

This chapter sheds light on how students enter and complete academic programs of study at the community college, and presents suggestions on how these institutions can help students identify and enter these programs sooner.

Get With the Program:

Accelerating Community College Students' Entry into and Completion of Programs of Study

Davis Jenkins, Sung-Woo Cho

Abstract

Many new students enroll in community colleges without clear goals for college and their careers. Community colleges offer an impressive array of programs, yet they typically offer little guidance to help students choose and successfully enter a program of study. Even among students who enter a college-level program of study, many fail to complete for a variety of reasons. Often, information about course requirements and sequences, learning outcomes, and connections between community college programs and further education and employment is not clearly delineated for students. And while community college departments closely monitor enrollment in their courses, often they do not know which students are pursuing programs of study in their fields, and thus do not track students in their programs to ensure that they make steady progress toward completion.

Using longitudinal transcript data on community college students in one state and a proxy measure of program entry, we found that students who enter a program of study in their first year are much more likely than students who enter programs later. We also found that rates of program entry and success vary considerably by program area, with lower success for students in transfer programs compared with career-technical programs.

This chapter also presents suggestions for concrete steps community colleges might take after a systematic review of their programs and support services, to accelerate the rate at which students enter and complete programs of study. These ideas reflect principles of effective practice that are supported by research on student success and institutional effectiveness. The chapter also draws on research on organizational effectiveness and improvement to identify management practices that colleges can use to support and sustain the redesign process, and thus ensure continuous improvement in student completion rates over time.

Introduction

Community colleges have played a crucial role in expanding access to higher education in the U.S., but their completion rates remain low. Of first-time college students who enrolled in a community college in 2003–04, fewer than 36% earned a postsecondary credential within six years (Radford, Berkner, Wheelless, & Shepherd, 2010). To earn a credential, students must first enter a program of study by taking and passing multiple college-level courses in a field. One reason for low community college completion rates that has not received enough attention is that many students fail to enter a program of study in the first place.

Many if not most new students enroll in community colleges without clear goals for college and careers (Gardenhire-Crooks, Collado, & Ray, 2006). Most community colleges offer an impressive array of programs. Even so, colleges typically offer little guidance to help students with career and college planning and to choose and successfully enter a program of study (Grubb, 2006; Venezia, Bracco, & Nodine, 2010). Career services and advising are available to students who seek them out, but studies suggest that those who need them the most are least likely to take advantage of them (Karp, Hughes, & O’Gara, 2008). As a result, many students end up self-advising. Students who are undecided about what program to enter are typically assigned to “liberal arts” or “general education” (Grubb, 2006).

On the way toward entering a program of study, many students are sidetracked by remedial courses, for which they do not receive college credit. Seventy percent of community college students take at least one remedial course (Scott-Clayton & Rodriguez, 2012). However, community college developmental instruction is generally

narrowly focused on helping students take and pass college-level math and English courses rather than preparing them for success in college-level programs of study more generally. This is so despite the fact that other introductory college-level courses are just as predictive of completion as college math and English (Zeidenberg, Jenkins, & Scott, 2012). Moreover, research indicates that community college developmental education is of questionable effectiveness in achieving even the narrower goal of preparing students to pass college-level courses in math and English (Bailey, Jeong, & Cho, 2010; Calcagno & Long, 2008), and that students who take these courses may actually be diverted from future college-level course-taking (Scott-Clayton & Rodriguez, 2012). As a result, developmental education becomes a dead end for many students.

Even among students who enter a college-level program of study, many fail to complete for a variety of reasons. Often, information about course requirements and sequences, learning outcomes, and connections between community college programs and further education and employment is not clearly delineated for students (Rosenbaum et al., 2006). Sometimes, the courses that students need to take in order to graduate are not offered when students need to take them. Outside of career programs in fields regulated by licensure and industry skill standards, community college programs tend to be quite unstructured, offering students lots of choice and little guidance. In the case of community college transfer programs in liberal arts and business especially, there often is poor alignment between associate degree requirements and the requirements for junior standing in a specific major (Wellman, 2002; Ehrenberg & Smith, 2002). And while community college departments closely monitor enrollment in their courses, often they do not know which students are pursuing programs of study in their fields and thus do not

track students in their programs to ensure that they make steady progress toward completion.

A major focus of recent community college reform efforts has been on revamping developmental education. Yet, trying to improve program completion rates by focusing on developmental education may place too much of the onus for student success on the developmental English and math faculties and advisors and other student services staff involved in the intake process. Shouldn't faculty members in the college-level academic programs share responsibility for recruiting students into their programs and ensuring that they are prepared to complete program requirements? As it is, they often have little interaction with the academically underprepared students who are referred to developmental education, and these students may give up because they become discouraged with the drudgery of remedial instruction and do not see a clear pathway to success in college.

This chapter is about the critical importance of helping community college students get into and through a program of study and how colleges can rethink their practices to increase rates of program entry and completion. It presents a simple method that community colleges can use to begin to measure rates of program entry and completion using data on students' actual course-taking behaviors rather than on their declared program of study or intent, which can change and are often unreliable indicators of student behavior. This method is used to track the progress and outcomes of first-time college students over five years using data from an anonymous sample of community colleges.¹ Following that analysis, we describe an approach a growing number of colleges

¹ The sample includes $N = 20,220$ first-time college students who enrolled in one of an anonymous group of community colleges in the same state in 2005–06. The sample excludes previous dual-enrollees, students

and universities are taking to create “guided pathways” to accelerate the rate at which students enter and completion a program of study. Finally, the chapter draws on research on organizational effectiveness and improvement to identify management practices that college leaders can use to support and sustain the process of redesigning programs and services to create guided pathways.

A Critical Intermediate Milestone: Entering a Program of Study

In their efforts to improve student outcomes, community colleges are increasingly recognizing the value of tracking the progression of cohorts of students across intermediate milestones along the way to completion of college credentials (Leinbach & Jenkins, 2008; Moore, Shulock, & Offenstein, 2009; Offenstein & Shulock, 2010; Reyna, 2010). Longitudinal tracking of student cohorts through intermediate milestones makes it possible to identify where along their educational pathways students are likely to drop out and thus where colleges should focus their efforts to improve student persistence. It also allows colleges to see if they are improving over time the rate at which students are progressing toward program completion.

An intermediate milestone that has not received enough attention is entering a coherent program of study. Every student who hopes to earn a postsecondary credential must first enter a program by taking and passing multiple college-level courses in a given program area. For the purposes of this analysis, a student is considered to have entered a program of study when he or she takes and passes at least nine college-level semester

who ever took a course before summer 2005, and students who received a bachelor’s degree in less than three years ($N = 3,646$). A total of 23 institutions make up this sample, and we have access to each institution’s transcript records, student-level characteristics, test scores, and institutional transfer information.

credits (usually equivalent to three courses) in at least one program area.² Here we refer to these students as “concentrators.” Students’ course-taking behaviors are used to identify concentrators rather than their declared majors³ or educational goals or intent because such measures are not always reliable indicators of actual student behavior and because students’ goals can change as a result of their educational experience (see Bailey, Jenkins, & Leinbach, 2006). The three-course threshold is admittedly somewhat arbitrary—we assume that students who take one or two courses in a field may simply be exploring an area of potential interest, while students who take and pass at least three courses in a program area indicate a greater degree of seriousness about pursuing a course of study.

The analyses presented here examine the progress of a cohort of first-time college students who took at least one college-level or developmental course in one of the sample community colleges in 2005–06. Cohorts were tracked over five academic years, with outcome measures including the proportion of students who earned a certificate or associate degree from a public two-year college, transferred to another two-year institution, or transferred to a public or private four-year institution.⁴

Figure 1 shows the highest education outcomes after five years for five groups in the sample: (a) the entire cohort of first-time college students (which includes those who concentrated in a program of study and those who did not); (b) students who concentrated

² For a more detailed version of the concentrator analysis, please refer to the longer version of this paper (Jenkins & Cho, 2012).

³ We use the term “major” here as shorthand, although many community colleges use “program of study” or “program code” to refer to the program area or field in which students indicate they are interested in focusing their studies. As mentioned, the programs of study community college students say they intend to pursue and those they actually follow can differ.

⁴ Student transfer patterns were tracked using data from the National Student Clearinghouse, which collects information on student enrollments in postsecondary institutions nationally. For more information, see <http://www.studentclearinghouse.org/>.

in liberal arts and sciences (by taking and passing at least nine college-level semester credits of liberal arts and science coursework);⁵ (c) students who concentrated in a career–technical education (CTE) field; (d) students who attempted at least nine college credits in a program area (which excludes those who just took one or two courses) but did not complete them, and therefore are classified as “failed attempters”; and (e) students who did not attempt at least nine college credits in a program area, whom we refer to as “non-attempters.”

About 14% of students in the full cohort earned a certificate or associate degree from a community college within five years; among these students, 6% transferred to a four-year institution. Another 11% transferred to a four-year institution without having first earned a community college credential, while 6% earned a bachelor’s degree from an outside institution. About 9% had earned at least 30 college credits and were still enrolled after five years.

Students who concentrated and thereby signaled that they entered a program of study not surprisingly did better on average than did students in the cohort overall. Among students who successfully entered a program in liberal arts and sciences, about 21% earned a certificate or associate degree, another 15% transferred to a four-year institution without having earned a two-year credential, and about 14% earned a bachelor’s degree from another institution. Among career–technical education (CTE) concentrators, over one third earned a certificate or associate degree, but only about 5%

⁵ Students who concentrated in more than one program of study are assigned to the program in which they earned the highest number of college-level credits over five academic years. If a student earned the same number of credits in multiple programs, the student is assigned to the program in which he or she completed the most courses in the shortest length of time.

transferred to a four-year institution without a two-year credential, and only 2% earned a bachelor's degree from an outside institution.

Students who did not enter a program of study had similar outcomes regardless of whether or not they attempted nine college credits in a single field. As expected, no student who did not enter a program of study earned an associate degree. However, among all failed attempters, about 10% transferred to a four-year institution without earning an award at the community college or the transfer institution, and only 1% eventually earned a bachelor's degree. Similarly, among non-attempters, about 11% transferred to a four-year institution without earning an award, and about 2% received a bachelor's degree.

Figure 2 shows the importance of entering a program of study as soon as possible. Students who entered a program of study in the first year performed substantially better than did those who became concentrators in the second year or later. Over half of the students who first entered a program of study in their first year earned a certificate or associate degree, transferred to a four-year institution (either with or without a credential), or earned a bachelor's degree from an outside institution. The rates of credential completion or transfer for students who first entered a concentration in the second academic year after entry was about 37%—about a third less than students who entered a concentration in the first year. A substantial proportion of students who entered a concentration after the start of the second academic year were still enrolled in the fifth year after entry having earned at least 30 college credits, although it is not clear how many of the credits these students earned would count toward a credential. These findings suggest that colleges should intensify their efforts to help entering college students who

do not have clear goals for their education or careers select a program of study as quickly as possible.

Creating Guided Pathways to Accelerate Program Entry and Completion

To earn a postsecondary credential, students must enter a program of study and, once in a program, complete the required coursework. The analysis presented here shows the importance of entering a program of study as quickly as possible. Students who entered a program of study in the first year were much more likely to complete a credential or transfer to a four-year institution within five years than were students who did not enter a program until the second year or later. Moreover, a substantial number of students who attempted to enter a program of study failed to do so because they did not pass gatekeeper courses. Even among those who did enter a program, many were still enrolled after several terms, which raises the question of whether colleges could do more to help students complete their programs sooner.

Community colleges typically offer a wide array of programs. Yet, many students, particularly those who are younger, arrive without clear goals for college and careers, and colleges typically offer limited guidance to students in choosing a program of study. Many students end up in developmental education, which is of questionable effectiveness in preparing students for college-level coursework, let alone providing a clear pathway to a college-level program of study. At every stage of the student's experience with a college—connection, entry, progress, and completion—community college practices are often not well designed and aligned with one another to facilitate entry into and completion of a program of study as soon as possible (Jenkins, 2011; Scott-Clayton

2011). Thus, for community college students, the experience of college can be confusing and frustrating. It is not surprising that many become discouraged and drop out.

Because the causes of low community college completion rates are systemic, efforts to improve completion rates need to involve all parts of an institution, not just developmental education, advising, and other college functions responsible for student intake and remediation. Moreover, trying to bring discrete “best practices” to scale will not suffice to “move the needle” on overall rates of student completion. Interventions of this sort are common among community colleges but typically reach too few students and are difficult to scale and sustain.

To improve completion rates on a substantial scale, rather than trying to bring to scale best practices, community colleges should follow a “best process” approach of rethinking their practices in ways that strengthen pathways to program entry and completion (Jenkins, 2011). For this to happen, college faculty, staff, and administrators from across silos should work together to review program structures, policies, and supports at each stage of the student’s experience with the college and redesign or better align college practices in ways that accelerate students’ entry into and completion of programs of study leading to credentials of value.

Under the prevailing model common to community colleges, students are left to navigate the complex and often confusing array of programs and courses and support services mostly on their own. Instead of letting students figure out their own paths through college, a growing number of institutions are creating “guided pathways” for students. The elements of this approach include:

- ***Structured programs of study*** – clearly defined and prescribed program pathways with learning outcomes aligned with the requirements for success in further education and (for CTE programs) advancement in the labor market. New students are required to choose a broad program area and take a prescribed set of first-year courses designed to introduce them to postsecondary education and careers in their initial field of choice while also providing exposure to other fields, and over time leading them to choose a specific major in the broader field (or to switch to another field if they prefer).
- ***On-ramps to programs of study*** – including a mechanism to help students develop goals for college and careers and create a required academic and career plan, instruction in “college knowledge” and “soft skills,” and teaching of foundation skills contextualized in college-level coursework in the student’s field of interest.
- ***Integrated progress tracking and required support services*** – a student’s progress is tracked and frequent feedback is provided to them, their faculty, and advisors. To the extent feasible, support services are built into academic programs and students are required to use them.

Four-year institutions may be ahead of community colleges in implementing guided pathways. A pioneer in this area is Florida State University, where, beginning in the late 1990s, faculty began developing program maps that lay out chosen program default course schedules for students, as well as other milestones that students must

achieve over eight terms.⁶ Students who are undecided are required to choose an “exploratory major” in one of four fields. The exploratory majors give students a structured path for choosing a major. Students can only stay in a pre-major for up to three terms, after which they have to choose a specific major. FSU has found that even with the guidance provided by the program maps, a robust system of advising and other supports is still needed, especially to help students select majors, for transfer students and other special populations, and for students who go off-course or are not making progress. FSU officials credit this approach with helping to improve first-year retention rates and graduation rates for students overall and for closing the graduation rate gap between minority students and their peers (Carey, 2008).

Admittedly, Florida State is a selective institution. The selectivity will certainly influence the way that the policy affects its outcomes. However, the approach is being used with positive results at less-selective four-year institutions. Georgia State administrators acknowledge borrowing the guided pathways approach from FSU in their successful effort to increase graduation rates for minority students from 32% in 2003 to over 51% in 2010, even as the Pell Grant student population rose (Engle & Theokas, 2010). Other institutions, including Arizona State University and Austin Peay University in Tennessee have created e-advising systems around their guided pathways that not only help track students’ progress and provide feedback and guidance as they advance, but use

⁶ Based on presentation by Dr. Lawrence Abele, Provost Emeritus, Florida State University on guided pathway model at Florida State University. Complete College America, Annual Policy Conference, New Orleans, December 14, 2012.

predictive analytics to help students with decisions ranging from deciding to enroll in a particular course to choosing a major.⁷

Community colleges are also beginning to implement the guided pathways approach. In selecting Valencia College for as the first winner of the Aspen Prize for College Excellence, the Aspen Institute cited Valencia's "life map" academic and career planning system that is linked to clear pathways, including "pre-major" tracks aligned with the requirements for junior standing in majors at partner universities for students seeking to transfer.⁸ CUNY's New Community College has adopted a model clearly consonant with the guided pathways approach.⁹ Having concluded that program pathways are too unstructured and student have too many choices, Miami Dade College (MDC) is creating structured curriculum plans with sequential coursework and focused course choices for all programs to ensure that students know the requirements to succeed and enter programs of study early in their college careers (Miami Dade College, 2012). As part of this effort, MDC is creating a structured intake process for new students through which students will be required to broad program area as a place to begin their path toward a more specialized program.

Evidence for this approach comes from research on a variety of fronts. Studies of student pathways show the chaotic enrollment patterns and poor outcomes for students who self-advise (Crosta, 2013). Moreover, community college students often indicate through surveys and focus groups that they are very confused about what path to take and

⁷ See Parry, M. (2012, July 18). College degrees, designed by the numbers. *The Chronicle of Higher Education*. <http://chronicle.com/article/College-Degrees-Designed-by/132945/>

⁸ The Aspen Institute's description of Valencia's approach can be found at: <http://www.aspeninstitute.org/policy-work/aspen-prize/valenciacollege>.

⁹ The New Community College's description of their six majors can be found at: <http://www.ncc.cuny.edu/academics/majors.html>.

want clearer guidance (Venezia, Bracco, & Nodine, 2010). Research on K-12 education finds that schools that are able to achieve greater gains in student outcomes, and particularly with students from disadvantaged backgrounds, are characterized by higher levels of “instructional program coherence.” This is defined as: “a set of interrelated programs for students and staff that are guided by a common framework for curriculum, instruction, assessment, and learning climate, and that are pursued over a sustained period of time” (Newmann et al., 2001, p. 299; see also Bryk et al., 2010). Although there has been no comparable research in higher education, there is no reason to believe that the same would not apply to broad-access institutions.

Targeted research on the effectiveness of guided pathways in higher education is just beginning. An example, in preliminary results from a random-assignment study of CUNY’s Accelerated Study in Associate Programs (ASAP), which requires students to attend college full time in a block-scheduled course of study and provides a rich array of supports and incentives for up to three years, MDRC found extraordinarily strong effects of the program on student retention and credit accumulation (Scrivener, Weiss, & Sommo, 2012). There is also growing evidence to support mainstreaming of at least some students into college-level coursework with additional required supports and contextualizing the teaching of foundation skills in instruction in college-level content (Edgecombe, 2011; Perin, 2011; Cho et al., 2012). And there is a wealth of research outside of higher education to support limiting student choice and aligning programs and services to better achieve program goals (Scott-Clayton, 2011). While none of this research is definitive, taken together it suggests that guided pathways hold a great deal of promise.

Managing the Redesign Process

Implementing guided pathways requires that colleges rethink how they organize programs and services at scale. Managing a wholesale organizational redesign process such as this is challenging in any environment, but it is especially so in times of scarce resources. Research on organizational effectiveness and improvement in higher education and other sectors highlights the importance of a set of management practices for supporting and sustaining organizational innovation (Jenkins, 2011).

Strong, outcomes-oriented leadership. College leaders, including not only top administrators but also faculty leaders, deans, and department chairs, need to agree on and communicate a clear and compelling vision for improving student outcomes and set ambitious goals that faculty and staff will want to work to achieve.

Broad-based engagement and supporting professional development. Substantial change in community college practice will not happen without the active support and involvement of faculty and student services staff. Therefore, college leaders need to empower faculty and staff from across divisions to address the questions outlined above; identify priority areas for improvement; and implement, evaluate, and further improve changes to practice. Leaders also need to provide resources for professional development that strategically supports the efforts by faculty and staff in the redesign work. This reframes professional development as a strategic activity that supports the collective involvement of faculty and staff in organizational improvement rather than an activity that mainly supports professional growth of faculty and staff as individuals.

Evidence-based improvement. To the extent possible, decisions on how to improve practice should be supported by evidence. Colleges should assess the effectiveness of earlier efforts to improve student success. Moreover, any new innovations should be evaluated to ensure they are helping to improve student outcomes.

Attention to cost-effectiveness and productivity. Colleges should evaluate not just the effectiveness of reforms in improving rates of student progression and completion, but also their costs. Given that state funding for community colleges is unlikely to increase substantially for the foreseeable future, the goal should be to increase organizational productivity—that is, to increase rates of student success and improve student learning outcomes without requiring net additional staff and monetary resources (Jenkins & Rodriguez, 2013)

So that colleges continue to improve student outcomes, the redesign process must be ongoing. To build an infrastructure for continuous improvement, colleges should rethink their committee structures; program review processes; professional development policies; budgeting practices; and strategies for employee hiring, performance review, and incentives—all with a view to ensuring that the process of reviewing and redesigning college practice to accelerate the rates at which students “get with a program” and complete it becomes an integral part of the way community colleges do business.

References

- Bailey, T., Jenkins, D., & Leinbach, D. T. (2006). *Is student success labeled institutional failure? Student goals and graduation rates in the accountability debate at community colleges* (CCRC Working Paper No. 1). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Bailey, T., Jeong, D. W., & Cho, S. W. (2010). Referral, enrollment, and completion in developmental education sequences in community colleges. *Economics of Education Review*, 29(2), 255–270.
- Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (2010). *Organizing schools for improvement: Lessons from Chicago*. Chicago, IL: University of Chicago Press.
- Calcagno, J. C. & Long, B. T. (2008). *The impact of postsecondary remediation using a regression discontinuity approach: Addressing endogenous sorting and noncompliance* (NBER Working Paper No. 14194). Cambridge, MA: National Bureau of Economic Research.
- Carey, K. (2008). *Graduation Rate Watch: Making Minority Student Success a Priority*. Washington, DC: Education Sector.
- Cho, S. W., Kopko, E., Jenkins, J., & Jaggars, S. S. (2012). *New Evidence of Success for Community College Remedial English Students: Tracking the Outcomes of Students in the Accelerated Learning Program (ALP)* (CCRC Working Paper No. 53). New York: Community College Research Center, Teachers College, Columbia University.
- Crosta, P. (2013). *Toward a better understanding of community college student enrollment patterns*. Unpublished Working Paper. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Edgecombe, N. (2011). *Accelerating the academic achievement of students referred to developmental education* (CCRC Working Paper No. 30, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Engle, J., & Theokas, C. (2010). *Top Gainers: Some Public Four-Year Colleges and Universities Make Big Improvements in Minority Graduation Rates*. College Results Online. Washington, DC: The Education Trust.
- Ehrenberg, R. & Smith, C. (2002). *Within state transitions from 2-year to 4-year public institutions*. (NBER Working Paper No. 8792). Cambridge, MA: National Bureau of Economic Research.
- Gardenhire-Crooks, A., Collado, H., & Ray, B. (2006). *A whole 'nother world: Students navigating community college*. New York, NY: MDRC.
- Grubb, W. N. (2006). "Like, what do I do now?": The dilemmas of guidance counseling. In T. Bailey and V. Morest (Eds.), *Defending the community college equity agenda* (pp. 195–222). Baltimore, MD: Johns Hopkins University Press.
- Jenkins, D. (2011). *Redesigning community colleges for completion: Lessons from research on high-performance organizations* (CCRC Working Paper No. 24, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.

- Jenkins, D. & Rodriguez, O. (2013). Access and Success with Less: Improving Productivity in Broad-Access Postsecondary Institutions. *Future of Children*, 23(1). (Spring).
- Karp, M. M., Hughes, K. & O’Gara, L. (2008). *An exploration of Tinto’s integration framework for community college students*. (CCRC Working Paper No. 12). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Leinbach, D. T., & Jenkins, D. (2008). *Using longitudinal data to increase community college student success: A guide to measuring milestone and momentum point attainment* (CCRC Research Tools No. 2). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Miami Dade College. (2012). “MDC³ Student Success and Completion Initiative,” Unpublished project summary. Miami Dade College.
- Moore, C., Shulock, N., & Offenstien, J. (2009). *Steps to success: Analyzing milestone achievement to improve community college student outcomes*. Sacramento, CA: Institute for Higher Education Leadership & Policy.
- Newmann, F. M., Smith, B., Allensworth, E., & Bryk, A. S. (2001). Instructional program coherence: What it is and why it should guide school improvement policy. *Educational Evaluation and Policy Analysis*, 23(4), 297–321.
- Offenstien, J., & Shulock, N. (2010). *Taking the next step: The promise of intermediate measures for meeting postsecondary completion goals*. Boston, MA: Jobs for the Future.
- Parry, M. (2012, July 18). College degrees, designed by the numbers. *The Chronicle of Higher Education*.
- Perin, D. (2011). *Facilitating student learning through contextualization* (CCRC Working Paper No. 29, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Radford, A. W., Berkner, L., Wheelless, S. C., & Shepherd, B. (2010). *Persistence and attainment of 2003–04 beginning postsecondary students: After 6 years* (NCES 2011-151). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.
- Reyna, R. (2010). *Complete to compete: Common college completion metrics technical guide*. Washington, DC: National Governors Association, Center for Best Practices.
- Rosenbaum, J. E., Deil-Amen, R., & Person, A. E. (2006). *After admission: From college access to college success*. New York, NY: Russell Sage Foundation.
- Scott-Clayton, J. (2011). *The shapeless river: Does a lack of structure inhibit students’ progress at community colleges?* (CCRC Working Paper No. 25, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.
- Scott-Clayton, J., & Rodriguez, O. (2012). *Development, discouragement, or diversion? New evidence on the effects of college remediation*. (NBER Working Paper No. 18328). Cambridge, MA: National Bureau of Economic Research.

- Scrivener, S., Weiss, M.J., Sommo, C. (2012). What Can a Multifaceted Program Do for Community College Students? Early Results from an Evaluation of Accelerated Study in Associate Programs (ASAP) for Developmental Education Students. New York, MDRC.
- Venezia, A., Bracco, K. R., & Nodine, T. (2010). *One-shot deal? Students' perceptions of assessment and course placement in California's community colleges*. San Francisco, CA: WestEd.
- Wellman, J.V. (2002). State policy and community college–baccalaureate transfer. The National Center for Public Policy and Higher Education and the Institute for Higher Education Policy.
- Zeidenberg, M., Jenkins, D., & Scott, M. (2012). *Not just math and English: Courses that post obstacles to community college completion*. (CCRC Working Paper No. 52). New York, NY: Columbia University, Teachers College, Community College Research Center.

DAVIS JENKINS is a senior research associate at the Community College Research Center at Teachers College, Columbia University.

SUNG-WOO CHO is a quantitative research associate at the Community College Research Center.

Figure 1
Five-Year Highest Educational Outcomes for First-Time Community College Students:
Concentrators, Failed Attempters, and Non-attempters Compared

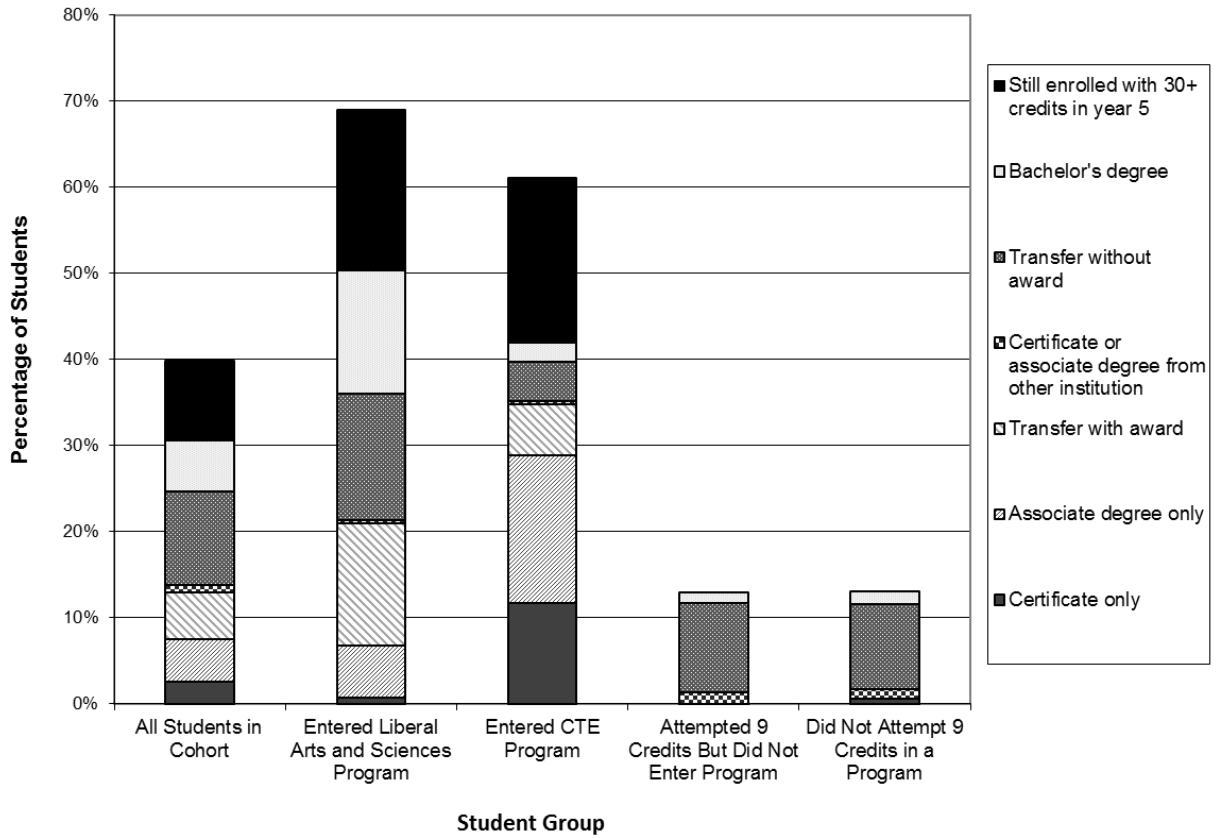


Figure 2
Highest Educational Outcome Achieved Within Five Years
by Year Student First Entered Concentration

