Gateway Coursework: Time to Completion

Much attention is given to getting students through their developmental coursework; this is, of course, imperative. Recent research has described momentum points as “measurable educational attainments, such as completing a college-level math course, that are empirically correlated with the completion of a milestone,” a milestone being a measurable achievement such as credential completion. Gateway courses generally include the first college-level English and math courses students are required to take. Increasing the number of students who attempt gateway classes is important in terms of student persistence and credential completion. And, the percentage of students who succeed when attempting gateway classes (the completions ratio) also needs attention. At best, failure to successfully complete these classes slows progress toward graduation or transfer. At worst, it may trigger the decision to drop out.

Limited national research exists on gateway coursework attempts and student outcomes, and isolated studies on gateway coursework, along with findings from previous issues of Data Notes, describe the characteristics of students who take gateway courses and their overall outcomes. This analysis expands this research and investigates the number of attempts it takes students to complete gateway coursework, to determine if there are identifiable characteristics associated with students who pass these classes on the first attempt as compared to those who attempt the coursework multiple times.

Baseline data were included for all Achieving the Dream colleges, and students were tracked through their first three years of enrollment. The results are arrayed separately by the number of times students attempted gateway math and English. The percentages of students completing gateway coursework, by the number of attempts, were analyzed. Data are presented by student and educational characteristics, including gender, age, race/ethnicity, Pell grant receipt, full- and part-time enrollment, and developmental education referral status.

Gateway Attempts and Completions

The pattern of attempts is different for gateway math compared with gateway English. Over the three academic years examined, 72 percent of Achieving the Dream students did not attempt gateway math, while 28 percent of students did so at least once (Figure 1, page 2). Some students attempted gateway math up to nine times. The falloff in number of attempts was steep, with only 20 percent of students who attempted doing so twice, and 9 percent three or more times. Students were more likely to attempt gateway English than math. Fifty-one percent of students attempted gateway English (Figure 2, page 3), some up to eight times. Of students who attempted gateway English, 18 percent attempted twice and 8 percent did so three or more times. Interestingly, course-taking patterns in both gateway math and English reveal students attempting two times were the least likely to complete successfully, with students attempting once, or more than two times, more likely to complete. Noteworthy is the fact that in both subject areas, relatively few students attempted the gateway coursework more than one time.

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the gateway coursework more than one time: 29 percent of students who attempted gateway math did so more than once, as did 26 percent of those attempting gateway English. Interestingly, 7 percent of students attempted and completed either gateway math or English more than once.5 This could be due to Achieving the Dream colleges that defined multiple courses as gateway courses within one subject area (for example, college level algebra and geometry); students may be enrolling in and completing both courses in the given subject area.

Gateway Math

The first measure of progress toward a student’s successful outcome is attempting gateway coursework; historically, math is a major barrier to success for many students. Gateway math outcomes varied by race/ethnicity, gender, and Pell grant status. White, non-Hispanic and Asian Pacific Islander students were more likely to attempt than were the remaining groups of students of color; they were also the most likely to pass at each level of attempt. Black, non-Hispanic students were the least likely to attempt, and were less likely than were students from the other racial/ethnic groups to successfully complete gateway math, regardless of the number of attempts. Hispanic and Native American students were in the middle range in both attempts and completions among the different ethnic/racial groups.

Females attempting gateway math were more likely to attempt just once than males, and they were much more likely to complete successfully. Pell grant recipients and non-recipients were not significantly different in the percentage of students (continued on next page)
attempting; however, Pell grant recipients were less likely to successfully complete gateway math than non-recipients.

Examining gateway math attempts by age, developmental math referral status, major program area, and attendance status revealed noteworthy differences:

- Thirty-four percent of students younger than 23 attempted gateway math courses, making them more likely to do so than the older student groups (23 to 29, or 30 and older), 19 and 15 percent. This advantage was offset by the fact that younger students were more likely to make multiple attempts than older students. This could be due to the fact that younger students, just out of high school, require less developmental math than older students, and thus are more likely to take college-level coursework during the three-year period analyzed. Further, students age 30 or older who attempted were more likely to successfully complete gateway math than younger students, regardless of the number of attempts made.

- One-third of transfer-seeking students attempted gateway math, compared with 22 percent of terminal-major students. Yet transfer-seeking students have a greater tendency to attempt multiple times. Transfer-seeking students were also more likely to complete gateway math than were terminal-major students, regardless of the number of attempts. A transfer-seeking student may

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*Findings for terminal-seeking students should be interpreted with caution, as it is not always clear how colleges define gateway classes for students in shorter-term occupational programs. This is an unresolved issue in measuring these intermediate success points in the educational sequence.*
view the gateway coursework as a requirement more than an occupational student, who may perceive the gateway course as unnecessary for employment. Thus, the transfer-seeking student may be more committed to enrolling in the course and completing it successfully. Further, gateway coursework may not be required for some terminal-major students.

- Students attending full-time during their first term were more likely to attempt gateway math in their first three years than were those attending less-than-half-time, perhaps because full-time attendance allowed for more time in the student’s schedule, especially if developmental courses were required. Interestingly, students who attended less-than-half-time, if they attempted gateway math, were the most likely to only attempt the coursework once. For students attempting math multiple times, those attending less-than-half-time were more likely to complete gateway math than were full-time students. These less-than-half-time students may be enrolled in other colleges, but take classes at the community college because they think they are easier, or for convenience.

- As would be expected, students who were not referred to developmental math have higher gateway math attempt rates within the first three years compared with students referred to developmental math. Students with developmental math needs, especially those with deep need, may require time to complete their developmental coursework before attempting the gateway math coursework. Further, if attempted, students not referred to developmental math were more likely to succeed in their gateway math attempts than students referred to developmental math.

**Gateway English**

Although many more students attempted gateway English than math—51 compared with 28 percent—students’ gateway English attempt and completion patterns were, in many ways, similar to those found in gateway math:

- First, females were more likely to attempt than males, while Black, non-Hispanic students were less likely to attempt gateway English than students from other racial/ethnic groups. If attempted, females were more likely to successfully complete, and Black, non-Hispanic students were the least likely to successfully complete, gateway English, regardless of the number of attempts.

- By age, as with gateway math course-taking patterns, students over 30 were less likely to attempt gateway English than were younger students, more likely to make only one attempt, and were more likely than were younger students to successfully complete, regardless of the number of attempts.

- Transfer-seeking students were more likely than terminal-seeking students to attempt gateway English, and were more likely than terminal-seeking students to complete gateway English coursework, regardless of number of attempts.

- Full-time students were more likely to attempt gateway coursework than were less-than-half-time students; but, if attempted multiple times, less-than-half-time students had higher success rates than did students who started full-time.

- Finally, students not referred to developmental English were more likely to attempt, but had similar gateway English completion rates as students who had been referred to developmental English.

**Pell grant recipients were more likely to attempt gateway English than non-recipients... [Non-recipients] were more likely to complete.**

Gateway English course-taking patterns by Pell grant receipt differ from those seen for gateway math. Whereas there was no discernable difference in the percentage of students attempting gateway math, Pell grant recipients were more likely to attempt gateway English than non-recipients. However, as seen in gateway math patterns, Pell grant non-recipients who attempted were more likely than Pell grant English to complete gateway English than recipients.

**What Does this Mean?**

With just over one-quarter of students attempting gateway math and one-half attempting gateway English, ensuring students are prepared for, and confident in, their attempt of gateway courses is an important marker indicating progression through the academic sequence toward completion or transfer. About 70 percent of students attempting gateway coursework just one time complete the course successfully. Two-thirds to three-quarters of students needing multiple attempts to complete their gateway courses do so successfully. Students with certain characteristics have higher rates of gateway course success, or require fewer attempts to succeed: women and older students succeed sooner than men and younger students, while Pell grant non-recipients and those who did not require developmental education were more likely (continued on next page)
to complete gateway courses than were Pell grant recipients and students requiring developmental education. Finally, although full-time students were more likely to attempt gateway coursework, less-than-full-time students were more likely to complete the coursework if they took it multiple times. Not many of the entering students attempt gateway courses; however, if they do, their success rate is reasonably high.

As colleges examine gateway courses, and the students who are successful, they should consider the following questions:

- Do gateway course attempt rates vary by subject area at your institution?
- Which student attributes are associated with completion of gateway coursework on the first try?
- Which students are more likely to successfully complete gateway coursework after several attempts?
- Do students who complete gateway coursework on the first try have higher persistence and graduation rates than do students with repeated gateway attempts?
- Are gateway courses required for students in terminal-major programs?
- Does the sequence of courses, and when a student takes a gateway course, have an impact on completion of those courses?

Achieving the Dream colleges can download the companion tables to this issue of Data Notes, featuring your college’s data, at www.dreamweb submission.org.