



# Bridging the Gap

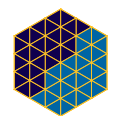
## An Impact Study of Eight Developmental Summer Bridge Programs in Texas

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JUNE 2012

THE  
DEVELOPMENTAL  
SUMMER BRIDGE  
PROJECT

Executive Summary



National Center for Postsecondary Research  
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## Overview

Developmental summer bridge programs are a popular strategy for increasing college readiness among recent high school graduates. Aimed at providing an alternative to traditional developmental education, these programs provide accelerated and focused learning opportunities in order to help students acquire the knowledge and skills needed for college success.

The current study uses an experimental design to evaluate the outcomes of eight developmental summer bridge programs offered in Texas during the summer of 2009. At each college, students who consented to participate in the study were randomly assigned to either a program group that was eligible to participate in a developmental summer bridge program or a control group that was eligible to use any other services that the college provided. Based on a program model developed by the Texas Higher Education Coordinating Board, the developmental summer bridge programs in this study included four common features: accelerated instruction in developmental math, reading, and/or writing; academic support; a “college knowledge” component; and the opportunity to earn a \$400 stipend.

After two years of follow-up, these are the main findings of this study:

- The programs had no effect on the average number of credits attempted or earned. Program group and control group students attempted the same number of credits (30.3). Students in the program group earned an average of 19.4 credits, and students in the control group earned an average of 19.9 credits; the difference in their outcomes is not statistically significant.
- The programs had an impact on first college-level course completion in math and writing that was evident in the year and a half following the program but no impact on first college-level course completion in reading during this same period. On average, students in the program group passed their first college-level math and writing courses at higher rates than students in the control group during this period. By the end of the two-year follow-up period, however, the differences between the two groups are no longer statistically significant.
- There is no evidence that the programs impacted persistence. During the two-year follow-up period, students in the program group enrolled in an average of 3.3 semesters, and students in the control group enrolled in an average of 3.4 semesters, a difference that is not statistically significant.



## Preface

Nationally, a significant portion of college students are deemed unprepared for college-level work in at least one subject area and are required or encouraged to enroll in developmental programs. A subset of these students — those with especially weak academic skills — must often complete two or more semesters of remedial coursework before attempting college-level courses in the relevant subject areas. But there is growing evidence that lengthy sequences of remedial coursework may not be beneficial for students. Few students who embark on a multi-course sequence complete those courses, and even fewer earn a postsecondary credential.

As a result, many colleges are pursuing innovative alternative approaches to developmental education that aim to accelerate students' progress in gaining important academic competencies. Summer bridge programs are one such approach. They offer underprepared students a chance to advance toward college-level coursework during the summer before they begin college. In the past several years, summer bridge programs have grown increasingly popular as a strategy for providing students with the knowledge and skills required for college success. Until recently, however, there has been little rigorous empirical research on their effectiveness.

NCPR's study of eight developmental summer bridge programs in Texas is the first on this subject to employ an experimental design. Using a randomized controlled trial, this study examined the impact of program participation over the course of two years — long enough to make some meaningful observations about how the programs influenced student outcomes in college. It is clear from the study's results that the program model was more successful in achieving short-term gains than it was in realizing long-term advantages for students. Program group students were more likely than control group students to pass their introductory college-level math and writing courses during the first few semesters in college after participation, but these higher rates of first college-level course completion began to diminish in the final semesters of the two-year follow-up period. Moreover, program group students were no more likely than control group students to persist in college or to earn more credits.

In exploring the meaning of these findings, the authors consider their implications for short-term programmatic interventions in general. If the developmental summer bridge programs in this study — which were well-established and well-implemented — produced only modestly positive effects that began to fade after a few semesters, can we reasonably expect any type of short-term intervention to have sizeable long-term effects? And if not, how can students best be offered the support they need as they work toward their long-term

academic goals? These considerations, along with the study's findings, will be of interest to policymakers and college leaders looking to reduce the time students spend in developmental education and increase the number of students who finish college.

Thomas Bailey  
Director, NCPR



## Acknowledgments

The NCPR research team would like to first express our deep gratitude to the administrators and faculty at each of the eight colleges that participated in this study: El Paso Community College, Lone Star College–CyFair, Lone Star College–Kingwood, South Texas College, Texas A&M International University, Palo Alto College, San Antonio College, and St. Philip’s College. Each of these institutions welcomed our collaboration and courageously subjected their innovative programs to rigorous evaluation.

We would like to express special thanks to each of the site liaisons — Irma Camacho, Christine Timmerman, Ruben Flores, Michael Chavez, Ruben Izaguirre, Luzelma Canales, Conchita Hickey, Michael Flores, and Abel Gonzales — who devoted countless hours to the students, the bridge programs, and the research study. We also appreciate the assistance of our data liaisons at each of the colleges, who aided our data collection efforts by sending us student data files — Art Gonzalez, Carol Kay, Doug Schirmer, Troy Touchette, Kristina Lopez, Rhonda Johnson, Mecca Salahuddin, Brenda Cole, Jinhao Wang, Wesley Jennings, Siobhan Fleming, Daniel Dean, Frank Segovia, Robert Aguinaga, and Catherine Chapa.

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The Texas Developmental Summer Bridge Project is part of the National Center for Postsecondary Research (NCPR), which is generously supported by a grant (R305A060010) from the Institute of Education Sciences, U.S. Department of Education. Katina Stapleton, our program officer, has been a stalwart supporter of this project since its inception. We also received considerable financial support from Houston Endowment that enabled the summer bridge programs to recruit many more students than ever before. We thank George Grainger at Houston Endowment for his endorsement and support of this project.

Additionally, we want to acknowledge the varied and important contributions of members of NCPR who made this report possible. NCPR was designed to be a collaborative research center, and this research project has truly been a team effort. Thomas Bailey, director of NCPR, was instrumental in recruiting institutions, designing the study, and weighing in with useful comments at every critical juncture. Thomas Brock, Robert Ivry, and Mary Visser helped guide the design of the Texas Summer Bridge project and provided detailed suggestions on drafts of this report. Marie-Andrée Somers and Alison Rebeck Black provided invaluable technical advice on the statistical analyses, and Nicholas

Commins helped process and fact-check the data for the impact analyses. Clive Belfield devised and conducted the cost study. Kendris Brumfield worked tirelessly with the colleges to support recruitment efforts and random assignment procedures. Elliot Peterson and Vanessa Martin provided critical support in developing, implementing, and monitoring random assignment procedures. Scott Lloyd, Katherine Hughes, and Michelle Hodara conducted field research at the various college sites. Amy Mazzariello and Doug Slater skillfully edited the report and prepared it for publication.

Finally, we thank the hundreds of students who participated in this study. We hope the findings from this study will be used to improve the programs and institutions that serve them.

The Authors

## Executive Summary

Across the country, a growing number of recent high school graduates are participating in summer bridge programs. These programs provide accelerated and focused learning opportunities in order to help students acquire the knowledge and skills needed for college success. The state of Texas has given particular attention to summer programs as a way to increase students' college readiness. During the past several years, the Texas Higher Education Coordinating Board (THECB) has provided support to colleges establishing developmental summer bridge programs offering intensive remedial instruction in math, reading, and/or writing, along with an introduction to college. In contrast with traditional developmental education course sequences, which may span several semesters, the summer bridge programs were designed to help underprepared students build competencies over the course of several weeks before entering college.

While THECB funding for summer bridge programs has diminished, this type of program model remains popular in Texas and across the country. Nevertheless, little rigorous empirical research has been conducted on the effectiveness of summer bridge programs (Ackermann, 1990; Garcia, 1991; Myers & Drevlow, 1982; Santa Rita & Bacote, 1997). To address this gap in the research, in 2009 the National Center for Postsecondary Research (NCPR)<sup>1</sup> launched an evaluation of summer bridge programs at eight sites in Texas to assess whether they reduce the need for developmental coursework upon fall matriculation and improve student outcomes in college.

### The Developmental Summer Bridge Programs

The developmental summer bridge programs in this study were offered in the summer of 2009, primarily to recent high school graduates, at eight institutions of higher education — two open-admissions four-year institutions and six community colleges. Students attended the developmental summer bridge programs for three to six hours daily for four to five weeks and received instruction in at least one area of academic need — math, reading, or writing — and guidance in the “college knowledge” needed to navigate

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<sup>1</sup>NCPR is a partnership funded by the Institute of Education Sciences of the U.S. Department of Education from 2006 to 2012. NCPR includes the Community College Research Center at Columbia University's Teachers College, MDRC, the Curry School of Education at the University of Virginia, and faculty at Harvard University. NCPR conducts studies that measure the effectiveness of programs designed to help students make the transition to college and master the basic skills needed to advance to a degree. Houston Endowment also contributed funds to support this research.

new academic terrain. All of the developmental summer bridge programs included four common features: accelerated instruction in math, reading, and/or writing; academic support; a college knowledge component; and the opportunity to earn a \$400 stipend.<sup>2</sup>

## The Research

The evaluation employed an experimental design to measure the effects of the programs on college enrollment and success. At each college, students who consented to participate in the study were randomly assigned to either a program group that was eligible to participate in a developmental summer bridge program or a control group that was eligible to use any services that the college provided other than the summer bridge programs. Random assignment creates two groups that are similar on all characteristics, including those that can be measured, such as age or academic attainment, and those that are more difficult to measure, such as motivation. This ensures that any differences in observed outcomes — called *impacts* — can be attributed to participation in the developmental summer bridge programs.

Eligible students who applied for admission into a developmental summer bridge program and agreed to participate in the study were included in the research sample. After consenting to participate and completing a baseline intake form, these students were randomly assigned to either the program group or the control group. About 60 percent of the students were assigned to the program group and given the opportunity to take one of the available slots in the summer bridge program (793 students), while about 40 percent were assigned to the control group and were able to participate in other college services but were not admitted to the program itself (525 students). Students in both groups consented to have their outcomes tracked for two full academic years.

NCPR collected and analyzed academic outcome data through the spring semester of 2011 for both program and control group students. This report presents the impact findings of the study, revealing whether the opportunity to participate in a summer bridge program influenced academic outcomes during the two years following participation. The primary outcomes tracked in this study were persistence, accumulation of credits, and progression through the developmental sequence and into students' first college-level math, reading, and writing courses.

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<sup>2</sup>For more information on the implementation of the programs, see Wathington et al. (2011).

## Main Findings

After two years of follow-up, these are the main findings of this study:

- The programs had no effect on the average number of credits attempted or earned. Program group and control group students attempted the same number of credits (30.3). Students in the program group earned an average of 19.4 credits, and students in the control group earned an average of 19.9 credits; the difference in their outcomes is not statistically significant.
- The programs had an impact on first college-level course completion in math and writing that was evident in the year and a half following the program but no impact on first college-level course completion in reading during this same period. On average, students in the program group passed their first college-level math and writing courses at higher rates than students in the control group during this period. By the end of the two-year follow-up period, however, the differences between the two groups are no longer statistically significant.
- There is no evidence that the programs impacted persistence. During the two-year follow-up period, students in the program group enrolled in an average of 3.3 semesters, and students in the control group enrolled in an average of 3.4 semesters, a difference that is not statistically significant.

## Program Costs

NCPR performed an analysis of the cost of the developmental summer bridge program. The sites varied in terms of program duration, intensity, and enrollment, and total costs to run the program during the summer of 2009 ranged from \$62,633 to \$296,033. Across the eight sites, per student costs ranged from \$835 to \$2,349. The average cost per student across all eight sites was \$1,319 (with a standard deviation of \$502).<sup>3</sup>

We also calculated the college-level credit accumulation that the developmental summer bridge programs would have had to produce in order to be cost effective on this outcome measure. Specifically, we considered how many additional college credits a

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<sup>3</sup>Some costs may be interpreted as “start-up” costs, which are unlikely to be needed if the programs are run in subsequent years. If these costs are amortized over three years, then the average cost of the programs is reduced. In addition, this figure includes the student stipend of up to \$400 per participant.

developmental summer bridge program student would need to earn to justify the cost of the program. In order to do this, we assigned a monetary cost of \$338 to college credits earned, based on the typical cost of providing these credits in Texas.<sup>4</sup> The program group would have had to earn an additional 3.8 college-level credits on average for the program to justify its costs or “break even.”

## Implications

The findings in this report suggest that the developmental summer bridge programs contributed to positive outcomes in college-level course completion in math and writing that were evident during the first year and a half after program completion. However, the programs did not lead to increases in persistence or overall credit completion, raising the question of whether our theory of change and the changes in measured outcomes that we hypothesized were reasonable were too ambitious. It may be that we should not expect to find long-term impacts on credit accumulation and persistence from a short, intensive summer program. First-year developmental education students may need further support for greater impacts to be achieved.

In addition, our research suggests that accelerating students’ completion of introductory college-level courses in math or English may not lead to the accumulation of more college credits overall. If the ultimate goal is college credential attainment, and credit accumulation indicates progress toward attaining a credential, improving academic preparedness through developmental summer bridge programs or other similar programs may not adequately promote attainment of this goal. Policymakers and practitioners concerned with college completion may want to consider approaches that go further in assisting students in ongoing credit accumulation and credential attainment.

Finally, our break-even cost analysis suggests that students in the developmental summer bridge programs would need to have earned an average of almost four additional college credits to justify the cost of the program (courses are typically worth three credits). Given that no impact on credit accumulation was found, college practitioners and policymakers may reasonably view the programs as expensive. Educators may want to consider if there are ways to reduce costs by embedding support programs such as these into the regular high school or college schedule.

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<sup>4</sup>This is the average of the expenditure per credit across seven of the eight colleges based on Integrated Postsecondary Education Data System (IPEDS) data of expenditures per FTE (2008 data updated to 2011 dollars). Expenditures per FTE are adjusted to capture expenditures per credit attempted. One college did not have available IPEDS data.

## Concluding Thoughts

Similar to other innovative developmental education programs that have been rigorously evaluated,<sup>5</sup> the developmental summer bridge programs studied here were found to have modest positive impacts in the short term. What is clear from this study and other developmental education research is that simple, short-term interventions yielding strong, long-term effects are difficult to find. With this in mind, we offer two suggestions for advancing the work of supporting underprepared students: (1) introducing new partnerships between high schools and colleges that reduce the need for remediation in college and (2) providing more support and transitional experiences to help students reach and sustain attainment goals. Because educational attainment is the result of a long process influenced by many factors, providing supports to students that span their years in high school and college may help them to develop the skills and knowledge required for postsecondary success.

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<sup>5</sup>See, for example, findings from NCPR's Learning Communities Demonstration (Visher, Weiss, Weissman, Rudd, & Wathington, 2012).





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