Abstract Title Page

Title: Learning Communities for Developmental Education Students: Early Results from Randomized Experiments at Three Community Colleges

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Abstract Body

Background / Context:

Over the last 40 years, community colleges have played an increasingly vital role in American postsecondary education. Since 1963, enrollment in these institutions has increased by more than 700 percent, with enrollment reaching 6.2 million students in 2006-2007. Each fall, community colleges now enroll 35 percent of all postsecondary education students.[†] This dramatic growth is largely due to the fact that community colleges are open-entry institutions and are generally more affordable than four-year colleges and universities. Unfortunately, while enrollments are increasing, overall success rates in community colleges are disappointingly low. Among students who enroll in community colleges with the intention of earning a credential or transferring to a four-year institution, only 51 percent fulfill these expectations within six years.[‡] While the rates of degree or certificate attainment are low in general, rates are even lower for students in need of developmental education, who comprise a significant proportion of the community college student body.[§]

Given these statistics, community college stakeholders are searching with increasing urgency for approaches with the potential for bolstering the success rates for community college students and particularly for those in need of developmental education. One popular strategy is to create "learning communities," an idea that has come to describe an array of programs and services offered at community colleges. The most basic learning community model, which is likely the most commonly implemented, simply co-enrolls a cohort of students into two classes together. Proponents believe that when students spend time together in multiple classes they are more likely to form social and academic support networks that in turn help students persist and succeed in school. More comprehensive learning communities include additional components: they co-enroll a group of students in multiple classes together, the courses have thematically linked curricula, instructors collaborate closely both to align their curricula and to support students, teaching includes project-based and experiential learning experiences, assignments and readings are integrated, and student services such as enhanced advising and tutoring can be embedded.

Purpose / Objective / Research Question / Focus of Study:

This paper presents results from a rigorous random assignment study of Learning Communities programs operated at three of six community colleges participating in the National Center for Postsecondary Research's (NCPR) Learning Communities Demonstration. The demonstration's focus is on determining whether Learning Communities are an effective strategy for helping students who have been referred to developmental education.

Setting:

[†] Provasnik and Planty (2008).
[‡] Hoachlander, Sikora, and Horn (2003).
[§] Adelman (2004); Attewell, Lavin, Domina, and Levey (2006); Duke and Strawn (2008).

The setting of this research iss Hillsborough Community College, Queensborough Community College and Houston Community College.

Hillsborough: Hillsborough Community College (HCC) is a large, urban community college located in Tampa, Florida, a Gulf Coast city on the west coast of Florida. Hillsborough serves around 23,000 students each year, and three of the college's five campuses, Dale Mabry, Ybor City, and Brandon, participated in the Learning Communities Demonstration.

Queensborough: Queensborough Community College (QCC) is a midsize community college in Queens, NY, and a part of the City University of New York (CUNY) system. Its campus is nestled among tree-lined streets and cul-de-sacs in the community of Bayside, a suburban area of Queens reminiscent of neighboring Long Island.

Houston: Houston Community College (Houston) is a very large community college system comprised of six colleges located in and around Houston, Texas. Houston is the largest city in Texas, and the fourth largest city in the United States. Houston Community College serves over 40,000 students each year at its six colleges, several of which have multiple campuses; three of these campuses (Central, Northline, and Southeast) participated in the Learning Communities demonstration.

Population / Participants / Subjects:

Although there was some variability in eligibility criteria across the three colleges, in general study participants had to be 18 years or older at the time of random assignment, first year students (with some exceptions at QCC), and placed into developmental class (Reading at HCC, Math at QCC and Houston).

At each college, over 1000 students participated in the study, over half of whom were randomly assigned to the program group, the rest of whom were assigned to the control group. Baseline characteristics of sample members are provided in Appendix B in Table 1. Like community college students nationwide, the majority of study participants at each college were women. Although community colleges tend to serve a disproportionate percent of older students (compared to 4-year institutions), the sample in this study tended to be of traditional age – at all three colleges over 80 percent of sample members were 25 or under. Reflecting the racially diverse populations served at HCC, QCC and Houston, all three samples included racially diverse groups of students. At HCC and Houston there was no racial majority. Houston's sample was 60 percent Hispanic, and over 35 percent Black.

Intervention / Program / Practice:

In recent years, a popular response to the problem of low completion rates in community colleges has been learning communities, where small groups of students are co-enrolled as cohorts in two or more courses, which are often thematically linked and which share curriculum, assignments, and assessments. Learning communities seem to be particularly promising for community colleges where students often spend little time on campus due to the competing demands of earning a living or caring for family members, because they are seen as a way to

connect such students more closely to college life. For students in developmental courses, learning communities are expected to increase their odds of moving on to college-level work.

Proponents of learning communities believe that linking courses may lead to these better outcomes in two ways: first, by strengthening relationships among students and between students and faculty, and second, by changing how material is taught in the classroom. More specifically, student cohorts allow students to get to know each other better or more quickly, which can then lead them to form social and academic support networks. These networks may lead to deeper engagement with school and access to both academic and emotional support which in turn may result in higher rates of academic tenacity and persistence. Learning communities also can enable faculty to get to know their students better, keep tabs on their progress and offer help. Pedagogically, the linked courses are meant to help students understand connections between disciplines and between what they are learning in school and their personal lives and in so doing both engage students more deeply with learning and impart higher-order cognitive skills such as critical and analytic thinking.[**]

Learning communities are a particularly compelling strategy for instructing developmental-level students.[††] The social integration encouraged by co-enrollment in multiple classes can be extremely important for these academically underprepared students, who may be more marginalized from the college community. Moreover, the connection between the developmental-level course and the course with which it is linked – whether another developmental-level course, a college-level course, or a "college success" course that is designed to provide students with skills and tools for reaching their goals in college – can serve to bolster learning in each linked course. With a connection to another developmental course, the student's academic skill needs are being addressed from several angles; with a connection to a college-level course, the skills and knowledge in both courses can be mutually reinforcing (for example, using a psychology textbook as the main text for a developmental reading class gives students practical examples of the skills they are acquiring, as well as supporting deeper learning in the psychology course). Linking with a college-level course also gives students the opportunity to earn college credit even as they go through their developmental sequence. Finally, linking with a student success course can support student work in the developmental-level course by helping academically underprepared students learn good study habits and how to navigate postsecondary education successfully.[‡‡]

The three learning communities programs examined in this study each operated a one semester long learning community. Each college co-enrolled program group students into two courses (see Table 2). At Hillsborough (HCC), students co-enrolled in developmental reading and a student success course focusing on acclimation to college, basic study skills. At Houston, students were co-enrolled in developmental math and a student success course. Finally, at Queensborough, students were co-enrolled in developmental math and developmental or college-level English, or with a college-level course.

[**] Tinto (1997); Minkler (2002).
[††] Boylan (2002); Center for Student Success (2007).
[‡‡] Visher, Schneider, Wathington and Collado (2010).

Research Design:

This study was a randomized field trial. Eligible students consented to participate in the study prior to the beginning of the semester and were then randomly assigned to either the program group, who were eligible to participate in learning communities, or the control group, who received the colleges usual services but were not allowed to enroll in a learning community.

Data Collection and Analysis:

At each site on-campus qualitative interviews were conducted with administrators and faculty (both learning communities and non-learning communities faculty) to better understand program implementation. Several student focus groups were conducted. The programs' impacts on academic progress were estimated using student-level transcript data provided to MDRC by the individual colleges. Since program group students were clustered into learning communities, it was assumed that their outcomes might not be independent; consequently, a statistical model that accounts for clustering was used to estimate program impacts.[§§]

Findings / Results:

The impact analyses at these three learning communities' sites focused on three key measures of academic progress:

(1) *Progression through the Developmental Course Sequence*
(2) *Credit Accumulation*
(3) *Persistence*

Findings from these three Learning Communities Demonstration sites are as follows:

- **Hillsborough's fairly basic Learning Communities' model did not have a meaningful impact on students' academic success** (in terms of likelihood of completing developmental reading, average total credits attempted/earned, and rates of persistence)
- **Both Houston's and Queensborough's Learning Communities programs showed evidence of helping students progress through the developmental math sequence more quickly**. At both colleges, students in the program group attempted developmental math at a higher rate than their control group counterparts. At both colleges a higher percentage of program group students completed (with a C or better) developmental math. At Houston, the impact on completion was probably above and beyond the fact that more students attempted the course. At Queensborough the higher rate of completion was probably largely a result of the higher rate of attempts.
- **Houston's and Queensborough's Learning Communities programs both did not show evidence of lasting impacts on credit accumulation or retention.** At Houston, there is no evidence of meaningful impacts on credit accumulation or retention during the semester of the program or beyond. At Queensborough, there is evidence that program

[§§] We used SAS's PROC SURVEYREG to conduct all impact analyses. A description of how we came to use this procedure is provided in Appendix A of an MDRC report that can be found at: http://www.mdrc.org/publications/561/full.pdf

students earned more credits during the semester of the program, but no evidence of meaningful longer term impacts on credit accumulation or persistence.

Conclusions:

Summarizing findings across all three sites begins to tell a story about the effectiveness of learning communities as a strategy to improve students' chances of progressing academically. However, it is critical to note that this evaluation is of the learning communities that were offered at these three colleges, which may not be representative of learning communities nationally. At Hillsborough the learning communities (at least in the beginning of the demonstration) primarily consisted of students co-enrolling in classes (the most basic form). In time, some of the deeper components of learning communities took hold (we found evidence of increased curricular integration and faculty collaboration); however, these were still not the robust learning communities that are often described in the literature on learning communities. Similarly, the depth and spread of Learning Communities' practices were limited at Houston and Queensborough. There were pairs of instructors that created the type of environment that advocates of learning communities believe are effective, but there were many learning communities that simply co-enrolled students. As a result, this demonstration is a good test of learning communities as we believe they are probably often enacted, but it is not a test of the "ideal" deep learning communities. More detail on program implementation is provided in MDRC's full length reports.[***]

With the above caveats in mind, some general conclusions:

- **First, there is some evidence that learning communities can help students' progress through a developmental course sequence more quickly.** Two of three sites support this finding. Notably, at one of these two sites (QCC) our best understanding of why this happens is largely because more learning communities' students attempted the developmental courses.[†††] This is an important caveat, because it might just be the requirement to take these courses (or better enforcement of the requirement) that made a difference, rather than co-enrollment, integrated curricula or faculty collaboration – the hallmarks of learning communities. In contrast, at Houston, attempts to unpack why learning communities helped students progress through the sequence suggest that it was about the learning community (e.g., co-enrollment, curricular integration, etc.).
- **Second, we do not find evidence that a one semester learning community meaningfully impacts retention or long term credit accumulation**. None of the sites provided evidence that their learning communities program had a meaningful impact on retention. One site (QCC) showed evidence of a short term boost in credit accumulation, but the impact was short lived, becoming non-significant cumulatively in the semester beyond the program.

We speculate that these findings may not match the expectations of learning communities advocates because the learning communities studied here are more like the learning communities implemented at a typical community college, not like the paradigm learning communities examined elsewhere in the literature.

[***] Visher, Schneider, Wathington and Collado (2010).
[†††] Pass rates among those who attempted were similar, but this is a non-experimental analysis

Appendices

Appendix A. References

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Appendix B. Tables and Figures

Table 1. Characteristics of Learning Communities Demonstration Students at Baseline

	HCC	Houston	QCC
Female (%)	56.9	66.7	56.0
Age (%)			
18 - 20 years old	70.2	63.0	78.1
21 - 25 years old	16.2	18.4	15.2
26 - 30 years old	5.6	8.7	3.2
31 and older	8.0	9.9	3.6
Race/Ethnicity[a] (%)			
Hispanic	32.2	58.4	34.7
White	24.7	3.3	14.5
Black	37.0	36.7	32.7
Asian or Pacific Islander	3.8	0.8	12.6
Other[b]	2.4	0.8	5.5
Has one or more children (%)	19.1	30.2	7.6
Received financial aid during semester of random assignment (%)	26.0	46.8	29.9
Do not know	31.6	23.9	31.7
Highest grade completed (%)			
11th grade or lower	12.4	13.0	16.1
12th grade	87.6	87.0	83.9
Diplomas/degrees earned[c] (%)			
GED	14.1	12.6	17.5
High school diploma	84.3	83.6	78.9
Occupational/technical certificate	6.5	6.0	2.8
Two-year or more degree	1.1	0.8	0.1
None of the above	1.2	2.7	2.5
Student status (%)			
Incoming freshman	95.2	N/A	80.5
Returning student	1.3	N/A	9.9
Transfer student	3.5	N/A	9.5
First person in family to attend college (%)	30.1	42.9	25.6
Do not know	2.8	2.3	3.8
Computer has internet access (%)	83.4	63.8	86.6
Language other than English spoken regularly in home (%)	28.5	49.4	39.9
Sample size	1,071	1,273	1,034

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

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

Distributions may not add to 100 percent because of rounding.

[a]Respondents who said they are Hispanic and chose a race are included only in the Hispanic category. Respondents who said they are not Hispanic and chose more than one race are only in the multi-racial category.

[b]Other race includes those who marked other, more than one race, or American Native/ Native Alaskan.

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

Table 2. Overview of the Learning Communities in the Learning Communities Demonstration, by College

College	Learning Community Program Model	Eligible Population
Hillsborough Community College (Tampa, FL)	• Developmental reading linked with a student success course • Student success course focuses on acclimation to college, study skills	• Assessed into either of two levels of developmental reading • First-time students
Houston Community College (Houston, TX)	• Developmental math linked with a student success course • Student success course focuses 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 lowest levels of developmental math • New students, or continuing students or transfers with less than a semester of credits