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Tracking Student Progression Through the Core Curriculum

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Many community college students intend to transfer to four-year colleges.

Nationally, about 70 percent of community college students report pursuing Associate of Arts (A.A.) or Associate of Science (A.S.) degrees. These degrees are also called general education or transfer degrees because they are usually designed for students intending to transfer to a four-year college and pursue a bachelor's degree.[1] Students in transfer-oriented degree programs are primarily liberal arts and humanities majors or academic, non-applied STEM majors.[2] These programs often require that students complete a general education "core curriculum." Tracking student progression through this core curriculum is therefore an important means for community colleges to better understand the performance of large numbers of students who plan to go on to earn a bachelor's degree.

This report demonstrates useful methods for examining student progression through the core curriculum. We carry out analyses at two colleges in two different states, illustrating students' overall progression through the core curriculum and the relationship of this "core" progression to their college outcomes. By means of this analysis, we are able to identify core curriculum subject areas in which students do well and those in which they struggle, shedding light on courses and subject areas college administrators and faculty may want to target in order to improve outcomes for their students.

Our analyses use data from two states with different transfer policies. In one state (State A), legislation requires all public two-year and four-year colleges to offer a 42-credit general education core curriculum. The state mandates that all core curriculum courses completed at one public college are transferable to another public college. However, the state does not have an articulation agreement that guarantees junior standing for transfer students who have completed the core and attained an associate degree. So while students' core credits will transfer, other courses completed at the community college are not guaranteed to transfer.

In the second state (State B), public two- and four-year colleges are required to have a 36-credit core curriculum. In addition, statewide articulation agreements guarantee junior standing at four-year public universities for transfer students who have completed the core and attained an associate degree.

DEFINITION

CORE CURRICULUM

A core curriculum is a set of required courses for students in transfer-oriented degree programs. Core curriculum courses are intended to build skills for college success and are usually guaranteed to transfer to public, four-year colleges in the same state.

Tracking student progression through the core curriculum can help community colleges understand the performance of students who plan to pursue a bachelor's degree.

Data and Method

We refer to the community colleges in this analysis as College A in State A and College B in State B. Both colleges are located in cities and have large enrollments, and the majority of students at each are first- and second-generation immigrants with some level of proficiency in more than one language.

We tracked the progress of students at these colleges over a five-year period, from 2005-06 to 2009-10. Student-level transcript data were linked to National Student Clearinghouse (NSC) data in order to limit the sample to students who were new to higher education in the 2005-06 academic year. Linking with NSC data also enabled us to identify which college(s), if any, these students transferred to within the United States. We further limited the sample to students who started in developmental education or college-level coursework (rather than a non-credit based program such as Adult Basic Education) and to students in transfer-oriented degree programs,[3] as these are the students who were required to complete the core curriculum. This sample included 3,459 students at College A and 7,869 students at College B.

Tracking student progress through a core curriculum requires analysis of course transcript data and knowledge of the college's core curriculum. We documented at each college the course numbers that fulfill core requirements in each subject area and the number of credits for each subject area that are needed to complete that subject area's credit requirement. Some subject areas require specific courses; for others, students must choose one or two courses from a set of courses that count toward fulfilling that core subject area. If a student completes more courses in a subject area than are needed to fulfill the core subject area requirement, those credits do not count toward their core credit accumulation and are designated as excess core credits.

Findings

Core Progression

Figures 1 and 2 illustrate the extent of core credit accumulation among students in transfer-oriented programs at College A and College B over the five-year tracking period. Core completion is substantially higher at College B—29 percent of students completed the entire 36-credit core. At College A, only 12 percent of students completed its 42-credit core.

Fig 1. Core Credit Accumulation at College A

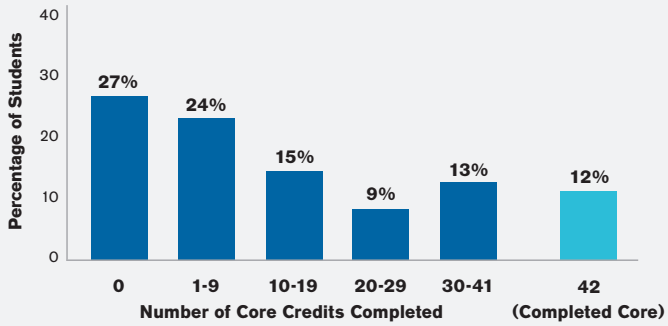
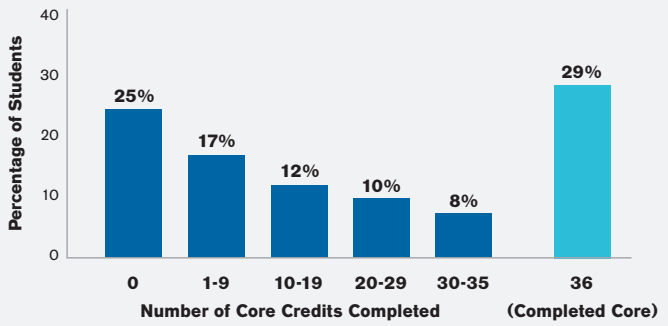


Fig 2. Core Credit Accumulation at College B



Core Progression & Overall Outcomes

Figures 3 and 4 illustrate how core credit accumulation is related to persistence, degree attainment, and transfer outcomes. Not surprisingly, students who accumulated fewer credits had less successful outcomes after five years. Even for students who completed a large portion of the core curriculum (30-41 credits at College A and 30-35 credits at College B), degree attainment was substantially lower than for students who completed the core. For example, while only 8 percent of students who accumulated 30-41 credits at College A earned an award at their community college and/or at the four-year college to which they transferred, 54 percent of students who completed the core did so. The corresponding results for College B are 17 percent (for those who accumulated 30-35 credits) and 70 percent (for those who completed the core).

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Fig 3. Outcomes by Core Credit Accumulation at College A

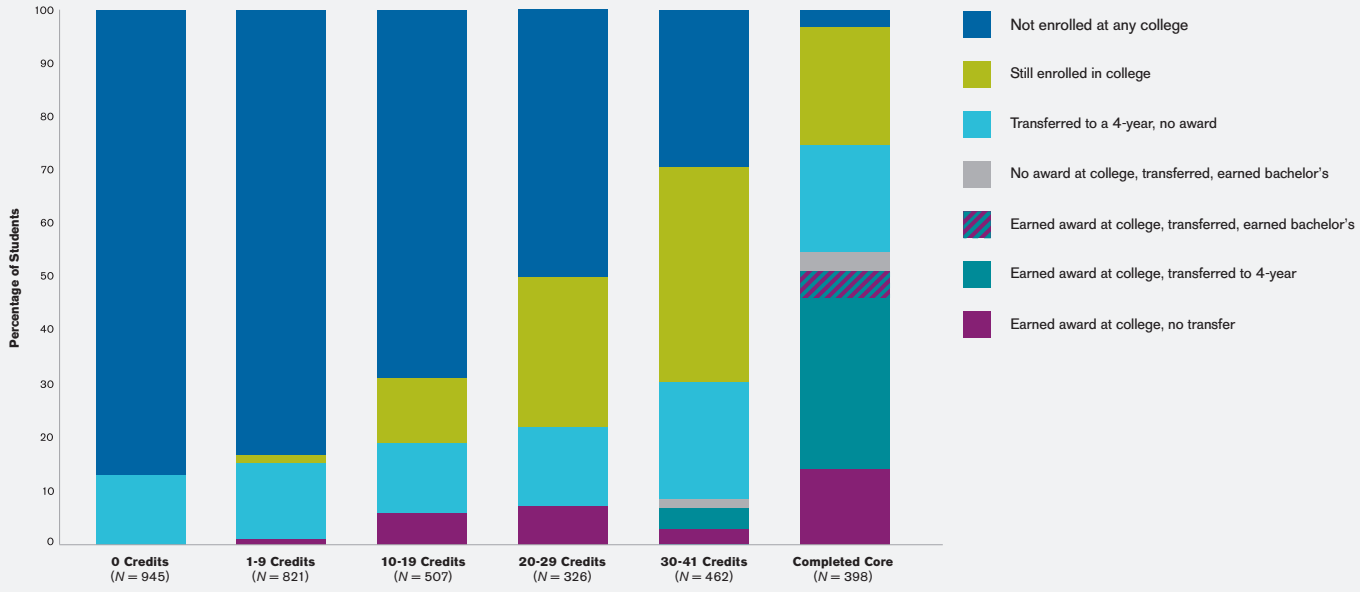
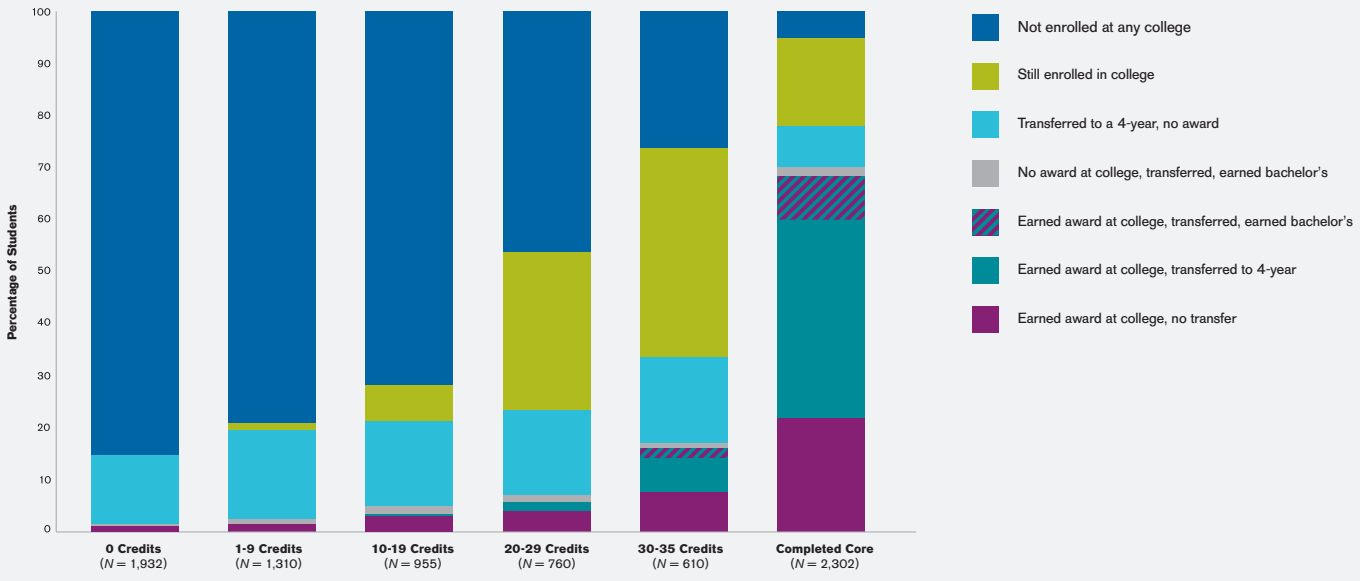


Fig 4. Outcomes by Core Credit Accumulation at College B



These figures also illustrate important differences in transfer outcomes between students at the two colleges. At both colleges, among students who did not complete the core, a similar proportion of students in each core credit accumulation category transferred to a four-year college without earning an award at their community college. However, among core completers, four-year transfer with no two-year degree was much more common for College A students. At College A, 24 percent of core completers transferred without earning a degree from their community college first; at College B, only 9 percent transferred without earning a degree from their community college first.

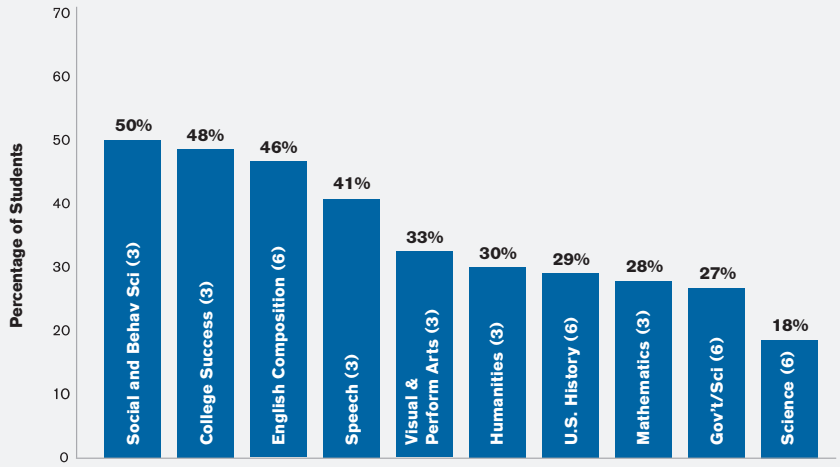
This finding suggests that to boost degree completion rates, College A should consider implementing practices that encourage core completers, who have already accumulated at least 42 credits toward an associate degree, to earn an associate degree before transferring.

Completion of Subject Area Requirements

Figures 5 and 6 illustrate the proportion of students who after five years have completed each subject area requirement in the core curriculum. For each subject area, we include in parentheses the number of credits required to satisfy the subject area requirement.

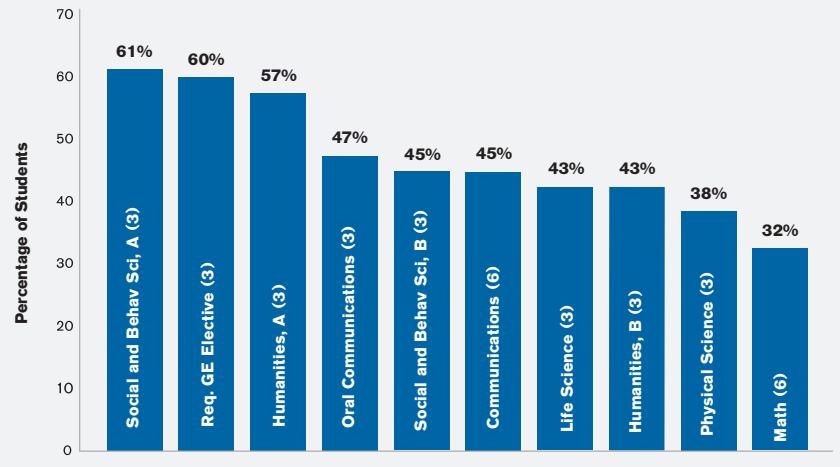
At College A, the subject area with the highest completion rate is Social and Behavioral Sciences, which has a one-course requirement. The subject area with the lowest completion rate is Science, which has a two-course requirement. However, there is also a relatively low completion rate in Mathematics, which only has a one-course requirement—that rate is especially low when compared to the completion rate for the two-course English Composition requirement.

Fig 5. Completion of Subject Area Requirements at College A



At College B, the subject area with the highest completion rate is Part A of Social and Behavioral Sciences; the subject area with the lowest completion rate is Mathematics, which has a two-course requirement. It is worth noting that the majority of students at both colleges were referred to developmental education in both English and math and that most of these students were referred to a lower level in math than in English. The findings from the present study suggest that students at both colleges struggle more with college-level mathematics than with English composition/communications.

Fig 6. Completion of Subject Area Requirements at College B



Excess Core Credits

Figures 7 and 8 illustrate the proportion of students who earned more credits than required in each subject area after five years. At both colleges, the highest proportion of students earned more credits than required in Social and Behavioral Sciences.

Fig 7. Earned More Core Credits Than Required in Particular Subject Areas at College A

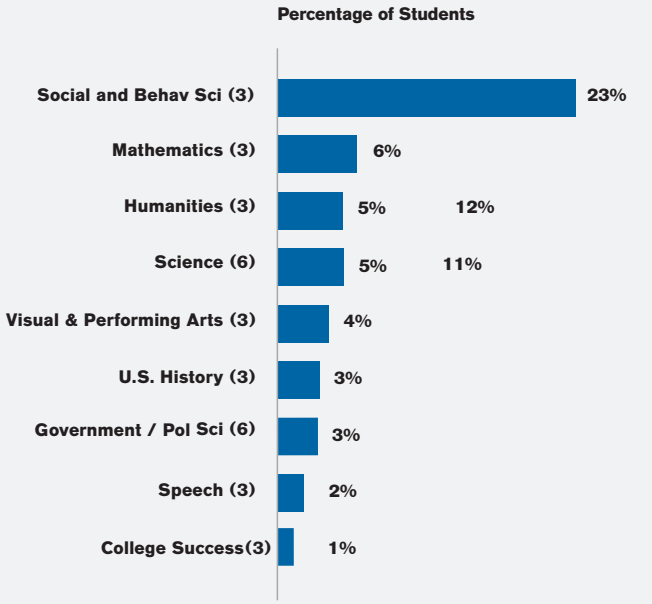
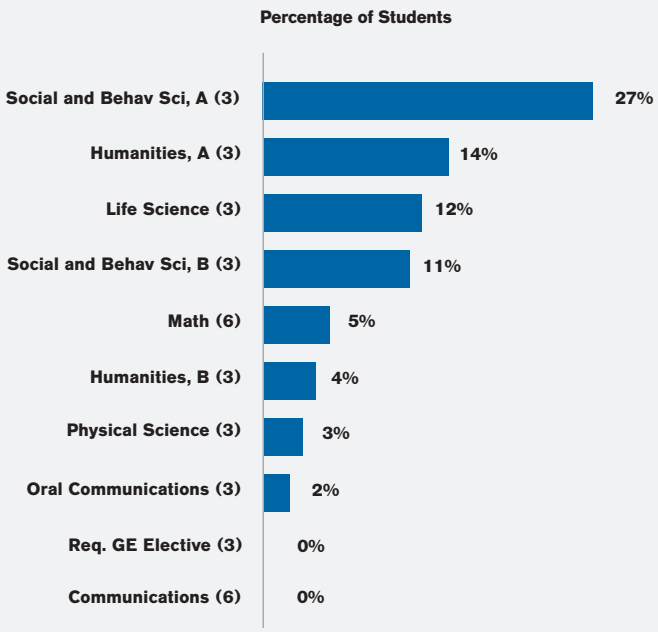


Fig 8. Earned More Core Credits Than Required in Particular Subject Areas at College B



These findings suggest three possible implications for colleges to consider, which are not mutually exclusive. First, some students may have completed more credits than required in Social and Behavioral Sciences because they needed more of these subject area courses for their major. Second, the additional credits may be an indication that students are prone to take more courses in a subject area they may like or feel successful in, such as Social and Behavioral Sciences, rather than take courses and complete requirements in a subject area they struggle with, such as Science or Mathematics. Finally, it may be the case that students are confused about the core curriculum requirements and are therefore taking more courses than are needed.

In a further analysis, we dropped core completers from the sample (not shown in figures) and found very similar results: The highest proportion of core non-completers earned more credits than required in Social and Behavioral Sciences, illustrating that they were taking more courses in this subject area before tackling courses in other required subject areas, such as Science and Mathematics.

Conclusion and Implications

A number of findings emerged from this analysis that point to recommendations for changes in policy and practice. First, this analysis demonstrates that many students in transfer-oriented degree programs do not complete the general education core curriculum; such students may benefit from increased efforts that guide and support them through the subject area requirements. In particular, students in our sample had a difficult time completing their two-course Science requirement at College A and their two-course Mathematics requirement at College B.

Second, this report highlights a potential means for improving completion rates at College A: greater incentives for core completers to earn an associate degree at the community college before transferring to a four-year college. We found a much higher proportion of core completers who transferred without earning a two-year degree at College A than at College B, perhaps because State B guarantees junior standing for students who earn an associate degree while State A does not. Colleges with student transfer outcome patterns similar to that of College A may want to consider developing articulation agreements with neighboring four-year colleges that guarantee junior standing to associate degree completers.

In sum, administrators may want to consider conducting analyses of student progression at their own colleges in order to develop reforms that could help students complete the core curriculum. Based on their findings, possible reforms might include greater academic supports in math and science, additional requirements or recommendations about the order in which students complete core courses so that they do not delay in completing particularly challenging courses, and/or enhanced advising that provides students with a clear, strategic plan to complete the core.

Endnotes

1. Proportion based on an author-generated computation by NCES QuickStats using the U.S. Department of Education, National Center for Education Statistics, BPS:2009 Beginning Postsecondary Students data. BPS:2009 tracks a nationally representative sample of the 2003-2004 cohort to 2009.
2. Horn & Li, 2009.
3. Transfer-oriented degree programs include programs of study that fall under the following categories: arts, humanities, and English; mathematics and science; and social and behavioral sciences. See Jenkins & Cho (2012) for the exact Classification of Instructional Programs (CIP) codes associated with these categories.

References

Horn, L., & Li, X. (2009). *Changes in postsecondary awards below the bachelor's degree: 1997 to 2007* (NCES 2010-167). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Jenkins, D., & Cho, S. W. (2012). *Get with the program: Accelerating community college students' entry into and completion of programs of study* (CCRC Working Paper No. 32). New York, NY: Columbia University, Teachers College, Community College Research Center.

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