Four Steps to Address Course Completion Rates

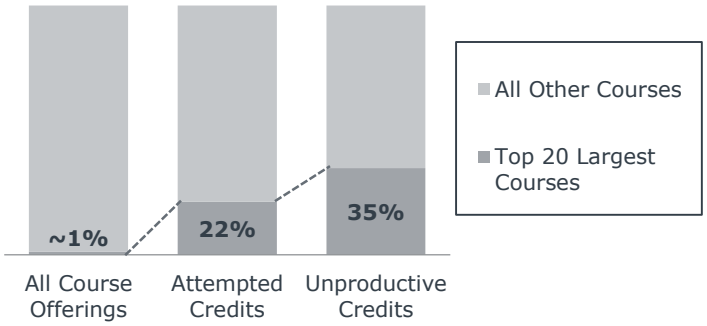
Size the Opportunity

Every Institution Leaking Credits from Same Intro Courses

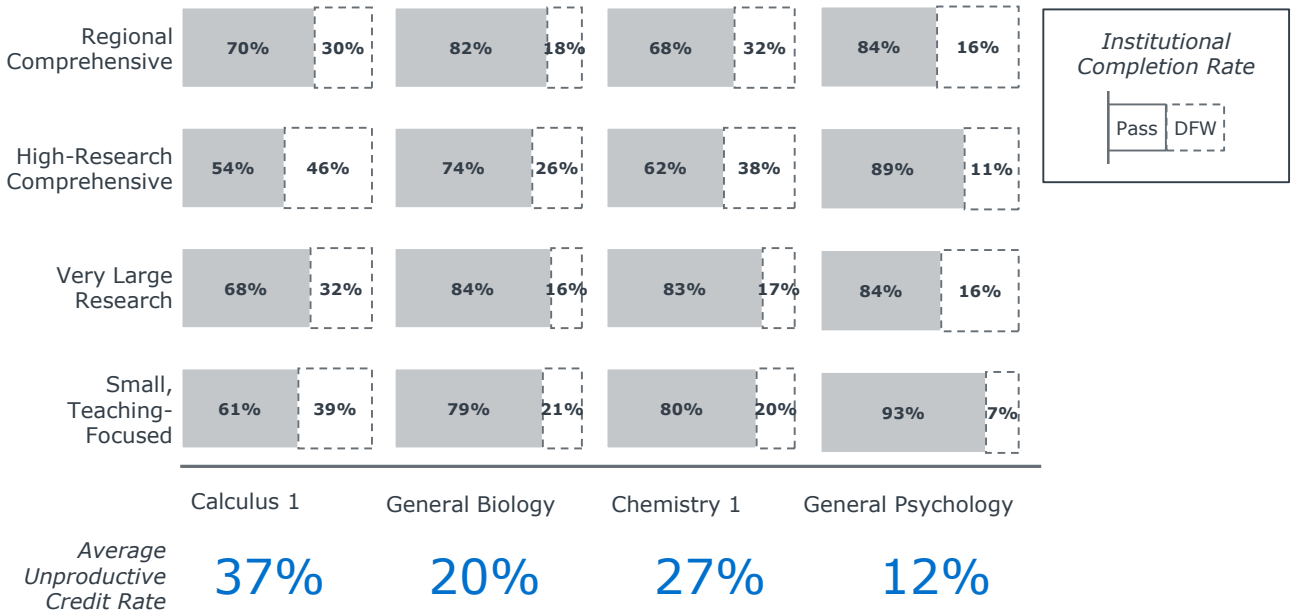
Each year a significant number of credits are lost due to failing grades and student withdrawals from courses (DFWs). Typically 15%-30% of attempted credits are unsuccessfully completed due to DFWs with some courses reaching DFW rates as high as 60%-80%.

However, course completion rates can be misleading since just a few students failing to complete in low enrollment courses can dramatically impact rates. Institutions should look at courses that have the greatest impact such as high enrollment courses, general education courses, and pre-requisites to majors.

A Handful of Large Courses Generate Large Share of Unproductive Credits[1]



Course Completion Rates in Gateway Courses at Seven Universities[2]



Lost credits stem most frequently from lower division courses. EAB data finds that while high-DFW courses vary from institution to institution, there is a common set of six courses that tend to have the highest number of uncompleted credits: intro to chemistry, intro to psychology, intro to biology, college algebra, freshman English, and intro to political science.

1) EAB and Gates Foundation data and analysis..
2) Academic Performance Solutions data and analysis..

Source: Fall 2014, Seven Research, Master's, and Baccalaureate Institutions; EAB interviews and analysis.

Identify Root Causes

Drivers of High DFW Rates

Lack of academic preparation a contributor, but not always a predictor

Lack of academic preparation frequently prevents students from succeeding in courses. While low high school GPAs and/or low SAT or ACT scores can help identify those students who need additional support, students without such markers may also be at risk. Students with strong high school GPAs who attended academically weak institutions or did not take rigorous courses are often still missing critical study skills.

Non-academic barriers often manifest first as academic issues

There are a number of barriers that can prevent students from completing a course. The student may have had multiple absences or several missed assignments preventing them from mastering enough of the material to pass. Moreover, underrepresented students are often balancing multiple competing priorities such as caring for a parent or guardian or working while enrolled which can impact their academic performance. Particularly important for online courses, students may never have logged into the learning management system (LMS). Such lack of engagement prevents students from gaining access to critical course information, assignments, and support mechanisms.

Large class sizes less important than pedagogical approach

Analyses by both the University of Kentucky and EAB have found that class size has little effect on DFW rates. However, a UCLA analysis found that while large classes overall were not a problem, models comparing student groups identified section size as associated with higher no-pass rates. More importantly, when they analyzed the factors associated with the achievement gap between underrepresented minority (URM) and non-URM students and Pell Award recipients and non-recipients, they found that course size was a significant factor in disparity ratios. More likely, the negative impact is due to problematic pedagogy applied to large course sections rather than the size of the sections themselves.

Students often withdraw for the wrong reasons without understanding consequences

While there are good reasons to withdraw from a course, some students withdraw because they are not earning the grade they want. While EAB's Student Success Collaborative identified that course repeats by those receiving a C or below can be a marker for success, students with high marks that choose to withdraw and retake a course risk slowing their time to degree unnecessarily.

Other poor reasons for withdraw include: dislike of the instructor, unhappy with the timing of the course (unless it conflicts with work), and losing interest in the material.

Source: EAB interviews and analysis.

Identify Root Causes (cont.)

Drivers of High DFW Rates

Grading philosophy affects student performance

A UCLA analysis found that while some of their faculty grade based on concept mastery, others grade based on class distribution (also known as grading on a curve or norm-referenced grading). Grading on a curve, their analysis found, "is associated with the greatest disparities across groups in course performance."[1] Further research[2] demonstrates that norm-referenced grading creates a competitive classroom environment, where the success of one student is at the expense of another's, which has a disproportionately negative effect on underrepresented students. This indicates that a seemingly innocuous method to assess and compare student performance can have disparate impacts on outcomes.

Some pedagogical styles not as effective for certain student groups

Certain pedagogical approaches serve to reinforce unconscious biases and stereotype threat, serving to hurt not only students who are truly underprepared and/or are in need of greater support, but also those underrepresented students who are well-prepared. UCLA found that the success of students that come from racial, ethnic, and gender minorities or are from lower socio-economic backgrounds "is undermined by stereotype threat and the unconscious biases of peers and instructors who inadvertently affirm their undeserved exclusion from academically successful tiers of the learning community."[1]

Lack of support for improved pedagogy

Some faculty members argue that low (and possibly declining) levels of academic preparation of students are to blame for high failure rates. Certainly, this may explain part of the problem. But the fact that even highly selective universities see high failure rates in certain courses indicates that the issue goes beyond student academic preparation. And the wide variation in fail rates by instructor for some courses demonstrates that in some cases, improvements in pedagogy can make a significant difference.

However such changes are challenging due to insufficient incentives for faculty to improve their pedagogy. Faculty members (and new graduate teaching assistants) receive minimal training and support for pedagogical innovation and limited feedback on teaching effectiveness (other than student course evaluations). Further, adjuncts (as well as tenured faculty) often lack the time and support needed to overhaul their teaching methods.

1) UCLA, "Enhancing Student Success and Building Inclusive Classrooms at UCLA" December 2015.
2) Schinske, Jeffrey, and Kimberly Tanner. "Teaching More by Grading Less (or Differently)." *CBE life sciences education* vol. 13,2 (2014): 159-66. doi:10.1187/cbe.CBE-14-03-0054

Source: UCLA, "Enhancing Student Success and Building Inclusive Classrooms at UCLA" December 2015.; Schinske, Jeffrey, and Kimberly Tanner. "Teaching More by Grading Less (or Differently)." *CBE life sciences education* vol. 13,2 (2014): 159-66. doi:10.1187/cbe.CBE-14-03-0054EAB interviews and analysis.

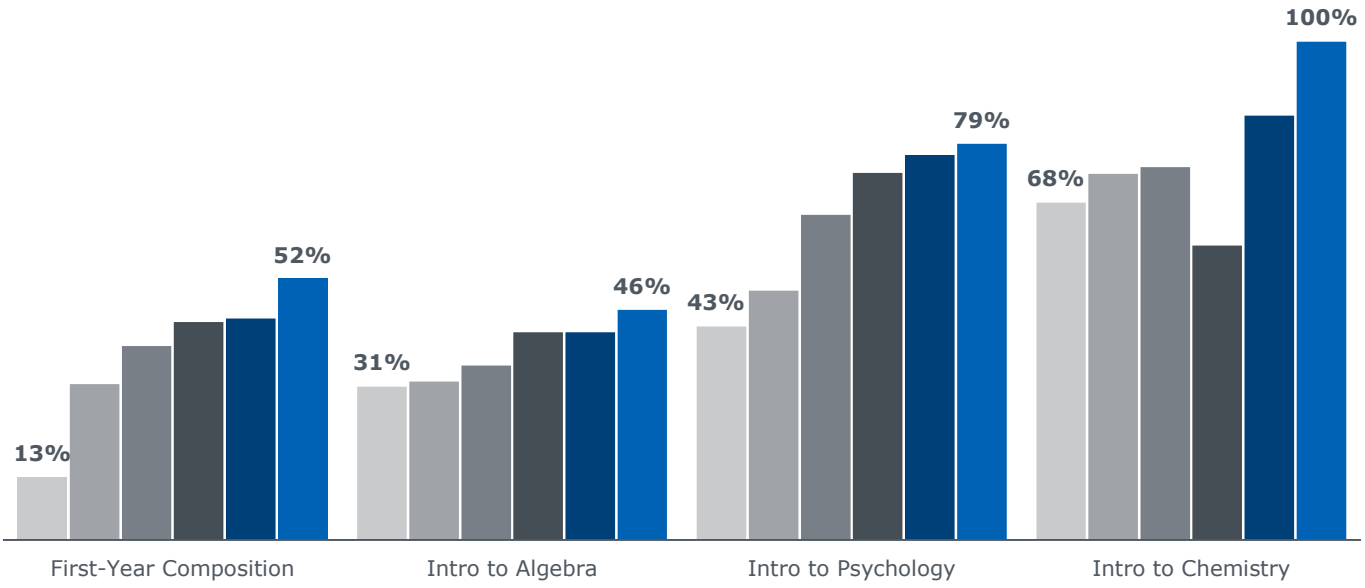
Identify Root Causes (cont.)

Failure Rates Vary Drastically, Even Within a Single Course

While student academic preparation is clearly an important factor in explaining overall DFW rates, data on course completion rates by instructor show significant variation even across students with similar qualifications in different sections of the same course. Data below from one public master's university shows that a student's choice (or assignment) of instructor plays a significant role in their success.

Instructors Often a Major Source of Variability

Completion Rates for Sections of Same Course at More Selective, Public Research University[1]



While many administrators and faculty suspect that course size and student mix (high numbers of URM and underprepared students) are the main drivers of DFWs, high variation by instructor indicates that it is critical for institutions to address these discrepancies and ensure equal support across course sections. Actions taken to address high-DFW-rate courses must involve all faculty instructors, not just those few who are most willing to experiment with delivery modes and innovative pedagogy in the classroom.

As one report noted, "Pass rates varied widely from instructor to instructor, creating a strong sense in the minds of students and faculty that 'Who you took' mattered more than 'What you learned.'"[2]

In some cases, variation in pass rates by section may be the result of timing rather than instructor. Though calendars and space may necessitate it, courses scheduled at unpopular times may see higher DFW rates due to higher rates of student absence or clustering of students who are underprepared. Underprepared students are frequently late to register, forcing them into last pick course options and times. At the same time, students who work (especially off-campus) may find themselves limited to unwanted or conflicting course times and course options.

1) Academic Performance Solutions data and analysis.
2) Bullock D, et al "Coherent Calculus Course Design: Creating Faculty Buy-In for Student Success," 122nd ASEE Annual Conference & Exposition 2015

Source: EAB interviews and analysis.

Prioritize Resources

Identify Courses Where Improvements Would Have the Greatest Impact

Prioritize investments in redesign based on a specific set of criteria. Well-intentioned blended learning initiatives often fail to achieve the desired course conversion or student success results because of an imbalance between central administrative oversight and ground-up faculty support. One method of balancing both the interests of the institution and the curricular flexibility desired by faculty is to administer a provost-level grant program for course design innovation.

By using targeted investments through an RFP process, the administration at the **University of North Carolina at Charlotte** ensures that willing faculty have plentiful support and recognition throughout the redesign and assessment process without trying to coerce faculty who are resistant.

Course Redesign Prioritization Criteria

Redesign grant programs should prioritize proposals that meet the following criteria:

Redesigns **entire courses** within a department, rather than individual sections

Demonstrates support from departmental **faculty, chairs, and deans**

Targets general education, introductory, and/or prerequisite **gateway** courses

Includes a plan for **financial sustainability** and/or an overall reduction in costs

Targets courses with historically **high DFW (D/F/withdraw) rates**

Describes how the course will use **technology** to reduce costs and improve outcomes

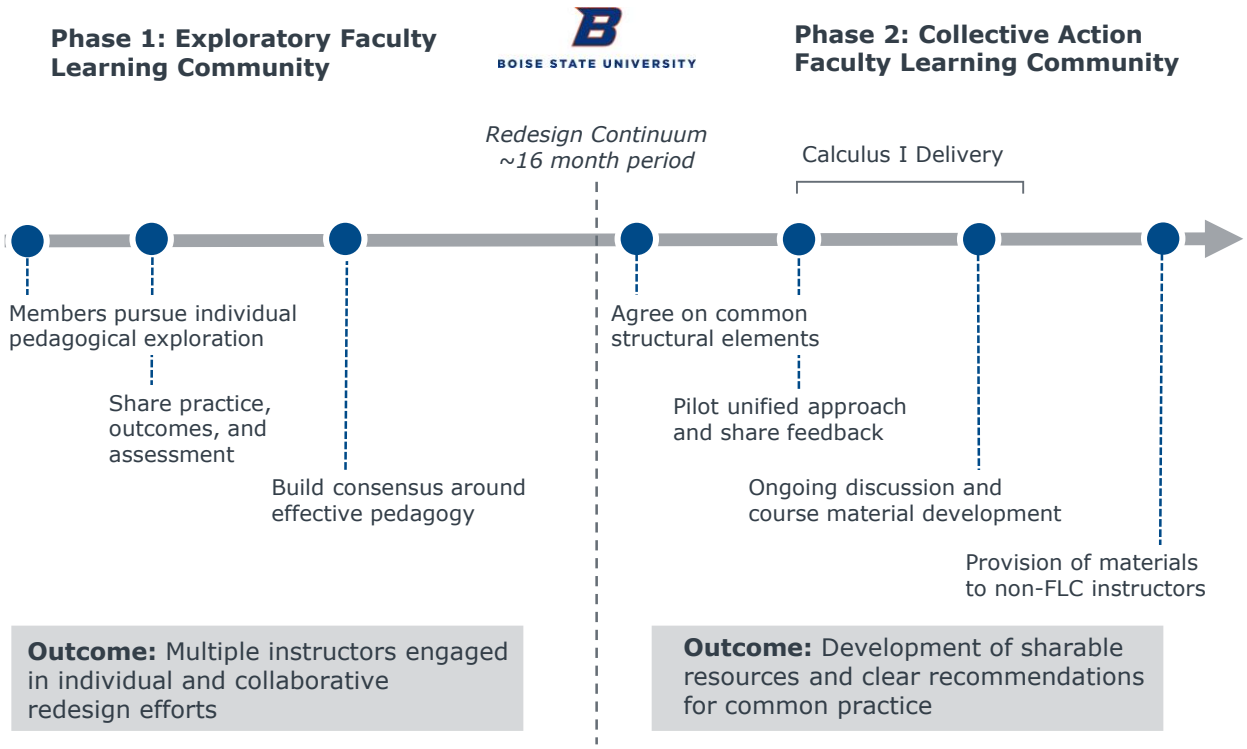
Targets **high-enrollment** courses with seat capacity constraints

Preserves **academic rigor and course content** while adapting delivery methods

Engage Faculty

The Role of Faculty Learning Communities in Course Redesign

Faculty ownership is essential to the success and longevity of any course redesign initiative. One of the best ways to engage and support faculty is through faculty learning communities (FLC) which support individual pedagogical exploration while encouraging collective learning through practice and outcomes sharing. Boise State's Center for Teaching and Learning invited mathematics faculty to participate in a course-based FLC, specifically to restructure Calculus I. The redesign effort took place in two phases over the course of about 16 months.



The first phase brought together an "Exploratory FLC," convening calculus instructors to explore and experiment with redesign strategies at both the individual and institutional level. This created greater consensus around effective pedagogy across multiple instructors engaged in redesign efforts. The second phase entailed a "Collective Action FLC," the goal of which was to implement the redesign. Invitations to this FLC, which was convened in the fall term, were limited to instructors slated to teach calculus in the upcoming spring term. During the first half of this FLC, members set out to determine agreed upon reforms. The latter half of the FLC overlapped with a term of calculus, during which instructors would test out their new materials. FLC meetings involved sharing experiences with the reforms as well as planning for future weeks. At the end of this process, the FLC members assembled materials for future calculus instructors.

Source: Bullock D, et al., "Coherent Calculus Course Design: Creating Faculty Buy-in for Student Success," 122nd ASEE Annual Conference & Exposition, 2015; EAB interviews and analysis

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