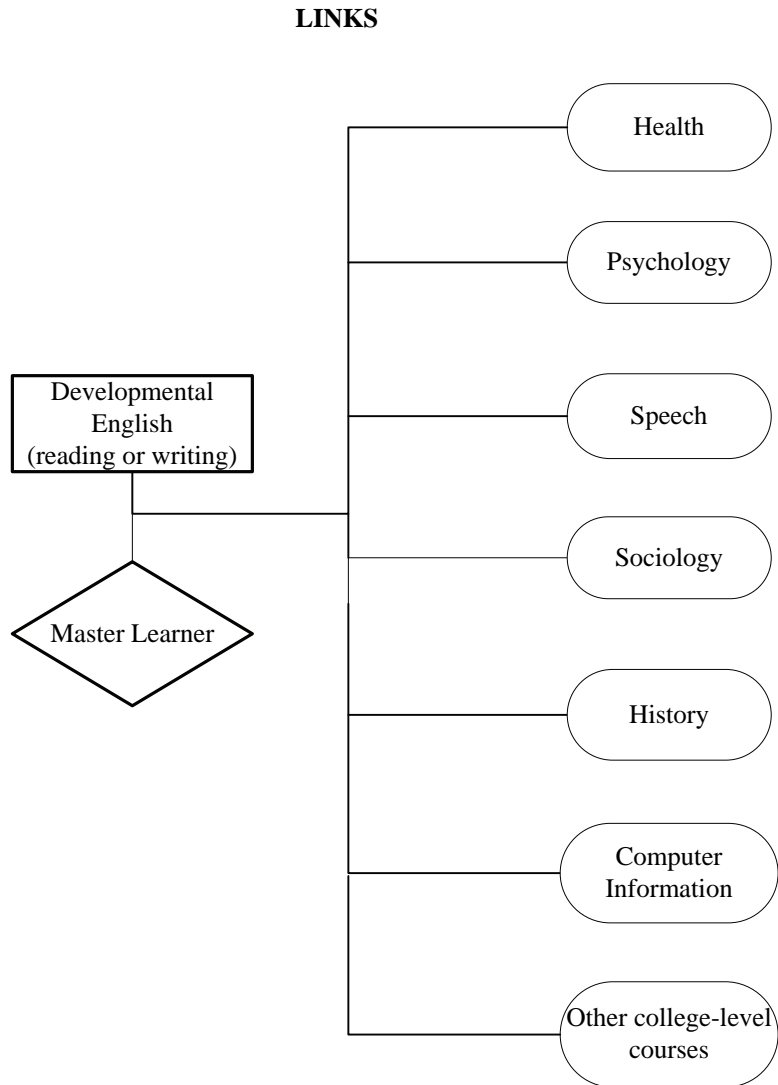
NOTE: "Developmental English" includes both developmental reading and developmental writing courses. The developmental English course was linked with the Master Learner session and a course in one of the subjects depicted on the right.

greater sense of belonging at the college. It was also hoped that the stronger relationships would enable students to practice the study-skills strategies, such as forming study groups, that they were meant to acquire. Faculty collaboration and integration between courses also figured into discussions about the learning community program; these components were not significant at first, but greater guidance and oversight for these components developed over the course of the demonstration. Program leaders' expectations for the first three components of the framework for learning communities described in Chapter 1 would be classified as midrange on a spectrum of basic to advanced. The most advanced aspect of CCBC's learning community model as envisioned by the program leaders was the Master Learner session, which, as suggested by the previous discussion, was developed to create a cross-walk between the developmental and college-level courses and to provide students with additional support in developing study skills.

Recruitment and Enrollment of Students into Learning Communities

Each of the learning communities in the demonstration at CCBC included developmental reading or writing one level below college composition, and new and continuing or returning students who required one of these courses were eligible for participation in the study. To be in the study, students also needed to be available for at least one of the learning communities at its scheduled time; evening students were excluded by default because the learning community classes in the demonstration were all scheduled during the day. Anecdotally, several experienced learning community instructors noted that the efforts to recruit students to participate in the study seemed to result in the enrollment in learning communities of a more representative cross-section of students than prior to the study, when students appeared to have had generally higher levels of skills and motivation.

As shown in Figure 5.2, over 95 percent of students in both the program and control groups initially registered for at least one course at the beginning of the study semester, and about 85 percent of students in each group were still registered by the end of the add/drop period. Over 10 percent had either dropped their classes or had been dropped, primarily for nonpayment. In contrast to guidelines at Merced, CCBC's policy required that students needing developmental English enroll in those courses in order to take other courses as well, and this policy was evident in CCBC's students' enrollment patterns: The vast majority of registered students in each group (83 percent of the program group and 80 percent of the control group) enrolled in developmental English (either reading or writing). However, not all of the students in the program group took these courses in a learning community; for various scheduling and logistical reasons, ultimately about three-quarters of students in the program group enrolled in learning communities. While the percentage of program group students who participated in learning communities was higher at CCBC than at Merced College, it was similar to the rate of participation at the other colleges in the demonstration.

The Learning Communities Demonstration

Figure 5.2

CCBC's Registration Patterns

Learning Communities for Students in Developmental English

Program Group
Randomly assigned to Learning Communities
100%
N=650

Control Group
Receiving standard college services
100%
N=433

Never registered for any course
2.5%

Never registered for any course
3.5%

Initially registered for any course
97.5%

Initially registered for any course
96.5%

Dropped all courses before add/drop
13.0%

Dropped all courses before add/drop
12.1%

Enrolled in no-credit continuing education courses
NA

Enrolled in no-credit continuing education courses
NA

Registered at end of add/drop period
84.5%

Registered at end of add/drop period
84.4%

Did not enroll in Developmental English
1.6%

Did not enroll in Developmental English
4.8%

Enrolled in Developmental English
82.9%

Enrolled in Developmental English
79.7%

Did not enroll in Learning Communities
8.9%

Enrolled in Developmental English Learning Communities
74.1%

Implementation of the Learning Communities

For the most part, CCBC was able to implement its learning community model as intended, but not without challenges and adjustments along the way. With the inclusion of the Master Learner session, CCBC's learning community model was somewhat ambitious. This initially created some challenges for the college in implementing the learning communities with fidelity to their design. At the beginning of the demonstration there was very little formal guidance either for the content of the Master Learner session or for integration between the session and the two classes in the learning community. In addition, program leaders struggled somewhat with recruiting and retaining faculty for the college-level courses as the number of learning communities expanded, and new faculty joined the program each term.

As detailed below, over time administrators provided increased professional development and oversight mechanisms to support faculty in their integration efforts. The Master Learner role also evolved through conversations and trainings, although faculty members continued to personalize the session with their own perceptions of how best to support students. Student coenrollment — a central element of the theory of change — was implemented consistently throughout the demonstration. However, in part due to the expansion of the program and related refinements, implementation of most program components at CCBC (as at all of the colleges in the demonstration) varied across the individual learning communities.

Linked Courses and Cohorts

CCBC's intentions and goals for linking courses and coenrolling students were clear from the start of the demonstration, and these program components were carried out relatively consistently and with high fidelity to the model. As shown in Figure 5.1, CCBC offered a wide variety of learning communities, including developmental reading or writing courses paired with a course in health, speech, psychology, or other subject areas. Most learning community faculty interviewed or surveyed felt that coenrollment was an effective part of the program. Faculty often credited this creation of cohorts with increasing students' engagement and attachment. A typical survey response citing the benefits of the learning community stated:

> One of the biggest differences that I see is that students tend to form closer bonds with each other and with me as their instructor. Because of the closer bonds, students feel more comfortable contacting other students in the class and me when they are experiencing problems (for example if they have missed a class or they didn't understand a concept). They are also more likely to ask questions in class.

Both faculty and students shared examples of learning community classmates becoming commuting partners, peer reviewers and tutors, study buddies, and advocates for one another. One writing instructor spoke at length about the supportive community that evolved among the learning community students; she said they had become "incredibly adept" at serving as writing

coaches and peer editors for one another. Generally speaking, learning community students interviewed confirmed that learning communities offered an increased level of familiarity and comfort. One student voiced a common sentiment when she said:

> [Being in a learning community] helps me feel more comfortable. It's like you see everybody every time, so you start to know more people more. You start to feel more comfortable asking people questions, or advice on a paper, or on projects. You're more comfortable with sharing your opinion, and talking or working together.

However, faculty and students reported that in a few learning communities negative patterns of interaction had developed. A few instructors claimed that they had more behavior problems with students in learning communities. Students in one learning community admitted that they were bored and resistant to the instructor; in another, certain students routinely dominated the class and others felt silenced. While most faculty and students perceived benefits from the linked courses and coenrollment, some did not. This is not surprising, however. The extent to which the benefits of cohorts are realized in a given learning community likely depends upon the ability of the instructors involved to create safe, productive learning environments that value participation and collaboration. The instructors participating in the learning community, like instructors collegewide, probably varied in their ability to achieve these goals.

Faculty Collaboration and Support

When discussing the goals and possible benefits of the learning community program, CCBC faculty and administrators highlighted faculty collaboration as key to the model. But as the program scaled up, it took time for expectations for this kind of collaboration to be formalized and for mechanisms to support collaboration to be put into place; as a result, levels of collaboration in the demonstration were variable.

According to program leaders, learning community faculty were not only supposed to know their students better, but were also meant to communicate with one another about students' strengths and needs in order to better support them. Faculty teams were also expected to collaborate on the content of the learning communities, linking the course content thematically and creating opportunities for students to see connections. Learning community faculty members and program leaders often referred to the learning communities as providing a "home" for the students — this vision implied intensive, ongoing communication between the various faculty involved in learning communities.

As the demonstration ramped up, newly recruited faculty members were informed of these expectations, and the core group of faculty with years of experience teaching learning communities was held up as a model for these practices. Some of the experienced learning community faculty placed a strong emphasis on collaboration, meeting to develop and refine

their syllabi, discuss student progress, and revise and tweak their lesson plans. However, even among this pioneering group, the degree and type of collaborative practice varied greatly. As a result, in the early semesters of the demonstration, new faculty pairs were generally developing their learning communities without clear guidance on how much collaboration was expected or what the key aims of the collaboration were.

Following the first semester of the demonstration, the college sent several participants to the National Summer Institute on Learning Communities offered by the Washington Center at Evergreen State College, where they participated in sessions about effective strategies for designing and managing learning communities. At the Institute, CCBC also developed a strategic plan for strengthening its learning community program. One of the elements of the plan was assigning a cross-campus program coordinator to the program, thereby establishing a new structure for increased support and oversight.

CCBC's learning communities program had enjoyed the support of a seasoned senior administrator, who was a strong champion of learning communities, as well as the leadership of an experienced learning community coordinator at each campus. With the scale-up of the program, one of the coordinators was designated as lead coordinator and was allocated additional time to recruit new faculty members for the growing learning communities program, to support them, and to provide accountability to ensure that program standards were being met. The newly designated lead coordinator began collecting learning community syllabi to ensure that the goals of the learning community were communicated in each syllabus and that some degree of integration had been achieved through faculty collaboration. In addition, she met with prospective learning community faculty to lay out expectations for integration and collaboration, and assigned them to a faculty member with learning community experience for guidance and mentoring. Several faculty stated in interviews that the support system was helpful to them. A faculty member new to learning communities explained:

> Because we were a new learning community we had an hour and a half where [the coordinator] just walked us through what the community would look like and what the Master Learner would look like and it was very helpful, very eye-opening.

Three sessions at an annual professional development retreat were dedicated to learning communities, and several faculty also praised those sessions.

The increased support from the new program coordinator spurred innovative forms of collaboration in the second year; instructors interviewed cited strategies such as joint student conferences and shared access to Web-based course tools and materials as successful methods for communicating about students — and communicating with students — in a unified way. In addition, some learning community faculty said that the collaborative aspect of the learning

community had become a valuable professional development opportunity in its own right; working consistently with another instructor who taught the same students was helping some instructors develop new perspectives on teaching. Even so, near the end of the demonstration some learning community faculty reported that they had never discussed the program with the coordinator or with the larger group of learning community faculty; instead, they had depended entirely on their learning community partners to learn how to plan and teach in a learning community.

One barrier to successful collaboration was faculty turnover — a common challenge in managing any program at a community college, particularly when the program is expanding to serve more students. Although a significant number of the CCBC developmental reading and writing faculty were willing to teach in learning communities, program coordinators spent time each semester working to identify and retain instructors for the college-level course and the Master Learner session. Staffing the Master Learner component was a particular challenge at the Catonsville campus, where the Master Learner component was entirely new. On average, only 50 percent of the nondevelopmental faculty who taught in a learning community continued from semester to semester. This level of faculty turnover meant that developmental English faculty were required to develop relationships with new faculty partners and integrate their courses with new content courses (sometimes in a discipline with which they were entirely unfamiliar).

Some of the variation in the amount and type of collaboration also resulted from differences in how the Master Learner positions were staffed: In some instances, the instructor of the developmental reading or writing class served as the Master Learner, and in others a third instructor was brought into the collaboration to serve as the Master Learner. If the faculty member serving as the Master Learner was also the instructor of the developmental English course, then collaboration was facilitated by the Master Learner's attendance at the college-level course each week. However, if the Master Learner was a third person, then this opportunity for regular interaction between the developmental English instructor and the instructor of the college-level course was removed, requiring an additional meeting time for all three instructors or for each pair. While it is impossible to know how these slightly different manifestations of the model may have affected students, it is worth noting that in some cases the three linked courses were taught by two instructors, and in some cases by three.

Another source of variation in collaboration was differing beliefs about what should be accomplished by the collaboration: Responses to a faculty survey showed that most faculty teams held at least a brief, informal weekly check-in focused on students' attendance and course performance, while others met more extensively to talk about teaching strategies and to tweak their curricula. Still other faculty teams barely met at all during the semester, but did meet for many hours before the semester to plan their joint readings or assignments. In addition, although

all Master Learners were expected to sit in on the college-level course, not every Master Learner did this on a regular basis.

Instructional Practices

As with faculty collaboration, expectations for instructional practices in learning communities were made clearer over time, though variation remained throughout the demonstration. At the outset of the demonstration, the idea of collaborating to connect the linked courses was promoted to learning community faculty, and experienced faculty members were held up as models. However, there was inconsistent communication to new learning community faculty about what the integration should look like or how they should go about achieving it. Despite the lack of specificity in the model, some learning community faculty were very motivated to establish strong connections between their courses. One faculty member who was a big proponent of integration explained:

> You need to coordinate your goals, pace, assessments, and content with another instructor. You try to make specific connections to that other area that you may not make as specific if you weren't in a learning community. You take your teaching off automatic pilot and begin to think about what you're doing and why. You may see your students through a wider-angle lens than just your own discipline.

In the second semester of the study, an onsite professional development workshop with faculty from the Washington Center at Evergreen State College (which included more CCBC faculty than the previously mentioned Summer Institute held at Evergreen) provided faculty with concrete examples of how to create integrated assignments. At that point the program coordinator instituted a formal expectation that each learning community should include at least one such assignment. Some learning community pairs integrated their courses only to the required extent, and some did much more, resulting in learning communities that established rich curricular and thematic connections between the linked courses. Some learning community faculty aligned their readings and weekly topics, some co-planned and co-graded assignments to provide consistency of expectations for students, and others observed one another's classes and occasionally co-presented. An analysis of learning community syllabi showed mid- to high levels of integration overall; the lack of a clear upward trend over time may be a result of frequent faculty turnover, as many faculty were preparing new syllabi with new faculty partners rather than working to improve the same syllabus with the same partner. (The syllabi analysis is presented in Appendix Figure A.3.)

Although the theory behind learning communities places a premium on curricular and thematic connections in the linked courses, students interviewed had mixed reactions to this integration. Some applauded it, stating that the way their instructors integrated their assignments made it easier to see how someone could learn one topic many ways and helped them to see

how reading and speaking are connected. Other students complained about their instructors' efforts to integrate the courses, characterizing them as repetitive and boring. Such mixed reactions from students were observed across the colleges in the demonstration, and may indicate that the strategy of integration is more difficult to put into practice in a way that is meaningful for students than many instructors believe.

Student Support Services

The Master Learner session was the primary support service included in CCBC's learning community model. Although the major goal of the Master Learner session was to make explicit the link between the two courses for contextualized learning, most learning community faculty also interpreted it as a time and place to provide students with personalized attention and support and help them connect to elements of the college's formal support systems — for example, student advisers, the writing center, and the tutoring center. The implementation of the Master Learner role varied greatly because, given the broad definition of the role, it was subject to shifting expectations and variable levels of guidance throughout the demonstration; as a result, there was also significant variation in the amount and type of support that students received.

The Master Learner session was a weekly, hour-long session, which, as discussed, was designed to support the learning community students in developing study skills and academic habits in the context of the college-level content course in the learning community. Instructors serving as the Master Learner were told to draw on the curriculum from SDEV 101 (a three-credit student success course) but not to rely on it entirely. (College policy requires all developmental reading students to take SDEV 101, but learning communities students were excused from this requirement because they were expected to receive similar information in the Master Learner session.)

As noted above, there was minimal formal guidance to instructors about how to interpret the role of the Master Learner, particularly at the beginning of the demonstration. In the first year of the demonstration, Master Learners expressed widely ranging conceptions of their roles. Some saw themselves as primarily responsible for helping students master the content of the college-credit bearing course; others saw themselves as responsible for also helping students meet the objectives of the developmental course; and a third group saw themselves primarily as counselors and advocates. One Master Learner interviewed described the purpose of the Master Learner sessions as "helping students understand what it means to be a student in a college-level course and helping them to see how individual classes fit into the larger scheme of completing college." Another said her goal was "For everyone to get an A," and described herself as "a built-in tutor at every class." A third explained that he billed himself to students as "their best resource" and frequently asked them what kind of help or support they needed so that he could

refer them to appropriate services on campus. Overall, the Master Learner sessions provided a wide variety of services to students, resulting in inconsistency across the learning communities in the study.

An additional challenge related to having the Master Learner session as the support mechanism for learning communities was that attendance at Master Learner sessions was often low. The session was required but did not offer credit or a grade, so it is possible that students in some learning communities did not take it seriously or simply skipped it when they got busy or had a scheduling conflict. Although this problem was not universal across the Master Learner sessions, it was reported in a number of cases. Since the ability to detect impacts in a demonstration relies on students receiving the proper dosage of the program services, it is worth noting that a portion of program students may not have benefitted from the Master Learner component because they did not attend.

In the second year of the demonstration, CCBC's increased efforts in the area of faculty support and guidance extended to Master Learners, and several faculty members new to the role praised this support. In addition, many learning community faculty teams created new incentives for students to attend the Master Learner sessions — for example, accounting for attendance at Master Learner sessions in the students' grade for the other learning community courses. Despite these responses to the challenges, the implementation of this component across the learning communities remained variable.

How the Experiences of Program and Control Groups Differed

During the course of the demonstration, over a thousand students were enrolled in the study and assigned to either the learning communities program or the control group. As discussed above, the ability to detect the effects of a program on participating students depends in part on the extent to which the experiences of and the services received by the program group were different from those of the control group. This section examines the qualitative experiences of the two groups and whether the components of the learning community program — cohorts, faculty collaboration, instructional practices, and support services — resulted in program students having a significantly different experience from their counterparts in the control group. Learning community faculty and program leaders believed that they did. They cited the value of faculty collaboration, the opportunities to emphasize connections between disciplines, and students' opportunities to receive coordinated support from two (or three) collaborating instructors — all benefits difficult to confer on students without the structure of the learning community. But implementation of the four components of the program was variable across the learning

communities. Table 5.1 summarizes the typical differences in terms of the four components, based on information from interviews and focus groups with students, faculty, and program administrators, and on a survey on the beliefs and practices of learning community and non-learning community faculty.

Linked courses and cohorts were the primary area where students in the program group clearly received a different experience than those in the control group. Many learning communities students felt that the cohort experience led to a more supportive classroom environment, where they felt more comfortable participating in class. Typically students in the control group were not intentionally enrolled with a cohort of students across multiple classes and therefore did not receive this experience. But despite the positive reactions of many learning communities students to the coenrollment and cohort experience, it is worth noting that not all students saw positive benefits from it: Some considered it limiting or boring.

Coenrollment in CCBC's learning communities created another difference in the experience of learning communities students compared with those in the control group — namely, that learning communities students were sometimes enrolled in classes with fewer students. CCBC limits the class size of developmental education classes (limits range from 18 to 22 students depending on the course); hence the linked college-level courses were also limited in size. Comparable college-level courses were somewhat larger (typically enrolling 24 to 30 students per class). The reduced class size in learning community classes was more of an incidental than an intentional part of the learning community model at CCBC, however, and it is unclear what benefit, if any, the smaller classes provided.[2]

Many learning community faculty used integration and other innovative pedagogical strategies, but faculty teaching stand-alone classes also used some of these same strategies, although likely to a lesser degree. The vast majority of learning community faculty surveyed said that it was "very important" to help students make connections between their course and other courses, and all of them said they did this two or more times per term. However, there were not always formal mechanisms for establishing these connections, because, as noted, CCBC learning communities were required to have only one integrated assignment. Because most of the same faculty who taught learning communities also taught stand-alone classes (potentially to students in the control group) it is possible that their beliefs about teaching and

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[2]Studies in elementary and secondary education have shown that small class sizes tend to lead to better academic outcomes. See Konstantopoulos and Chung (2009); Nye, Hedges, and Konstantopoulos (2004); Nye, Hedges, and Konstantopoulos (2002). On the other hand, some community college instructors have stated that underenrolled learning community classes may hinder their efforts to promote teamwork, whole-class discussion, and project-based learning. See Visher and Teres (2011). More research is needed to explore the relationship between class size and outcomes in postsecondary settings in general and in learning communities in particular.

The Learning Communities Demonstration

Table 5.1

**CCBC: Characteristics of the Learning Communities Program
and Regular College Services**

Learning Communities for Students in Developmental English

Characteristic	Learning Communities Program	Regular College Services
Linked courses and cohorts	• Groups of students coenrolled in developmental writing or reading and a college-level course. • Students also assigned to a Master Learner session linked with their developmental and content courses.	• Students enrolled in the required developmental education course and any other courses they chose.
Faculty collaboration	• Strong examples of collaboration among members of a few experienced and/or dedicated instructor teams. • Instructor teams met at least once (but often more) to develop or revise their syllabi to reflect the goals of the learning community program. • Learning community instructors were offered the support of a Learning Community Program Coordinator.	• Instructors occasionally collaborated with each other, but mostly within the developmental education department, not across departments. • Instructors were offered annual professional development.
Instructional practices	• Moderate emphasis on integration and active, collaborative learning, particularly in learning communities taught by experienced faculty pairs.	• Some instructors reported using integrated teaching and active, collaborative teaching strategies.
Student supports	• Master Learner sessions provided some academic support aimed at helping students apply reading and writing skills to succeed in content courses.	• Access to regular campus services. No additional counselors, tutors, or advisers offered.

SOURCE: MDRC field research.

learning influenced their pedagogy and practices in both contexts. In fact, most of the non-learning communities faculty surveyed at CCBC also reported helping students make connections between their courses and other courses more than twice per term. On the other hand, learning community faculty communicated frequently about their shared students; 60 percent of survey respondents stated that they communicated with other faculty about shared students more than five times per term. In contrast, non-learning community faculty were unlikely to state this. Therefore, students in the learning communities were more likely than students in the control group to have faculty discuss their progress. However, CCBC has high standards for its developmental education faculty, all of whom share the goal of nurturing their students toward success — this may have led to less contrast between the learning community classroom environment and the standard classroom environment than would occur at another college with less institutional commitment to its developmental education students.

Although providing additional support through the Master Learner component was one of the goals of the learning communities program, anecdotal evidence suggested that learning communities students did not necessarily receive more support than students in the control group. Although all of the learning communities students enrolled in a Master Learner session, many control group students also participated in SDEV 101, a student success course that was mandatory for all developmental reading students and emphasized many of the same skills and strategies. In fact, there may have been more incentive to attend and participate in the student success course than in the Master Learner session because it was a credit-bearing course; the Master Learner session did not offer credit and was seen as a burden by some students. In addition, program group students did not necessarily access more of the college's formal student support services. Interviews with learning community and non-learning community faculty revealed that learning community faculty were no more likely to refer students to institutional support services (such as tutoring, the writing center, or counseling) than faculty of stand-alone classes, probably because they thought the Master Learner session or the closer relationships in the learning community would suffice as sources of support.

Finally, course-taking patterns were very similar between program and control group students, with a similar proportion enrolling in developmental English (Figure 5.2). However, as will be shown in the next chapter, students in the program group attempted slightly fewer developmental math credits, possibly as a result of the extra time commitment required by the Master Learner component, which offered no credit.

Overall, there were clearly areas in which participants in learning communities had opportunities to receive benefits and services that students in the control group did not. However, in some areas students in the control group were offered similar or competing services and benefits, which may have reduced the treatment contrast.

The Cost of Learning Communities at CCBC

In order to implement the learning communities program at CCBC, resources had to be designated to support the program beyond what is normally allocated for nonlinked courses. This analysis examines the cost of operations during the last semester of the study (fall 2009) when there were 239 students enrolled in learning communities across the two campuses in the demonstration. As detailed below, the estimated cost of learning communities is $444 per program group member for CCBC's semester-long learning community, over and above standard costs for similar students. These cost findings are displayed in Table 5.2. A similar analysis was conducted for the learning communities at another college in the Learning Communities Demonstration, Houston Community College.[3] (Due to resource limitations and to avoid excess burden on sites, cost data were not collected or analyzed for Merced or for the other colleges in the Learning Communities Demonstration.)

Faculty Compensation

Participation in learning communities required faculty time commitments above and beyond what was expected for nonlinked courses. Additional commitments included: creating syllabi with linked assignments between a developmental education course and a credit-bearing course, working closely with Master Learners and the instructor of the other linked course, and ensuring that the linked assignments were consistent across the classrooms. In return, CCBC faculty members were either given a financial stipend of $750 or received a reduction in their course loads equivalent to one credit hour for every learning community they taught. The cost of a course load reduction is assumed to equal the standard CCBC adjunct rate of $730 per credit hour plus the adjunct fringe benefit rate and college overhead.[4] The total cost of course load reductions and stipends was approximately $90 per student.

On top of course load reductions and stipends, faculty who created a new learning community received an additional one-time stipend of between $500 and $1,000, depending on the degree of course integration.[5] These payments are generally considered start-up costs and not a cost associated with the daily operations of the program. However, this stipend is included in the total cost-per-student estimate because from year to year there appeared to be a consistent

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[3]See Weissman et al. (2011) for the analysis of costs at Houston Community College.

[4]Fringe benefits for part-time faculty were calculated at 7.74 percent of the total cost of salary and benefits and were applied to faculty and Master Learner costs where the salary was estimated as equal to the cost of adjunct faculty teaching classes. The adjunct faculty fringe benefit rate is the rate for part-time employees generated by the college. This rate includes Social Security and Medicare. Overhead costs are the operating expenses of a college. The standard rate that CCBC applies for overhead across the college is 33 percent.

[5]In fall 2009, learning communities faculty in the study all received $1,000 stipends for creating new learning community links.

The Learning Communities Demonstration

Table 5.2

**CCBC: Estimated Costs per Student
During the Fall 2009 Semester**

**Learning Communities for Students in
Developmental English**

Cost Component	Total ($)
Faculty compensation	101
Stipends	*38*
Course load reduction	*53*
Link development	*10*
Master Learner compensation	116
Stipends	*38*
Course load reduction	*79*
Coordinator salary	136
Faculty/counselor development	18
Student services	23
Outings and special events	24
Equipment and materials	26
Total cost per program group member	444

SOURCE: MDRC calculations from data supplied by CCBC.

NOTE: Due to rounding, some subcategories in the table may not add exactly to the listed total amounts.

stream of new learning communities being created. As noted previously in the chapter, only 50 percent of the nondevelopmental faculty who taught in a learning community continued from semester to semester. Some of this turnover meant faculty needed to spend more time working out new partnerships, and part of this process led to the creation of new learning communities. For example, during fall 2009, which was already a few years into the program, two learning communities were created. By including these link development stipends, the faculty salary cost increased slightly to $101 per student.

Master Learners Compensation

Faculty serving as Master Learners were given similar options for compensation except that their stipends ($2,250) and course load reductions (three credit hours) were larger. Approximately one-fourth of the total cost per student and over half of all faculty costs were driven by the Master Learner component, which cost approximately $116 per student. In addition to the monetary cost, there may have been other costs associated with the Master Learner. The large reduction in course load for teaching as a Master Learner could mean that some seasoned full-time faculty were being paid a full salary to teach fewer courses. This situation creates opportunity costs for the college and for the students outside of learning communities who did not have access to certain instructors and may have been forced into larger classes to make up for the concentration of faculty teaching in a small number of sections.

Coordinator Salary Costs

Coordinator salary costs include the time that the dean of Developmental Education, the lead coordinator, and the campus coordinators spent organizing and operating learning communities and the compensation they received. The salary cost for the dean of Developmental Education's time associated with learning communities was 20 percent of her full salary. The lead and campus coordinators were full-time faculty members who were given reduced course loads; their salary costs were estimated as the cost of replacing their time with adjuncts. The cost of one course reduction for a coordinator was $2,190 plus fringe and overhead. The lead coordinator had a course load reduction of nine credit hours, equivalent to 60 percent of her course load for the semester.

Additional Costs

Other program costs include professional development, student services, and supplies and materials. Professional development opportunities were offered to all faculty participating in learning communities. Training opportunities focused on issues such as integrated assignments, classroom dynamics, and using the Master Learner. Professional development opportunities were prevalent in part because many faculty participating in learning communities were first-time faculty. CCBC used the learning community program as a way to support and mentor new faculty, and professional development opportunities complemented this effort.

One factor not accounted for in Table 5.2 that may affect the cost of learning communities is class size. Some learning communities had class sizes that were smaller than similar stand-alone versions of the same course, having as many as five slots unfilled. This may have been attributable to schedule limitations for students who could not attend all the required sections of learning communities and therefore did not sign up. This was a continuing issue and one that may keep the cost of learning communities high in the long run.

Funding Sources

Learning communities were a part of the CCBC curriculum for a number of years and were accounted for in the college's annual budget. Despite secured funding in the college's annual budget, the Master Learner component was viewed as a costly piece and was dissolved by the college in 2010. Supplemental funding for CCBC's learning communities program was provided by the National Center for Postsecondary Research, which covered about one-third of the costs during the course of the study.

Limitations of Cost Data

The estimate of the cost of learning communities was derived from interviews with faculty and staff and from budget documents supplied by the college. The estimate provided in this chapter represents the closest assessment of cost derived from the information available. Any inaccuracy in the information received could have caused inaccuracies in the final estimates, making them higher or lower than the true cost. Additionally, as noted above, there are other costs that are not measurable and are therefore not accounted for in this cost analysis. In particular, the effect of class size on the cost-per-student estimate and the cost of having full-time faculty teaching a reduced course load due to their roles as Master Learners are not fully accounted for in the costs that have been presented here.

The Costs of CCBC's Learning Communities in Context

The estimated cost of CCBC's semester-long learning communities is $444 per program group member over and above standard costs for similar students. Within the Learning Communities Demonstration, a similar cost analysis was conducted at Houston Community College, which offered developmental math learning communities tied with a student success course, and no Master Learner component. The cost analysis at Houston suggests the program costs were about $200 per program group member, a little under half the per-student cost for the learning communities at CCBC.[6] If the Master Learner component were excluded from the cost-per-student estimate at CCBC, the cost would fall to around $328 per program group member.

At both colleges, the cost per student of learning communities may appear low when compared with how much community colleges spend on average per student. A recent analysis of national postsecondary education expenditures estimated that community colleges spent an average of about $12,000 per year to educate each full-time student.[7] When the cost of learning communities is assessed against this value, the costs appear incremental and may be justifiable to the college if value is derived from running the program.

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[6]Weissman et al. (2011).
[7]Desrochers, Lenthan, and Wellman (2010).

Summary and Postdemonstration Program Changes

CCBC had a moderately advanced learning communities program in theory, but was faced with numerous implementation challenges during the four semesters of the study. The most significant challenges related to the Master Learner component, as the specific objectives of the Master Learner session were not widely understood or agreed upon and the role of Master Learner was difficult to fill. In addition, the task of scaling up the fledgling learning communities program across two campuses proved somewhat challenging, particularly with regard to recruiting and retaining faculty to teach the college-level courses in the learning communities. The college responded to these challenges by providing additional structure and support to the learning community program in the form of professional development and enhanced program management, but several program components continued to be implemented with variation throughout the course of the demonstration.

The Learning Communities Demonstration was one strategy among a broader initiative of curricular experimentation and reform at CCBC. Since the study ended, the college has made further changes to its approach to supporting developmental English students. Learning communities are still offered for developmental reading students, but without the Master Learner session. This decision was made as a result of both the implementation difficulties and the college's interest in reducing costs. The college has also begun to place increased emphasis on acceleration models for developmental education students. Developmental writing students are given the option of enrolling in the Accelerated Learning Program (ALP), which builds on several elements of learning communities. In ALP, developmental-level students accelerate their placement in the English sequence by enrolling in a college-level composition class (English 101) and their developmental English course simultaneously. As in the study learning communities, in ALP, small groups of developmental English students take classes together as a cohort. But in contrast to the study learning communities, in ALP one instructor teaches both sections of English, which allows for pre-teaching English 101 skills in the developmental English course. This structure is intended to maximize opportunities for integration, contextualization, and support across the two courses. A final change in college programming and strategies to support student success at CCBC is a new requirement that all students new to the college take a redesigned student success course, ACDV, which covers topics similar to the ones in SDEV 101.

Program Impacts on Educational Outcomes at The Community College of Baltimore County

This chapter examines differences in educational outcomes at The Community College of Baltimore County (CCBC) between developmental English students randomly assigned to participate in a learning community and those students randomly assigned to a control group. While the two demonstration sites in this report share much in common, many of the specifics of the programs are different, as described in Chapters 2, 3, and 5. CCBC chose to link the highest level of a required developmental English class with a college-level course such as psychology or sociology, in part to give students the opportunity to take credit-bearing courses earlier rather than later, and to progress more quickly toward completing a degree or certificate. At CCBC, developmental English learning communities included a Master Learner component, which was a weekly, one-hour, noncredit session designed to support students' learning and help them make the connection between the two linked courses.

Like the chapter on Merced's program impacts, this chapter focuses first on the impact of the program on performance in the developmental English sequence; as described in Chapter 2, this sequence includes developmental reading and writing as well as the first college-level English course. Other key outcomes examined include total credits earned and students' rates of reenrollment in college.

The impacts of learning communities are measured for the semester during which the program took place, the postprogram semester, and cumulatively at the end of the postprogram semester. The impacts of learning communities are also examined for two prespecified subgroups: students with below the sample's average developmental English test scores in comparison with those with higher scores, and females in comparison with males.

Key Impact Findings

- CCBC's learning communities students attempted and passed developmental English at the same rate as their control group counterparts.

- There were no meaningful impacts on total credits earned in the study semesters or cumulatively at the end of the postprogram semester.

- Learning communities did not have an impact on rates of students' registration in the postprogram semester.

- This pattern of impacts was consistent for all prespecified subgroups of students.

Results for the Full Sample

Table 6.1 looks at academic outcomes from CCBC sample members' transcript data. As in the Merced analysis, the measures presented here reflect average student registration in each semester, outcomes in English courses, credits attempted, and credits earned. These outcomes are tracked during the program semester and the postprogram semester separately, as well as cumulatively in the postprogram semester.[1]

English Progression Measures

As can be seen in the first two panels of Table 6.1, there were no impacts on the number of developmental English credits attempted in the program or postprogram semesters. As noted in the preceding chapter, developmental English courses at CCBC are mandatory for all students who test into them. As a result, nearly 80 percent of control group students enrolled in a developmental English course in the program semester (Figure 5.2). This circumstance left far less margin for improvement of this measure than was possible at Merced, where enrollment rates were much lower. At CCBC in the program semester, students in the program group and control group attempted on average 3.9 and 4.0 developmental English credits, respectively (Table 6.1). This small difference is not statistically significant.

Furthermore, there were no impacts on developmental English credits earned in the program or postprogram semesters. The ratio of passed to attempted shown in the first two panels of Table 6.1 indicates that students who attempted developmental English in the program semester, and any course in the English sequence for the postprogram semester, passed at similar rates in the program and control groups (about 60 percent in both the program semester and the postprogram semester). At Merced, there was also no impact on the ratio of classes passed to those attempted, but because students in the program group attempted developmental English at higher rates than their control group counterparts, Merced students experienced an overall increase in developmental English courses passed and credits earned. In contrast, at CCBC there was no difference in developmental English courses attempted, and no impact on passing those courses. In summary, the learning communities program at CCBC had no impact on students' progress through the developmental English course sequence.

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[1]See Chapter 2 for descriptions of the random assignment design and research methods.

Table 6.1

CCBC Transcript Outcomes

Learning Communities for Students in Developmental English

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
Program semester				
Registered for any courses (%)	84.5	84.4	0.1	3.0
Enrolled in a learning community (%)	74.1	0.4	73.7 ***	3.6
Total number of credits attempted	9.5	9.7	-0.1	0.4
Regular credits	4.0	3.8	0.2	0.2
Developmental English credits	3.9	4.0	-0.1	0.2
Other developmental credits[a]	1.6	1.8	-0.2 **	0.1
Total number of credits earned	5.9	5.8	0.1	0.4
Regular credits	2.6	2.4	0.2	0.2
Developmental English credits	2.4	2.5	-0.1	0.2
Other developmental credits	0.8	0.9	-0.1	0.1
Developmental English[b]				
Ratio of passed to attempted (%)	*62.2*	*60.7*		
First postprogram semester				
Registered for any courses (%)	64.2	64.5	-0.3	3.4
Total number of credits attempted	6.8	7.3	-0.5	0.4
Regular credits	4.7	5.1	-0.4	0.3
Developmental English credits	0.9	0.9	0.1	0.1
Other developmental credits	1.2	1.3	-0.1	0.1
Total number of credits earned	4.0	4.2	-0.3	0.3
Regular credits	3.2	3.3	-0.2	0.3
Developmental English credits	0.4	0.4	0.0	0.1
Other developmental credits	0.4	0.5	-0.1	0.1
Any course in English sequence[c]				
Ratio of passed to attempted (%)	*61.3*	*62.6*		

(continued)

Table 6.1 (continued)

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
<u>Cumulative through first postprogram semester</u>				
Number of semesters registered	1.5	1.5	0.0	0.1
Total number of credits attempted	16.7	17.4	-0.8	0.7
Regular credits	8.8	9.2	-0.4	0.5
Developmental English credits	4.9	5.0	0.0	0.2
Other developmental credits	3.0	3.3	-0.3 **	0.2
Total number of credits earned	10.1	10.4	-0.3	0.7
Regular credits	5.9	6.0	-0.1	0.4
Developmental English credits	2.8	2.9	-0.1	0.2
Other developmental credits	1.4	1.5	-0.1	0.1
Number of courses in English sequence				
Passed	1.1	1.2	0.0	0.1
College Composition (%)				
Passed	26.8	29.6	-2.8	3.0
Attempted and did not pass	8.5	9.4	-0.8	1.8
Did not attempt	64.7	61.5	3.2	3.1
Sample size (total = 1,083)	650	433		

SOURCE: MDRC calculations from CCBC transcript data.

NOTES: Rounding may cause slight discrepancies in sums and differences.

    A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

    The probability of being assigned to the treatment group varies within random assignment cohorts, and estimates are weighted to account for the different random assignment ratios. Estimates are adjusted by campus, cohort and baseline English placement test scores. Standard errors are clustered by learning community link.

    All measures are based on courses that sample members were still enrolled in at the end of the add/drop period.

    [a]"Other developmental credits" are primarily developmental math courses, but also include non-degree-applicable college preparatory courses, such as English for Speakers of Other Languages (ESOL).

    [b]"Developmental English" includes all required courses in the Developmental English sequence, including reading and writing. Ratio of passed to attempted is nonexperimental.

    [c]"English sequence" includes all Developmental English *plus* College Composition. College Composition is the first college-level English course at CCBC and Merced. Ratio of passed to attempted is nonexperimental.

Reenrollment and Credit Accumulation

The learning communities at CCBC did not produce any impact on reenrollment in the postprogram semester, or on total credit accumulation in the program or postprogram semesters. This can be seen by looking at the percentages of students who registered for any courses in the postprogram semester (about 64 percent for students in both the program and control groups), as well as the cumulative number of semesters registered in panel three of Table 6.1 (1.5 semesters for students in both the program and control groups). As was observed at Merced, the program at CCBC did not increase students' likelihood of staying in college, nor did it increase total credits earned in either semester.

However, unlike Merced's findings, findings for the CCBC study sample showed a small negative impact on other, non-English, developmental courses attempted by students in the program group in the program semester. This decrease in other credits attempted may be the result of the Master Learner component of the CCBC program, which did not carry any credits and would have taken some of the students' time outside of class, leaving less time for other course work and possibly leading some students to forgo enrollment in developmental math during the program semester.

Subgroup Analyses

In addition to examining the overall impacts of CCBC's learning communities program, this study analyzes the results for two prespecified subgroups of students, defined using characteristics that were measured at or before the point of random assignment. The purpose of these analyses is to determine whether the program's impacts were larger or different for certain types of students. (A third subgroup, based on students' language spoken at home, was also analyzed for Merced. This subgroup analysis was not conducted at CCBC because the vast majority of students spoke English as their primary language.)

Need for English Remediation

An analysis was conducted to determine whether learning communities at CCBC had a differential impact for those students in the sample with the greatest need for English remediation compared with those students with relatively better English preparation or skills. English placement test scores were used to determine students' remediation need in comparison with the sample's median score for the standardized writing and reading tests averaged together. As with the similar analysis for students at Merced, this analysis found no meaningful differences in impacts between these need-for-remediation subgroups.

Gender

Because some community college outcomes have been found to differ by gender, and because the impacts of Kingsborough Community College's Opening Doors learning communities were somewhat larger for men than for women, an analysis was conducted to determine if learning communities at CCBC had a differential impact by gender. As with the analysis at Merced, this subgroup analysis found no meaningful differences in impacts between men and women.

Chapter 7

Conclusions and Looking Ahead

Merced College and The Community College of Baltimore County (CCBC) entered the Learning Communities Demonstration with ambitious goals for their learning communities programs, hoping to significantly improve not only the way students experienced and learned developmental English, but also their longer-term academic progress and success.

These colleges implemented one-semester learning communities with some variation and challenges, but overall they succeeded in providing the majority of program group students with a learning communities experience that was substantially different from the experience of their control group counterparts. As described in Chapters 3 and 5, at Merced College this difference was primarily in the strong cohort experience, instructor collaboration, and moderate to advanced levels of curricular integration offered to learning communities students; at CCBC, the strong cohort experience and a moderate level of curricular integration were the primary components offered to students.

As detailed in Chapters 4 and 6, learning communities students at Merced earned more credits and passed more classes in the developmental English sequence as a result of the program. A similar impact was not observed at CCBC. The primary reason for this difference may be due to the differing policies at Merced and CCBC. At CCBC, students were required to take developmental courses if they tested into them and may not have been able to enroll in other courses until they did so; this was not the case at Merced, where the testing placement was a recommendation only, and many students delayed taking developmental courses. This may explain why the impact on the average number of developmental English credits attempted at Merced was not found at CCBC, where such courses were required for all students. Merced's increased rate of taking developmental English appears to have been the predominant driving factor for students' higher rates of passing and of progression in the developmental sequence. This finding suggests that a change in policy to require students who were assessed as needing developmental English courses to take them could have generated a similar impact, though other factors and effects of such a policy change would need to be considered and are outside the purview of this report.

Apart from this progress in the English sequence experienced by learning communities students at Merced, the impacts at these colleges generally fell short of expectations. The theory of change for learning communities at both colleges — and at other colleges across the nation — suggested that students in these learning communities would be more engaged in what they learned, be more connected with each other and with their instructors, and make deeper connections between content areas, and that as a result they would be more likely to master the course

material, pass their classes, and stay enrolled from semester to semester. Somewhat contrary to this theory of change, the impacts of these programs on key academic outcomes as detailed in Chapters 4 and 6 are less impressive than many had theorized or hoped.

What's Next for Learning Communities?

With this report, the National Center for Postsecondary Research (NCPR) has now presented findings from all six of the colleges in the Learning Communities Demonstration. These findings, viewed together with those from an earlier random assignment study of developmental English learning communities, show that when one-semester learning communities have impacts, they tend to be modest and concentrated in the semester in which the program group students are enrolled in the program.[1]

These studies, though, address the impacts of an entire program of learning communities at each college, encompassing variations within each college that were at least as great as the variation across the colleges. Some individual teaching teams at each college had long histories of collaboration or strong interests and skills to provide students with levels of curricular integration and other aspects of learning communities that were much more advanced than the average in their college's program. Faculty who continue to teach in learning communities should know that the impacts of their instruction and practice may differ from the average. With this knowledge, for example, some faculty at Merced continue to initiate learning communities and are seeking administrative support for these efforts (although there are no plans to require faculty to take on new links beyond their interests, or to mandate learning communities for students).

While interest in learning communities continues, there must be evidence that these initiatives can operate effectively at scale if they are to be relevant as a large-scale strategy for significantly improving the success rates of students in developmental education. As colleges seek to implement programs or policies with the goal of improved outcomes across more than a handful of classes, the current evidence suggests that one-semester learning communities programs by themselves are typically not sufficient to generate lasting improvements in students' rates of reenrollment or credit accumulation. There may be an important role, though, for learning communities to play as possible catalysts for, or components of, institutional change and improvement.[2] For example, professional development in learning communities programs may encourage and assist faculty to include more integrative thinking or active and collaborative learning in all of their classrooms, as several faculty at Merced and CCBC suggested. Similarly, the integration of student support services into learning communities classrooms may

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[1]See Chapter 1 for an overview of these findings.
[2]Lardner and Malnarich (2008).

lead to closer partnerships between student services staff and academic faculty, a change that could then benefit students across the campus.[3]

Learning communities can also be a part of initiatives that revise the structure and length of the developmental course sequence. Notably, CCBC has built on its experience in the Learning Communities Demonstration and incorporated aspects of the learning communities model into its Accelerated Learning Program (ALP). As described in Chapter 5, in ALP, cohorts of students who are assessed at the developmental level in writing are concurrently enrolled in a college-level English course along with their developmental English course. This provides the cohort experience — similar to the one in learning communities — that students and faculty appreciate and also allows students to enroll one level ahead of where they tested in the English sequence.[4] Learning communities may also play a part in broader programs or policies that seek to improve student success by creating structured and supported pathways for students throughout their college tenure.

Looking Ahead to the Final Synthesis Report on the Demonstration

The results presented in this report add significantly to the overall picture of the impacts that learning communities can be expected to have for students in need of developmental course work. However, this is not the final report on the demonstration, and there is still more to be learned about the promise and limitations of learning communities at community colleges. In 2012, NCPR will release a final report that will synthesize the demonstration's findings and lessons across all of the colleges studied, include an analysis of an additional semester of student follow-up at each of the six colleges. It will also consider the costs of these programs — particularly at CCBC and Houston, where detailed cost data were collected — to understand whether these costs are justified by the programs' effects. With this cross-site perspective, NCPR will examine the learning communities theory of change alongside the impact estimates from the study to better understand how the theory aligns with the programs' measured impacts on students' progress in developmental education, reenrollment, and overall credit accumulation.

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[3]Weissman et al. (2009).
[4]Jenkins et al. (2010).

Appendix A

Supplementary Table and Figures

The Learning Communities Demonstration

Table A.1

Merced College Transcript Outcomes for Students Who Registered in the Program Semester

Learning Communities for Students in Developmental English

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
Program semester				
Registered for any courses (%)	100.0	100.0	0.0	0.0
Enrolled in a learning community (%)	73.1	0.2	72.9 ***	4.1
Total number of credits attempted	10.7	9.8	0.9 ***	0.3
Regular credits	3.7	4.3	-0.6 *	0.3
Developmental English credits	5.2	3.7	1.5 ***	0.3
Other developmental credits[a]	1.8	1.8	0.0	0.2
Total number of credits earned	8.6	7.7	0.9 **	0.4
Regular credits	2.9	3.2	-0.3	0.3
Developmental English credits	4.3	3.1	1.2 ***	0.3
Other developmental credits	1.3	1.4	0.0	0.1
Developmental English[b]				
Ratio of passed to attempted (%)	*81.5*	*81.3*		
First postprogram semester				
Registered for any courses (%)	69.1	68.9	0.2	3.3
Total number of credits attempted	7.1	6.9	0.2	0.4
Regular credits	4.5	4.4	0.1	0.4
Developmental English credits	1.6	1.5	0.1	0.3
Other developmental credits	1.0	1.1	-0.1	0.1
Total number of credits earned	5.7	5.5	0.2	0.4
Regular credits	3.5	3.4	0.1	0.3
Developmental English credits	1.4	1.3	0.1	0.2
Other developmental credits	0.7	0.8	-0.1	0.1
Any course in English sequence[c]				
Ratio of passed to attempted (%)	*83.8*	*85.3*		

(continued)

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
<u>Cumulative through first postprogram semester</u>				
Number of semesters registered	1.7	1.7	0.0	0.0
Total number of credits attempted	18.1	17.1	1.1	0.7
Regular credits	8.4	8.8	-0.4	0.6
Developmental English credits	6.9	5.3	1.6 ***	0.5
Other developmental credits	2.9	2.9	-0.1	0.2
Total number of credits earned	14.5	13.5	1.0	0.7
Regular credits	6.6	6.7	-0.1	0.6
Developmental English credits	5.8	4.5	1.3 ***	0.5
Other developmental credits	2.2	2.3	-0.1	0.2
Number of courses in English sequence				
Passed	2.1	1.7	0.4 ***	0.2
College Composition (%)				
Passed	6.8	6.7	0.1	1.9
Attempted and did not pass	1.9	1.0	1.0	0.8
Did not attempt	91.2	92.3	-1.1	2.2
Sample size (total = 1,046)	521	525		

SOURCE: MDRC calculations from Merced College transcript data.

NOTES: Rounding may cause slight discrepancies in sums and differences.

    A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

    The probability of being assigned to the treatment group varies within random assignment cohorts, and estimates are weighted to account for the different random assignment ratios. Estimates are adjusted by cohort and baseline English placement test scores. Standard errors are clustered by learning community link.

    All measures are based on courses that sample members were still enrolled in at the end of the add/drop period.

    [a]"Other developmental credits" are primarily developmental math courses, but also include non-degree-applicable college preparatory courses, such as English as a Second Language (ESL).

    [b]"Developmental English" includes all required courses in the Developmental English sequence, including reading and writing. Ratio of passed to attempted is nonexperimental.

    [c]"English sequence" includes all Developmental English *plus* College Composition. College Composition is the first college-level English course at CCBC and Merced. Ratio of passed to attempted is nonexperimental.

The Learning Communities Demonstration

Figure A.1

**Merced College: Percentage of Learning Community Syllabi Sets
with High, Medium, and Low Scores**

Learning Communities for Students in Developmental English
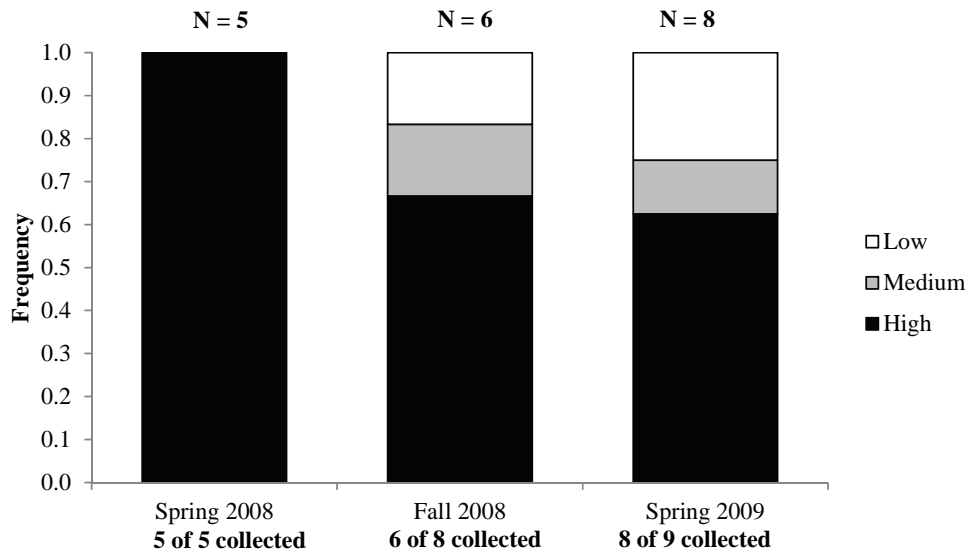
SOURCE: Syllabi sets collected from Merced College.

NOTES: Syllabi were evaluated using a rubric to calculate the number of references made to three key dimensions: references to learning communities, references to use of integrated curriculum, and references to use of active and collaborative instruction.

A "low" score is a set of syllabi scoring 0-10 points, a "medium" score is a set of syllabi that scored between 11-20 points, and a "high" score is a set of syllabi that scored 21 points and above. Higher scores represent more advanced components of the learning community model.
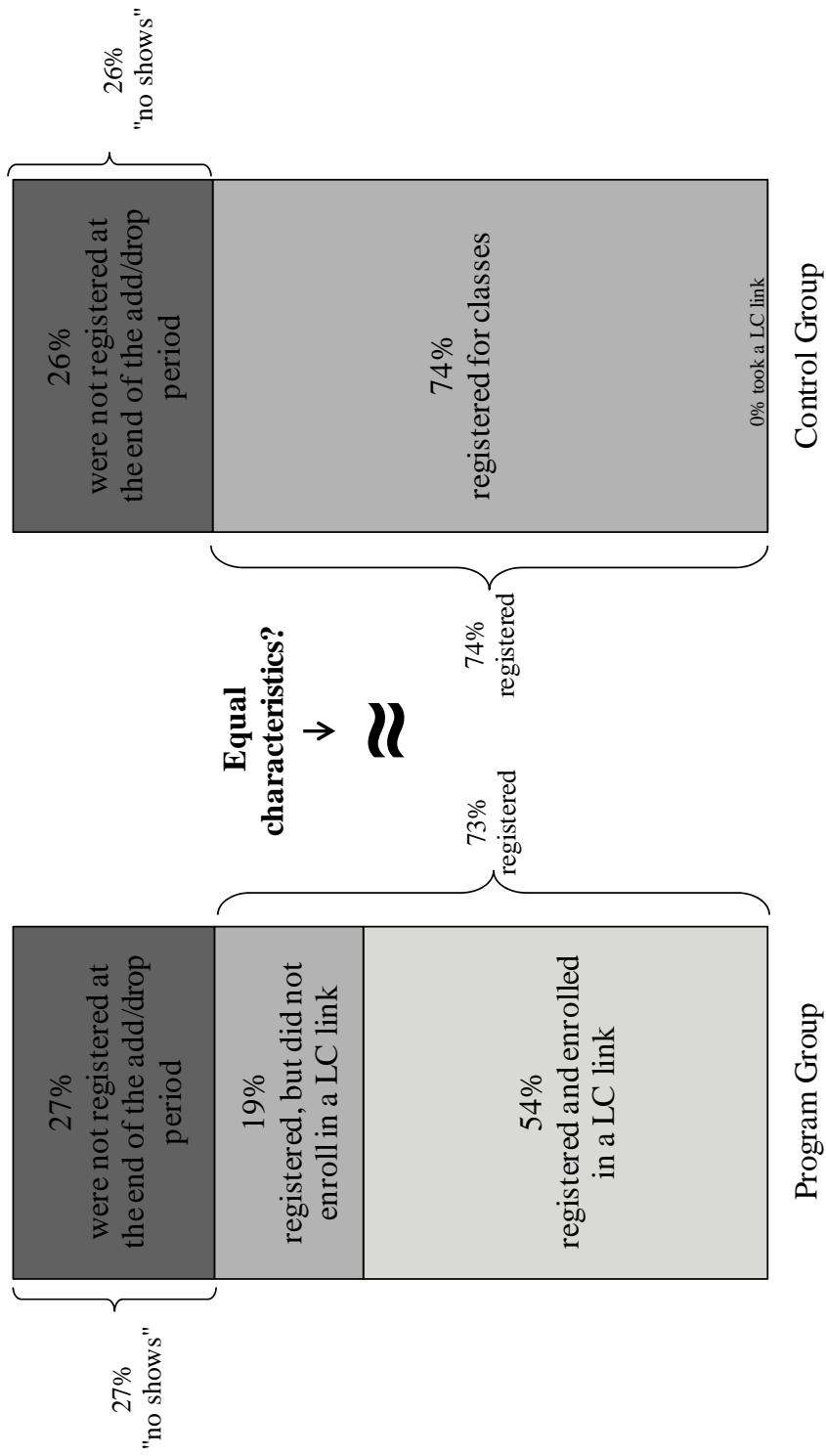
In fall 2009, no syllabi sets were collected at Merced College.

The Learning Communities Demonstration

Figure A.2

**Merced College: Comparison of Registration Rates
in the Program Semester**

Learning Communities for Students in Developmental English

**Equal
characteristics?**

Program Group

Control Group

27%
"no shows"

26%
"no shows"

27%
were not registered at
the end of the add/drop
period

19%
registered, but did not
enroll in a LC link

54%
registered and enrolled
in a LC link

26%
were not registered at
the end of the add/drop
period

74%
registered for classes

0% took a LC link

73%
registered

74%
registered

The Learning Communities Demonstration

Figure A.3

**CCBC: Percentage of Learning Community
Syllabi Sets with High, Medium, and Low Scores**

Learning Communities for Students in Developmental English
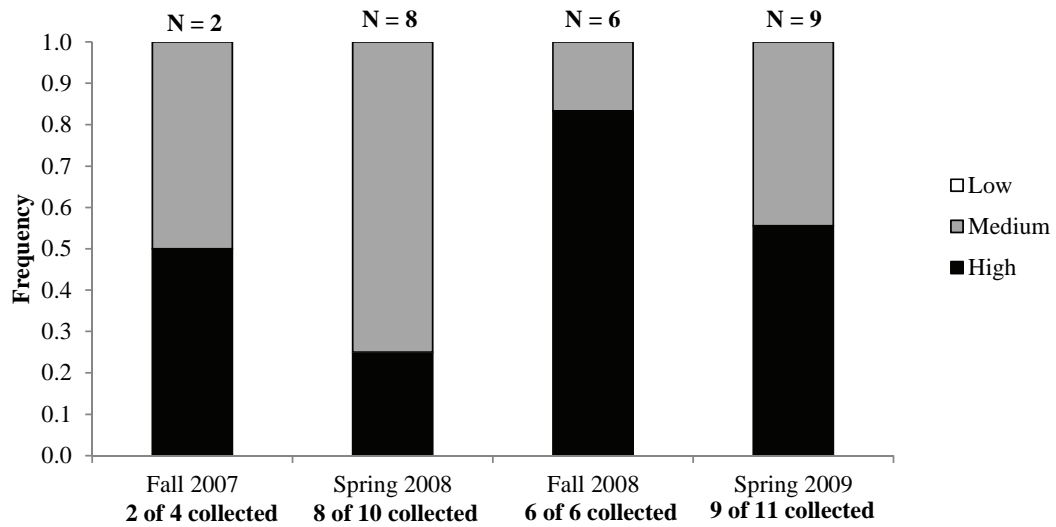
SOURCE: Syllabi sets collected from The Community College of Baltimore County.

NOTES: Syllabi were evaluated using a rubric to calculate the number of references made to three key dimensions: references to learning communities, references to use of integrated curriculum, and references to use of active and collaborative instruction.

A "low" score is a set of syllabi scoring 0-10 points, a "medium" score is a set of syllabi that scored between 11-20 points, and a "high" score is a set of syllabi that scored 21 points and above. Higher scores represent more advanced components of the learning community model.

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