CCRC COMMUNITY COLLEGE RESEARCH CENTER
TEACHERS COLLEGE, COLUMBIA UNIVERSITY

RESEARCH OVERVIEW / MARCH 2015

What We Know About Guided Pathways

Helping Students to Complete Programs Faster

The idea behind guided pathways is straightforward. College students are more likely to complete a degree in a timely fashion if they choose a program and develop an academic plan early on, have a clear road map of the courses they need to take to complete a credential, and receive guidance and support to help them stay on plan.

However, most community colleges, rather than offering structured pathways to a degree, operate on a self-service or "cafeteria" model, allowing students to choose from an abundance of disconnected courses, programs, and support services.[1] Students often have difficulty navigating these choices and end up making poor decisions about what program to enter, what courses to take, and when to seek help. Many drop out of college altogether.

This research overview is part one in CCRC's guided pathways practitioner packet. For a description of how one college implemented guided pathways, see *Implementing Guided Pathways at Miami Dade College: A Case Study* (part two). For practical guidance on implementing guided pathways, see *Implementing Guided Pathways: Tips and Tools* (part three).

Even among students who persist, few complete a credential in two years, in great part because few take the "conventional" path through college, with full-time, continuous enrollment. While students certainly make choices about enrollment based on personal circumstances, the many course and program options and the limited guidance currently provided by community colleges likely contribute to students' meandering and varied pathways through college.

To address this problem, a growing number of community colleges and four-year universities are adopting a guided pathways approach, which presents courses in the context of highly structured, educationally coherent program maps that align with students' goals for careers and further education. Incoming students are given support to explore careers, choose a program of study, and develop an academic plan based on program maps created by faculty and advisors. This approach simplifies student decision-making and allows colleges to provide predictable schedules and frequent feedback so students can complete programs more efficiently.

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A Comprehensive Approach to Reform

Many community college reform efforts have sought to improve rates of student completion by scaling up discrete interventions focused on only one element of the college experience. The guided pathways model, in contrast, entails a systemic redesign of the student experience from initial connection to college through to completion, with changes to program structure, new student intake, instruction, and support services.

CAFETERIA MODEL (STATUS QUO)	GUIDED PATHWAYS MODEL
ACADEMIC PROGRAM STRUCTURE	
• Paths to student end goals are unclear.	• Programs are fully mapped out and aligned with further education and career advancement.
• Program requirements are confusing; guidelines for progression are not clear and consistent.	• Critical courses and other milestones are clearly identified on program maps.
• There is a lack of curricular coherence across courses, and students may not acquire needed skills.	• Student learning outcomes are specified across programs.
• Course schedules are unpredictable and often set to accommodate college needs, not student needs.	• Predictable schedules are set based on analysis of courses students need to progress on their plans.
• Curriculum in high schools and other feeders is not aligned to college requirements.	• High school and other feeder curriculum is designed to prepare students to enter college programs in particular fields.
NEW STUDENT INTAKE	
• Career and college planning is optional.	• Academic plans, based on program maps, are required.
• Undecided students are allowed to explore on their own.	• Students are required to enter exploratory majors and choose specific programs on a specified timeline.
• Assessment is used to sort students into remediation or college-level courses.	• Assessment is used to diagnose areas where students need support.
• Prerequisite remediation is narrowly focused on college algebra and English composition.	• Instruction in foundation skills is integrated into and contextualized with critical program courses.
INSTRUCTION	
• Learning outcomes are focused on courses, not programs.	• Faculty collaborate to define and assess learning outcomes for entire programs.
• Instructors are often isolated and unsupported.	• Faculty are trained and supported to assess program learning outcomes and use results to improve instruction.
• Metacognitive skills are considered outside the scope of instruction.	• Supporting motivation and metacognition is an explicit instructional goal across programs.
PROGRESS MONITORING AND SUPPORT	
• Student progress is not monitored, or there is limited feedback on progress.	• Student progress on academic plans is closely monitored, with frequent feedback.
• Students do not have a clear idea of what they need to do to complete program requirements.	• Students can see how far they have come and what they need to do to complete programs.
• Students' performance in critical program courses is not closely monitored.	• Early warning systems identify students at risk of failing critical courses and initiate timely interventions.
• Communication between advisors and academic departments is poor; advisors lack accurate program information.	• Advisors work closely with program faculty, with a clear division of labor for monitoring student progress.

Supporting Evidence from Organizational, Behavioral, and Cognitive Science

The design principles behind the guided pathways model—programs and services aligned with student end goals, simplified choices through program maps and academic plan default options, and curricular coherence—are supported by research in organizational, behavioral, and cognitive science.

RESEARCH FINDING	RELEVANCE FOR GUIDED PATHWAYS
ORGANIZATIONAL SCIENCE: SUBSTANTIALLY IMPROVING OUTCOMES REQUIRES SYSTEMIC REFORMS	
• Research on organizational effectiveness suggests that scaling discrete "best practices" is not sufficient to achieve substantial improvements in outcomes.[2]	• Guided pathways entail a whole-college reform; improvements to discrete programs are shaped by broader institutional reform goals.
• Such research indicates that effective organizations align all of their practices to achieve clearly measurable organizational goals.[3]	• Colleges use measures of student progress into and through programs (and on to further education and employment) to evaluate and improve programs and services.
BEHAVIORAL SCIENCE: DEFAULTS, ACTIVE CHOICE, AND NUDGES IMPROVE DECISION-MAKING	
• Having too many choices leads to indecision, procrastination, self-doubt, and decision paralysis;[4] people handle complex decisions better if they are helped to think through options hierarchically, in manageable sets.[5]	• Exploratory majors break down decision-making. First, students select from a small set of broad program streams; then they choose from a selection of majors within the broader field.
• A simplified set of options that includes clear information on costs and benefits—or the provision of a "default option"—can help people make more optimal decisions.[6]	• Academic plans with defaults help students make course choices that will move them toward their goals, while still permitting students to customize their schedules.
• Reminders, assistance, and feedback can increase desired behaviors.[7]	• Monitoring student progress and giving frequent feedback about next steps helps students make choices.
COGNITIVE SCIENCE: CLEAR GOALS IMPROVE LEARNING	
• Students benefit when they have clear learning goals and a concrete sense of how they are progressing toward those goals.[8]	• Program maps created by faculty and advisors make learning outcomes explicit so that students can see how they are progressing toward them.
• Providing students with a big-picture overview of key topics in specific college courses, and how they fit together, improves learning; in the K-12 sector, students in schools with "instructional program coherence" achieve greater learning gains.[9]	• Course syllabi and program maps show students how the components of their program fit together to build skills relevant to their goals; the process of program mapping allows faculty to work together to create instructional program coherence.

Supporting Evidence from Higher Education Research

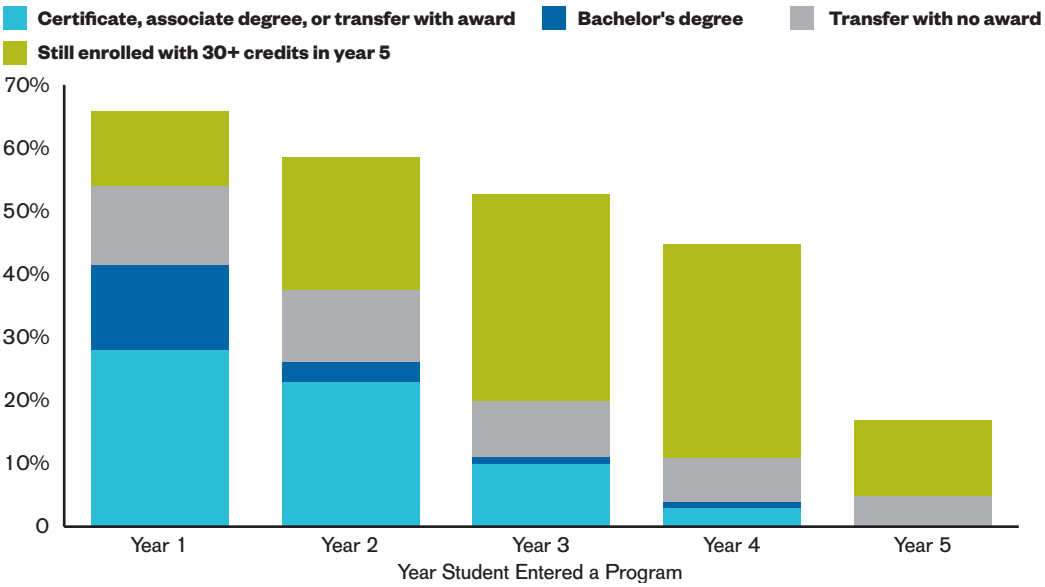
While the design principles of guided pathways are well supported by research in a range of fields, no rigorous research to date has been conducted on whether whole-college guided pathways reforms improve student outcomes. Nevertheless, a number of studies indicate that early enrollment in a program of study, and higher levels of structure and support, lead to higher rates of completion. Preliminary results from colleges that have implemented guided pathways reforms are also encouraging.

Effects of Early Program Entry

A CCRC study of community colleges in one state found a strong correlation between early program entry (defined as passing three courses in a program area) and degree completion or transfer: More than half of students who entered a program in their first year earned a credential or transferred within five years. For students who did not enter a program until their third year, the success rate was around 20 percent.[10] A similar CCRC study of community college students in Washington State found that students who earned at least eight college credits in a program area within the first year were 20 percentage points more likely than those who did not to earn a credential or transfer within seven years.[11]

CCRC research has found a strong correlation between early program entry and degree completion or transfer.

Five-Year Student Outcomes by Year of Program Entry[12]



Effects of Integrated Foundation Skills Instruction

The Integrated Basic Education and Skills Training (I-BEST) model was developed by the Washington State Board for Community and Technical Colleges to help adult basic skills students enter and complete certificates in career-technical education (CTE) programs. Consistent with the design principles for guided pathways, the program integrates the teaching of foundational basic skills with instruction in college-level technical content and enrolls students in a prescribed, whole-program schedule of courses that are aligned with job requirements in related fields.

I-BEST programs are also clearly structured. To receive enhanced funding from the state, colleges must ensure that I-BEST programs lead to in-demand jobs and are clearly aligned with further edu-

cation opportunities. A CCRC study found that students in I-BEST programs accumulated more college-level credits and were substantially more likely to earn an occupational certificate within three years than similar students not enrolled in the program.[13]

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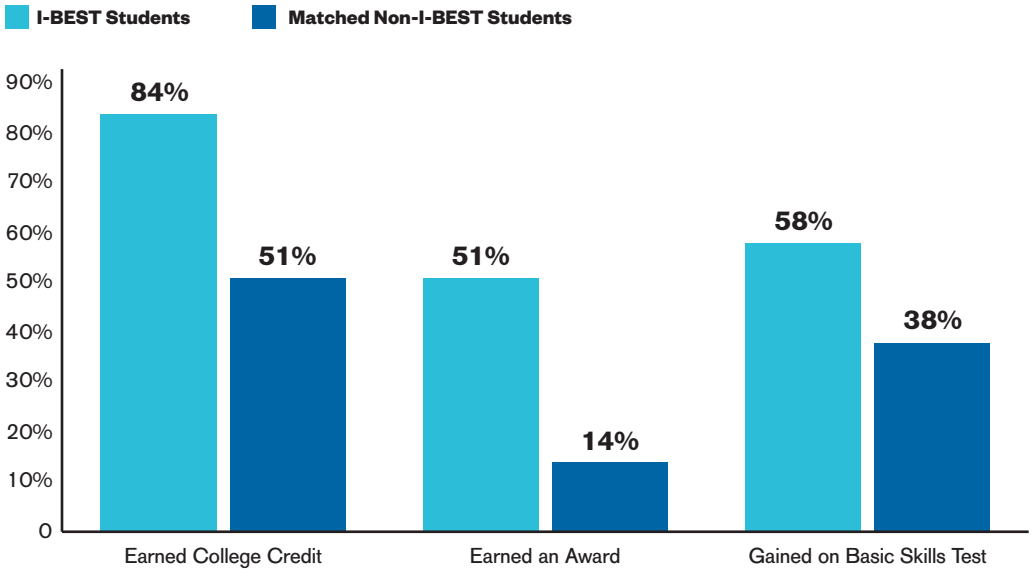
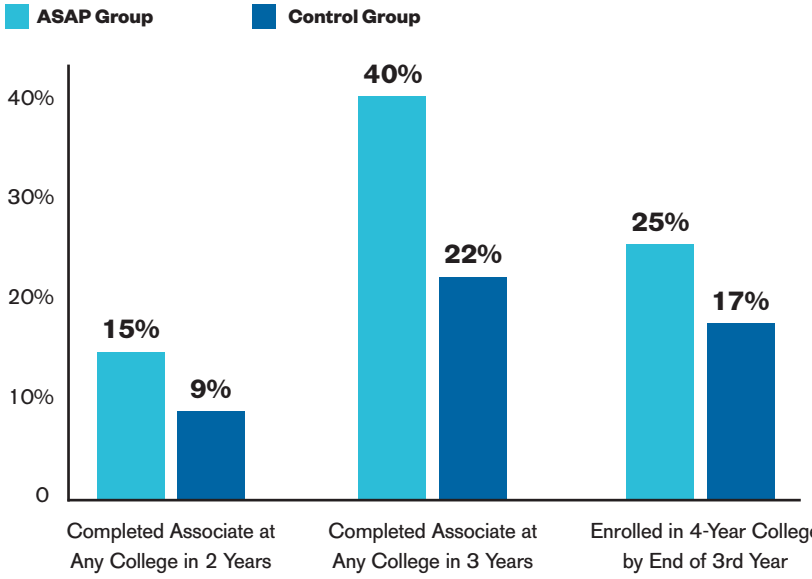
Three-Year Outcomes: I-BEST Versus Non-I-BEST Students[14]



Effects of Higher Levels of Structure and Support

Preliminary findings from MDRC's random assignment study of the City University of New York's Accelerated Study in Associate Programs (ASAP)—a program providing a rich array of supports and incentives for up to three years while also requiring students to attend college full-time in a block-scheduled course of study in their major—indicate that students in ASAP were substantially more likely to complete a degree.[15]

Two- and Three-Year Outcomes: ASAP Versus Non-ASAP Students[16]



Credits Earned in Three Years	
ASAP Group	48
Control Group	39

Guided Pathways in Practice

A growing number of colleges and universities are implementing guided pathways reforms. Descriptive evidence from these institutions suggests that more coherent and clearly structured pathways are helping improve student outcomes.

Florida State University

In the early 2000s, to address the problem of students graduating with excess credits, Florida State University implemented default academic program maps, required students to enroll in exploratory majors, and provided proactive advising to help ensure that students stay on path. Between 2000 and 2009, the year-to-year retention rate for first-time-in-college freshman increased from 86 to 92 percent, the four-year graduation rate increased from 44 to 61 percent , and the percentage of students graduating with excess credits dropped from 30 to 5 percent.[17]

Guttman Community College, CUNY

At Guttman, a new CUNY college designed around guided pathways principles, all first-time students are required to attend a summer bridge program, to enroll full-time, and to follow a common first-year curriculum intended to help them explore careers and choose a major. Remedial instruction is embedded into college-credit coursework. In their second year, students are required to choose a program of study in a limited number of fields identified as promising based on New York City labor market data. By August 2014, 28 percent of Guttman's inaugural 2012 entering class had completed an associate degree, and the college reported that it is on track to meet its three-year goal of graduating 35 percent of its students.[18] In contrast, the median three-year graduation rate for community colleges in large cities is 13 percent.[19]

At Guttman Community College, all first-time students are required to attend a summer bridge program, to enroll full-time, and to follow a common first-year curriculum.

Queensborough Community College, CUNY

In 2009, Queensborough Community College began requiring all first-time, full-time students to choose one of five "freshman academies" in business; visual and performing arts; science, technology, engineering, and mathematics; health-related science; or liberal arts before they enrolled. Each academy has a faculty coordinator who works with faculty and student affairs staff to implement high-impact practices and build a sense of community among students and faculty within the academy. Since implementation, first-year retention rates at the college have increased,[20] and the college's three-year graduation rate rose from 12 percent for the 2006 first-time, full-time cohort to 16 percent for the 2009 cohort.[21]

The Challenge of Comprehensive Reform

Making the kinds of institution-wide changes called for in the guided pathways reform model is challenging and requires committed leaders who can engage faculty and staff from across the college. For college leaders interested in embarking upon this process, it is helpful to learn how other colleges went about implementing guided pathways. In part two of this practitioner packet, we present a case study of how Miami Dade College has thus far implemented guided pathways reforms.

Endnotes

1. The ideas presented here and throughout this research overview are explored in more depth in Bailey, Jaggars, & Jenkins (2015).
2. Jenkins (2011); Kezar (2011).
3. Collins & Porras (1994).
4. Thaler & Sunstein (2008).
5. Keller, Harlam, Loewenstein, & Volpp (2011).
6. Scott-Clayton (2011).
7. Castleman & Page (2014).
8. Grant & Dweck (2003).
9. Ambrose, Bridges, DiPietro, Lovett, & Norman (2010).
10. Jenkins & Cho (2012).
11. Jenkins & Weiss (2011).
12. Jenkins & Cho (2012). Concentrators are students who take and pass at least nine college-level credits (usually three courses). Sample includes first-time college students who took at least one college-level or developmental course in one of 23 colleges in one state in 2005–06.
13. Zeidenberg, Cho, & Jenkins (2010).
14. Zeidenberg et al. (2010). Sample includes I-BEST and other propensity-score-matched basic skills students who were first-time enrollees in colleges in 2006–07 and 2007–08; students were tracked through spring 2009.
15. Scrivener et al. (2015).
16. Scrivener et al. (2015). The study sample of 896 students was drawn from students at three CUNY community colleges who needed one or two developmental education courses, who had family incomes below 200 percent of the federal poverty level or were eligible for Pell Grants, who were new students or had less than 12 credits with at least a 2.0 GPA, and who were willing to attend school full-time.
17. Data from Florida State University and from the National Center for Education Statistics' Integrated Postsecondary Data System. Data on reductions in excess credits were provided by Larry Abele, provost emeritus, Florida State University.
18. City University of New York, Guttman Community College (2014).
19. Authors' calculations using the Integrated Postsecondary Education Data System. See http://nces.ed.gov/ipeds/.
20. Queensborough data from undated PowerPoint presentation shared by Victor Fichera, principal investigator for the Academy Assessment Protocol, Queensborough Community College.
21. City University of New York, Office of Institutional Research and Assessment (2014).

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