



EAB

The Course Completion Playbook

Analyses and Tools to Improve Student
Outcomes in Critical Gateway Courses

Strategic Advisory Services

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Matt Hagerty



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- 1** **Course Completion as a Student Success Imperative**
- 2** Four Steps to Addressing Course Completion Rates
- 3** Tactics for Improving Course Completion Rates

Why Look at Completion Rates?

The High Cost of Credits Taken But Not Earned



Longer Time to Degree

One institution found that six unproductive credits can lead to an extra four months of time to degree.



Potential Loss of Financial Aid or Scholarship

Many aid packages or scholarships are dependent on a student having a minimum GPA or full-time status.

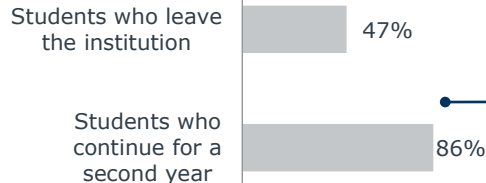


Less Likely to Be Retained

Students not receiving course credit can lead to lower retention rates.

Completion Rates, End of Freshman Year¹

n=6,532 freshmen



Completion rate of first year students who leave the university is nearly half

1) Average end-of-freshman-year completion rate at one regional comprehensive university.

Common Root Causes of Low Completion



Low Course Completion

1

Academically Unprepared

- Students with low high school GPAs or who attended academically weak institutions and lack critical study skills
- Contributing factor, but high school GPA and standardized test scores are often poor predictors of classroom performance

2

Personal Life Struggles

- Financial, mental health, or family issues can prevent students from being fully engaged in coursework
- Challenging to address in classroom, better suited for counseling and advising staff

3

Student Demographics

- Factors such as socioeconomic background or status as a first-generation student can create unique challenges
- Institutions can address disparities related to demographic characteristics through support services or inclusive pedagogical approaches

4

Instructor Variation

- Differences in grading philosophy and pedagogical style can impact student success in the classroom
- A major driver of higher DFW rates that can be addressed with support for improved pedagogy

Outside the Classroom

Inside the Classroom

Improvement Efforts Often Met With Skepticism



Faculty Concerns to Addressing Course Completion in the Classroom



Student Characteristics

Belief that course failures are a result of unprepared students



Quality Concerns

Perception that improving completion rates is at the expense of instructional rigor



Unfair Solutions

Concern that redesign increases class size and workloads, or rewards bad teachers with additional resources



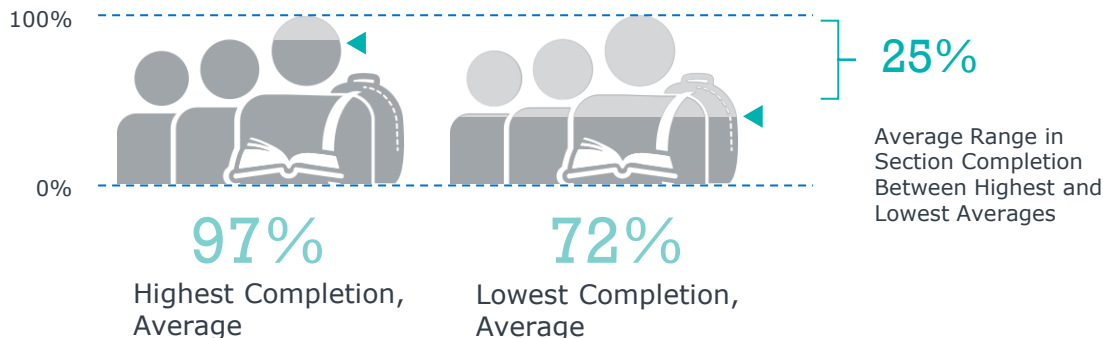
Screening Students

Use of gateway courses to limit entrance to oversubscribed or competitive majors

How Much Variation Is Expected Across Sections?



Range of Section Completion Rates¹



Range of Section Completion Rate



The difference between the highest and lowest completion rates for sections of the same course

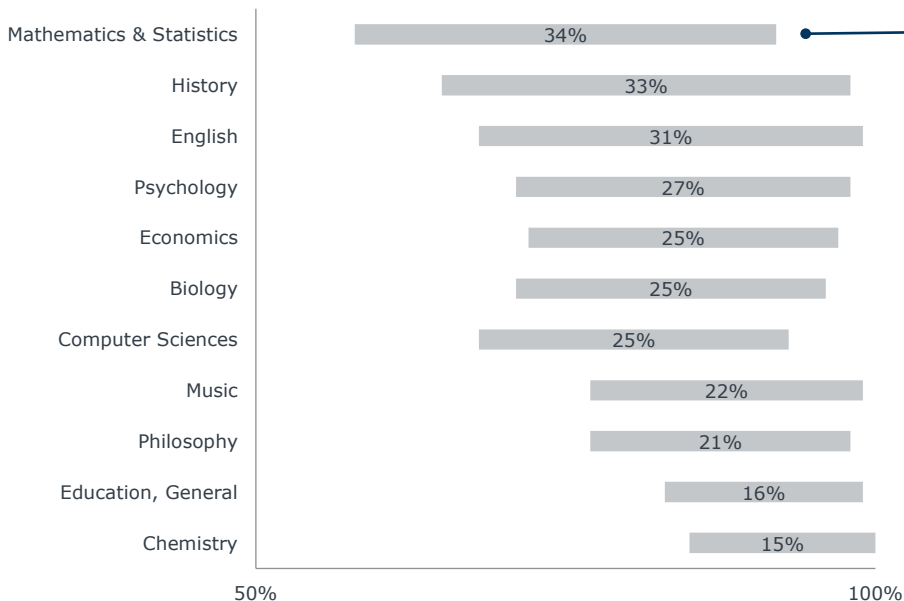
1) Methodology: Found the range of completion rate for each course with five or more sections at each school in the collaborative, then took the average.

Range of Variation By Department



Average Range in Course Completion Rate by Department¹

Lower Division Courses, Fall 2015, All Cohorts



Of the four intro-level courses benchmarked, Calculus I had the widest degree of variation at 32%

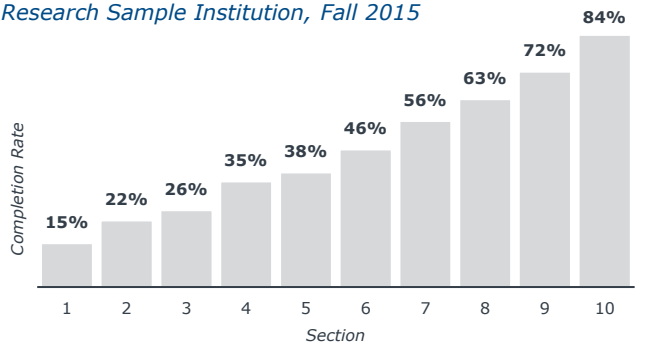
- 1) Methodology: Found the range of completion rate for each course with five or more sections at each school, then took the average by department.
- 2) Similar courses were identified at each of the 43 institutions using course division, class size and course description, but due to differences between course descriptions across the collaborative, we are not able to offer course-level benchmarking in the APS platform at this time.

Instructor Variation in a Single Course

Large Range in Section Completion Rates for Calculus I

Variation in Calculus Section Completion Rates¹

Section Completion Rates Across Very Large Research Sample Institution, Fall 2015



Class Size 41 45 39 34 47 50 45 44 43 51

69%

Range for Calculus I completion, compared to collaborative average of 32%

Digging into the Data

- 1 Remember higher section pass rates does not mean better
- 2 Start without including the instructor if possible to avoid bias you carry
- 3 Consider selecting multiple terms or years to reduce the sway of random variance

Unproductive Credit Courses > MATH101M

Course Ref No	Attempted Credits	Unearned Credits	Completion Rate [%]
21014	120	57.00	52.5%
27130	114	42.00	63.2%
17384	126	27.00	78.6%
22676	57	21.00	63.2%
22027	120	21.00	82.5%
11262	126	21.00	83.3%
30136	66	18.00	72.7%
13094	126	18.00	85.7%
17383	120	15.00	87.5%
21066	120	15.00	87.5%

1) Sample data from one institution in the collaborative. All sections with class size greater than 25.

1

Course Completion as a Student Success Imperative

2

Four Steps to Addressing Course Completion Rates

3

Tactics for Improving Course Completion Rates

Four Steps to Addressing Course Completion Rates

1

Size the Opportunity



- Quantify DFW rates at the institutional, college, department, and course level
- Look at both the DFW rate and the absolute number of credits lost due to DFWs

2

Identify Root Causes



- Academic preparation
- Non-academic challenges
- Instructor variation
- Student socioeconomic and demographic characteristics

3

Prioritize Resources



- Courses with high DFW rates and high absolute numbers of lost credit hours
- Courses with high variability in DFW rates by instructor or by student group
- High-enrollment courses, especially those with capacity constraints
- Gateway courses that are major requirements or critical prerequisites

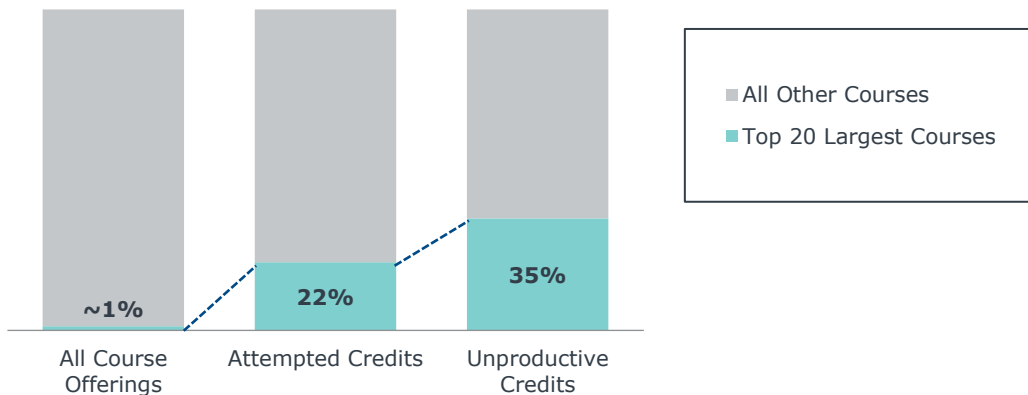
4

Engage Faculty



- Identify interested faculty
- Provide time, financial resources, pedagogical support, and incentives
- Address faculty concerns about lowering standards

A Handful of Large Courses Generate Large Share of Unproductive Credits¹



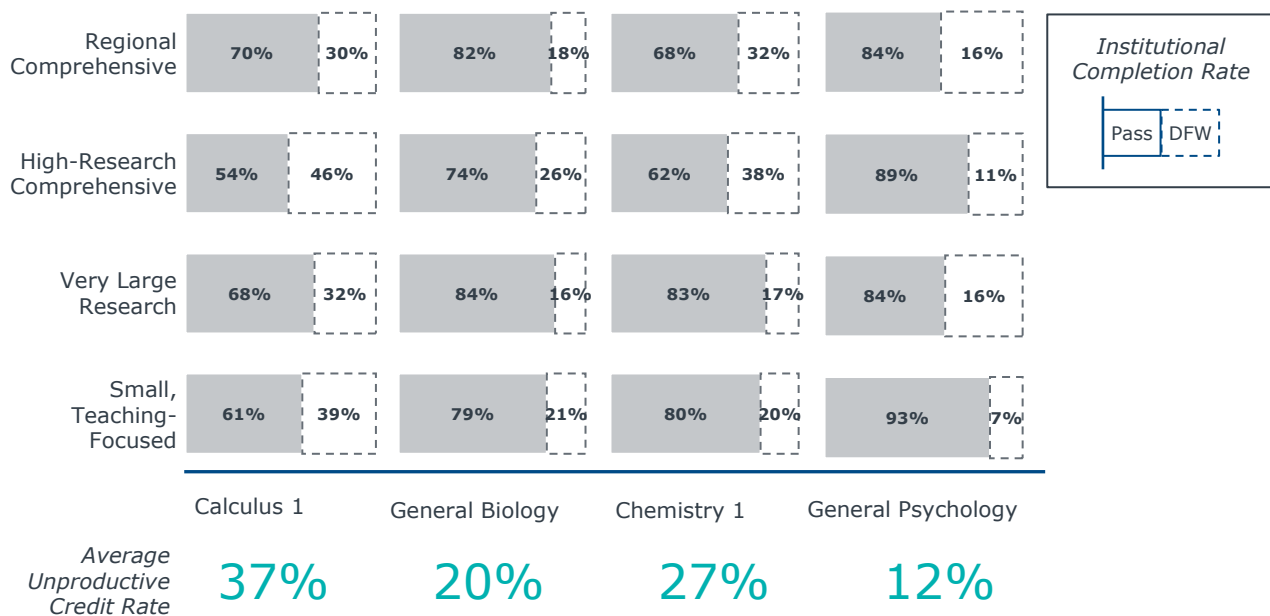
1) EAB and Gates Foundation data and analysis.

Same Culprits at Most Institutions



Every Institution Leaking Credits from Same Intro Courses

Course Completion Rates in Gateway Courses at Seven Universities¹



Institutional Completion Rate

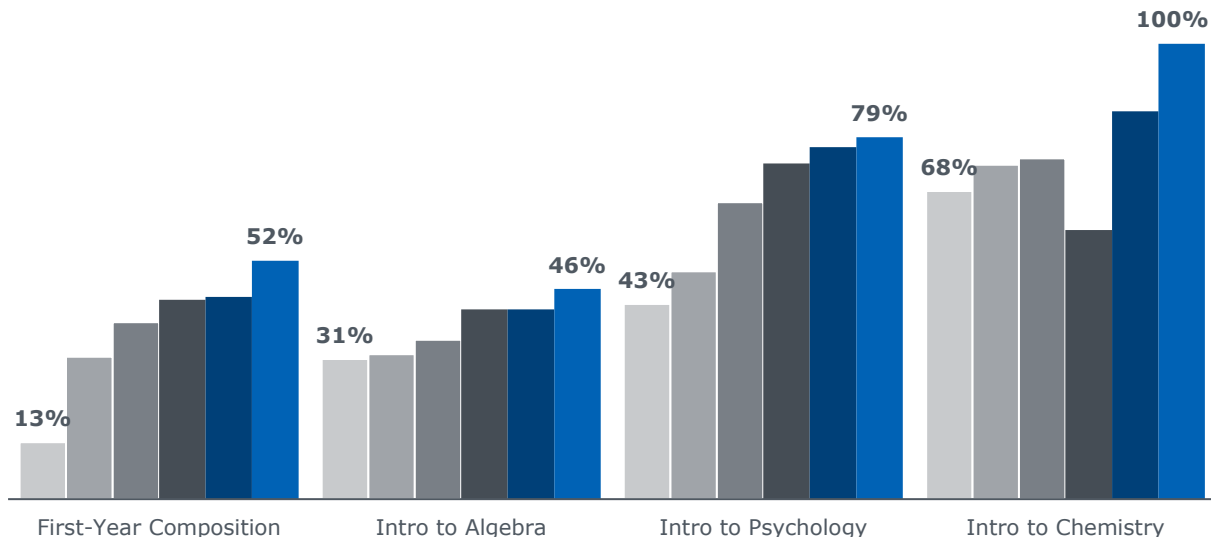
1) Academic Performance Solutions data and analysis.

A Clear Opportunity for Improvement

Failure Rates Vary Drastically, Even within a Single Course

Instructors Often a Major Source of Variability

Completion Rates for Sections of Same Course at More Selective, Public Research University¹



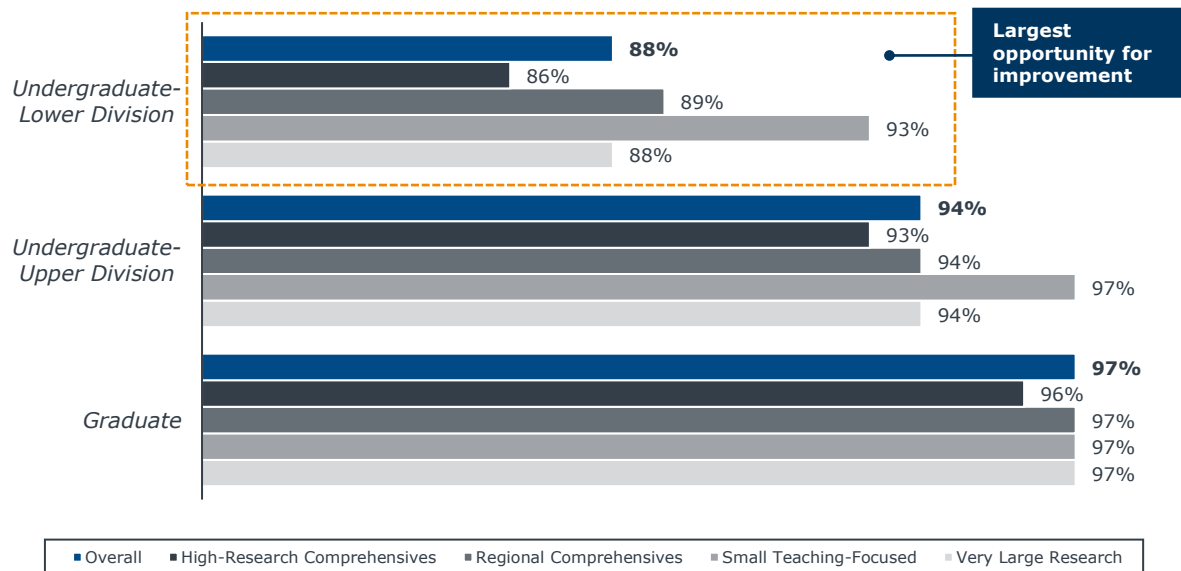
1) Academic Performance Solutions data and analysis.

Drilling into Course Level Differences

Lower Division Has Lowest Median Completion Rates

Completion Rates by Course Division¹

Median Completion Rate by Cohort, AY 2015



1) Course level definitions: lower division includes 100 and 200 level; upper level includes 300 and 400 level; graduate includes 500 level and above

Prioritize Resources

Identify Courses Where Improvements Would Have the Greatest Impact

Course Redesign Prioritization 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**



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

For more information and resources, see the National Center for Academic Transformation's online repository at **thencat.org**

It Takes a Village

The Role of Faculty Learning Communities in Course Redesign



Phase 1: Exploratory FLC



BOISE STATE UNIVERSITY

*Redesign Continuum
~16 month period*

Phase 2: Collective Action FLC

Calculus I Delivery

Members pursue individual pedagogical exploration

Share practice, outcomes, and assessment

Build consensus around effective pedagogy

Outcome: Multiple instructors engaged in individual and collaborative redesign efforts

Agree on common structural elements

Pilot unified approach + share feedback

Ongoing discussion and course material development

Provision of materials to non-FLC instructors

Outcome: Development of sharable resources and clear recommendations for common practice

1

Course Completion as a Student Success Imperative

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Four Steps to Addressing Course Completion Rates

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Tactics for Improving Course Completion Rates

Tactics for Improving Course Completion Rates



Assessment

1. Early and Frequent Low-Stakes Assessment
2. Standardized Assessment



Instruction

3. Active Learning
4. Supplemental Instruction



Course-Level Advising

5. Course Behavior Alerts
6. Automated Withdrawal Advising



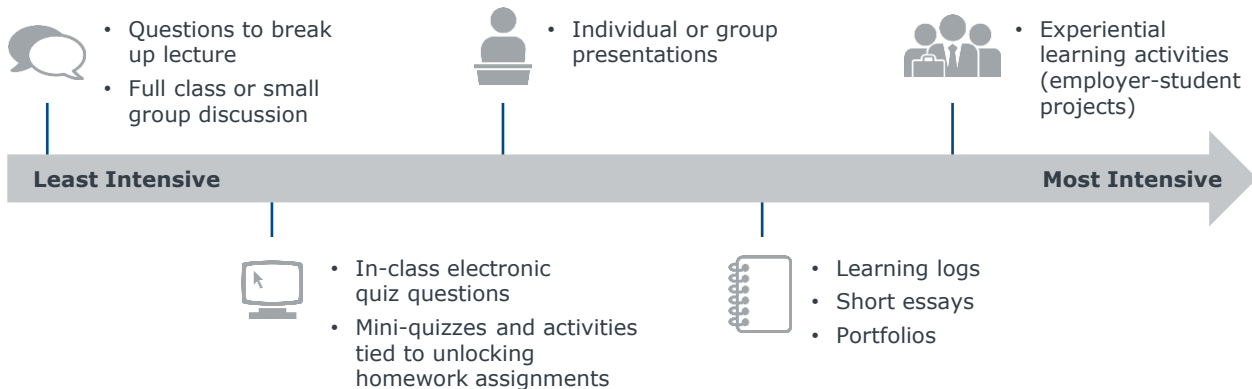
Pre- and Post-course Support

7. Growth Mindset Priming
8. Intensive Early Start Cohorts
9. Accelerated Catch-Up Terms

Early and Frequent Low-Stakes Assessment

The Do's and Don'ts of Low-Stakes, Incremental Assessment

Sample Types of Assessment



Personalized Learning without CBE

CBE = Competency Based Education

“Adaptive Release” Ensures Mastery of Foundational Skills



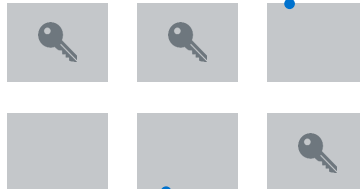
Econ 122



Pivot Tables Quiz

- Skill critical to course success
- Pass quiz to unlock homework

Unlocks Homework



Excel model project

Spreadsheet analysis assignment

Early results show lasting effects

- ✓ 20% higher scores on final
- ✓ Higher than average GPAs in next course, Econ 301—3.37 vs. 2.76

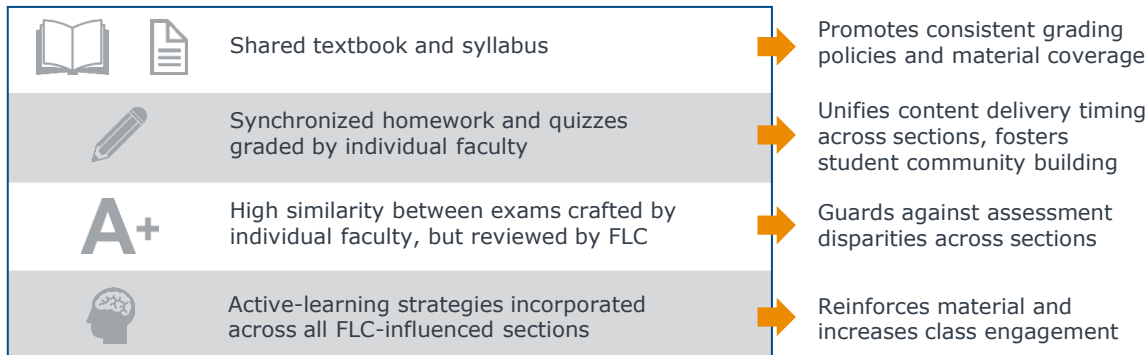
Push-button implementation

- ✓ Standard BlackBoard feature
- ✓ Only a few clicks to activate
- ✓ Less than five hours course development time

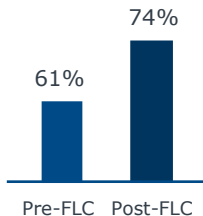
Beyond a Shared Textbook

Boise State "Coherent Calculus" Scales Redesign Benefits to All Students

A Coherent Multi-Section Course



Immediate & Visible Impact on Pass Rates



Non-FLC Instructors Quick to Adopt New Methods

100%

Of next semester Calculus I instructors adopted redesigned structure and material

High-Impact, Low Cost



Course Release Participation Incentive

The Role of Active Learning in Student Success

Lessons from the Science of Learning

A+

Improved academic achievement



Students retain information at higher rates and gain higher marks on exams

 Tests assessing conceptual understanding 2x higher¹



Increased student retention



Engaged students more likely to be retained by program and institution


 Reduces technical program attrition by 22%²



Improved student-instructor interactions



Creates increased opportunities for engagement between students and instructors


 Student-faculty interaction on of the strongest factors in determining college satisfaction (Gallup-Purdue)



Supports student transition and peer relations



Helps students build positive relationships with peers, fosters healthy adjustment to college

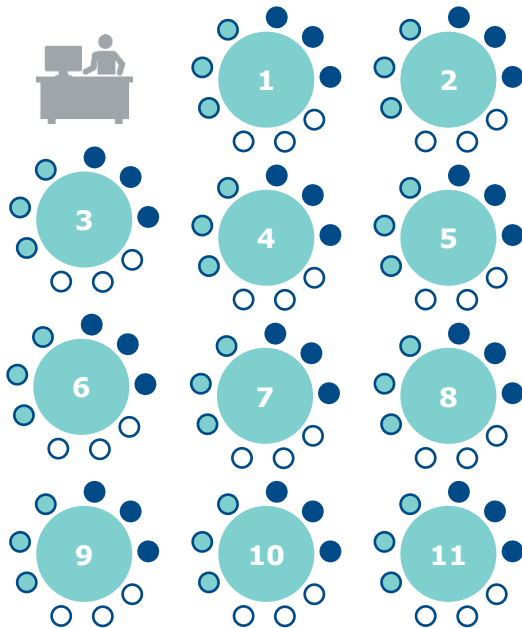
 Cooperative learning, a type of active learning, "promote[s] higher self-esteem than competitive or individualistic efforts"³

- 1) Hake R, "Interactive-Engagement vs. Traditional Methods: A Six-Thousand-Student Survey of Mechanics Test Data for Introductory Physics Courses," *American Journal of Physics*, 66:1, 1998, 64.
- 2) Prince M, "Does Active Learning Work? A Review of the Research," *Journal of Engineering Education* 93:3, 2004, 5.
- 3) Johnson D, Johnson R, Smith K, "Cooperative Learning: Improving University Instruction by Basing Practice on Validated Theory," *Journal on Excellence in Teaching*, April 2013, 9.

Designed to Scale

Fostering Interactive Learning in a Large Class Setting

The SCALE-UP Classroom



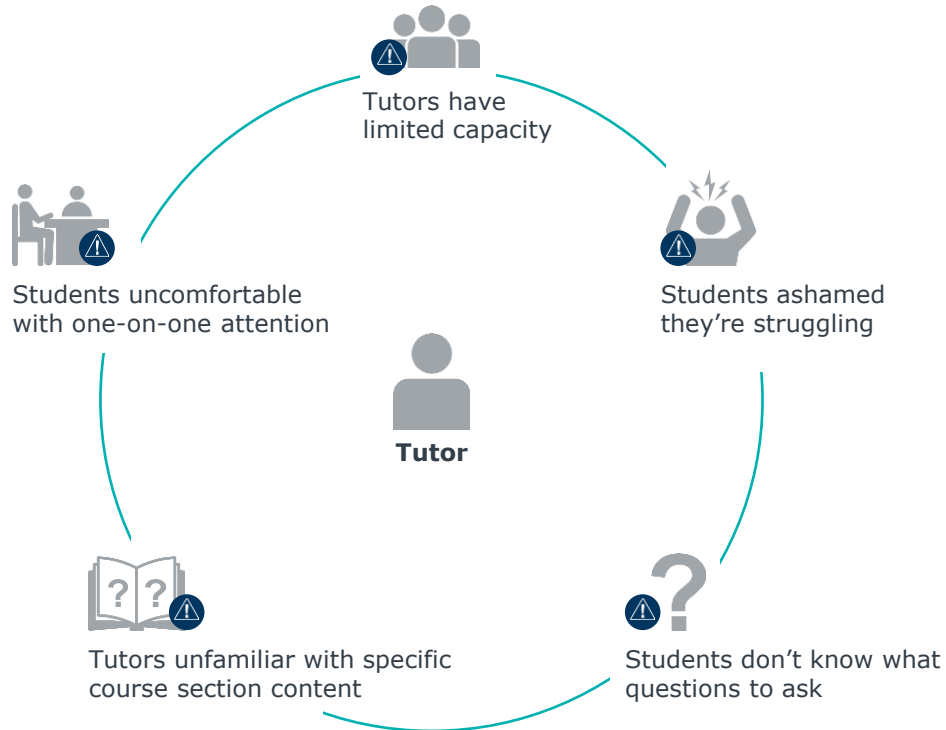
NC STATE
UNIVERSITY

Key Features

- Three groups of three at each table
- One laptop per group
- Combines lecture, discussion, hands-on experiments, and group work
- Whiteboards and projection screens on most walls
- Instructor moves constantly around the room
- Web-based problem delivery and grading system

The Role of Supplemental Instruction

How to use Tutors to Improve Outcomes



How Can We Help Students Learn More?

Supplemental Instruction

Key Features

- Targets high enrollment courses and high DFW courses
- Peer-assisted, group study and discussion sections meeting several times per week
- Instructor-free zones creating relaxed and safe environment for anxious students
- SI leaders are trained “near-peers” with high levels of proficiency in the course/subject area and are embedded in courses
- Sessions cover:
 - ✓ difficult course concepts
 - ✓ information recall and real world application
 - ✓ study skills
 - ✓ communication skills
 - ✓ test prep

**MIDDLE
TENNESSEE**
STATE UNIVERSITY

Scaling Academic Support

36

Number of sections with supplemental instruction

2K

Students served through supplemental instruction

22 ↑

Points higher on average on first Calculus exam for regular SI attendees in Calculus I

- Source: “MTSU Unveils Reforms Geared to Improve Student Success,” mtsunews.com; “Quest for Student Success 2013-2016”, MTSU, <http://www.mtsu.edu/docs/QuestforStudentSuccess.pdf>; Supplemental Instruction at MTSU, mtsu.edu/si; EAB interviews and analysis.



Determine which courses to target

- Large courses, particularly those that are lecture-based
- Courses with high D/F, withdraw rates
- General education courses
- Critical gateway courses

Increase student engagement

- Show students how supplemental instruction can improve learning by providing data on the performance of those who did and did not participate – this is particularly effective coming from instructors
- Provide incentives for students to attend like offering low-cost snacks

Improve student learning

- Create an active learning environment
- Ensure students are able to ask questions/have input into the focus of supplemental instruction sessions
- Provide mini assessment opportunities to help students identify where they may need the most support

Advanced: To help finance supplemental instruction institutions should evaluate areas where tutoring is underutilized and reallocate those funds to supplemental instruction. In addition, consider including chairs and deans in the budgetary conversations to ensure they are given a voice in programming. This will ultimately help support buy-in.

Reaching Out to Students with Two or More Absences

Mississippi State's "Pathfinders" Program

1 Faculty Prompted to Submit Alerts

- Every two weeks department heads e-mail faculty reminder to submit alerts on any first-year student missing two or more classes. Faculty encouraged to submit alerts on rolling basis
- Deans/chairs contact faculty who don't submit alerts

2 Pathfinders Office Processes Alerts

- Program coordinator processes alerts daily, creating spreadsheets with flagged students' contact information
- A student receives only one class attendance intervention per semester

3 Residency Status Determines Intervention Delivery Method

On-Campus Students

- Specially trained RAs contact students living in residence halls

Off-Campus Students

- Program coordinator contacts students living off-campus

Two Simple Reporting Mechanisms

Banner Overlay

- Banner¹ enables faculty to check attendance alert box next to student name on course roster

Pathfinders Website

- Reports also submitted via web-based submission form
- Enables teaching assistants, who do not have access to Banner, to submit alerts

Why Students Withdraw

Students have many reasons for choosing to withdraw from a course or the institution

Some are “good” reasons

“I’m avoiding a failing grade”

“I’m overwhelmed and worried about my grades in other courses”

Many are “bad” reasons

“I’m not earning the grade I want”

“I dislike the instructor”

“I don’t want to get up this early”

“I’ve lost interest in the material”

Suboptimal advising practices let too many students make “bad” choices

Structure

Few institutions require an advising meeting prior to withdrawing

Quality

Some advisors simply rubber stamp all withdraw requests

Capacity

Even the best advisors cannot always dedicate adequate time to assessing all requests

Absent a meaningful conversation, **many students do not understand the long-term implications** of their withdrawal decisions

Are You Absolutely Sure?

Penn State's Online Withdrawal Process Highlights Implications

Each Stage of Module Provides New Information and Opportunity to Back Out

Broad Implications

- Lists impact on aid, time-to-degree, standing, grades, benefits, and enrollment status

Initial Student Decision

- For course drop, student inputs major, reason for drop, and anticipated grade
- For withdrawal, student selects from list of 22 academic and non-academic reasons

Personalized Advice

- Based on info provided in previous step and student degree audit

Final Student Decision

- Re-lists implications
- Requires student password to confirm final decision

40%

Students dissuaded from course drop¹



PennState



Incorporates Advising into Formerly Transactional Process



Scales Intervention to Avoid Overburdening Advisors



Provides Data to Target Future Institutional Intervention

1) Estimate based on 2012 .

Direct withdrawing students to meet with their advisors

- Advisors can use survey data to help students develop a personalized plan to complete their degrees at the institution
- Advisors are aware of the breadth of resources available on campus and can recommend support offices to students

Simplify withdrawals for necessary personal reasons

- Permit students to withdraw for health or family reasons without encountering bureaucratic roadblocks
- Identify students with necessary reasons for transfer-out (e.g. desired major not offered) and allow these students to transfer seamlessly

Use data to better predict student attrition risk

- Common student selections in withdrawal survey suggest areas for resource expansion
- Student characteristics can help predict drop-out risk before students withdraw
- Student feedback from exit surveys can be used to improve withdrawal survey options and process

Advanced: *Institutions should use student answers to the online module to determine follow-up actions. For example, if a student notes that they are struggling with the course work, the tutoring center should follow-up. If the student notes that they are struggling with school-family balance, day-care services should follow-up with the student.*

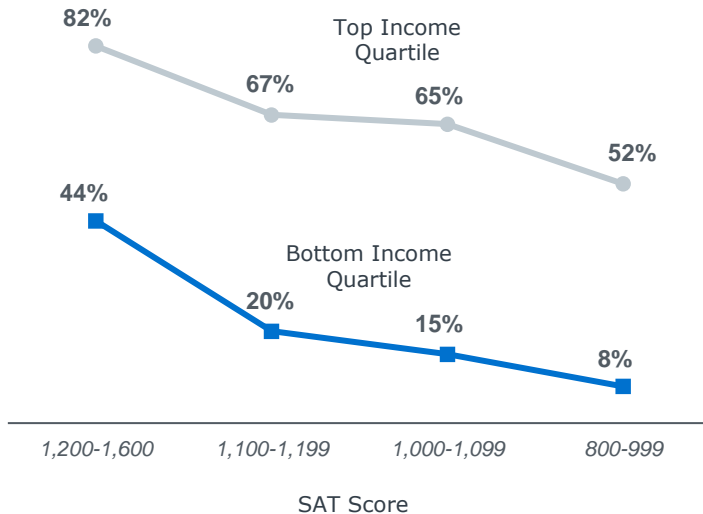
The Role of Resilience



The Achievement Gap and the “Growth Mindset”

The Achievement Gap

Chance of Earning a Four-Year Degree by Age 24



The Growth Mindset

Intelligence Can Be Cultivated Through:

- ✔ Effort
- ✔ Strategies around studying and test taking
- ✔ Support from others

Potential Misapplications:

- ✘ Telling struggling students to just try harder
- ✘ Praising students for trying when they've made no progress
- ✘ Expecting students to always have a growth mindset

Source: Carnevale A and Strohl J, "Rewarding Strivers," 2010; Gross-Loh C, "How Praise Became a Consolation Prize," The Atlantic, Dec, 16 2016; Parker C, "Online 'Mindset' Interventions Help Students Do Better in School, Stanford Research Shows," Stanford News, April 27, 2015.

Building a “Belonging” Mindset

UT Austin’s Innovative Psychosocial Intervention for Risky Students

Complete online orientation activities

Read articles about the “UT Mindset”

Reflect on material to help future students

The Results



Welcome!

1. How to Register
2. Student Groups
3. Signature Course Information
4. Changing Colleges
5. Important Campus Resources
6. Vaccine Requirement
- 7. The “UT Mindset”**
8. Honor Code

Growth Mindset and Belonging Group



“The brain is malleable”



“I realized I’m not alone”



“College-level courses can be intimidating, but don’t give up! We are all a bit scared at first.”

Control Group



“Austin’s culture was surprising”



“It sure is hot here”



“College is a new experience, with a lot of big changes to adjust to. You’ll get used to it, I know I did!”

For “Mindset and Belonging” groups, the gap between share of disadvantaged and advantaged students completing 12+ credits in first term **reduced by half**

Intervention used for all 7,800 incoming first-year students in fall 2014

25-45 minutes

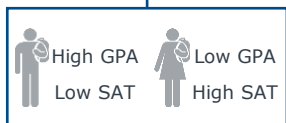
91% Participation

Getting a Head Start on Credit Momentum

Four Step Guide to a Financially Sustainable, Credit-Bearing Summer Start

**1**

Mandatory “retroactive-enrollment” of borderline admits in summer of previous academic year

**2**

Students must fill out two FAFSAs

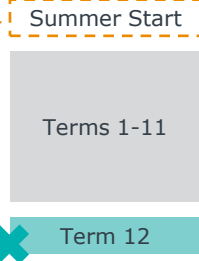
**3**

Enroll in 6+ summer credits in core requirements

- English (3 credits)
- History **or** Political Science (3)
- FY Orientation (1)

4

Students gain summer aid but lose regular 12th-term Pell eligibility



Credit Momentum Gains Outweigh Pell Eligibility Risk

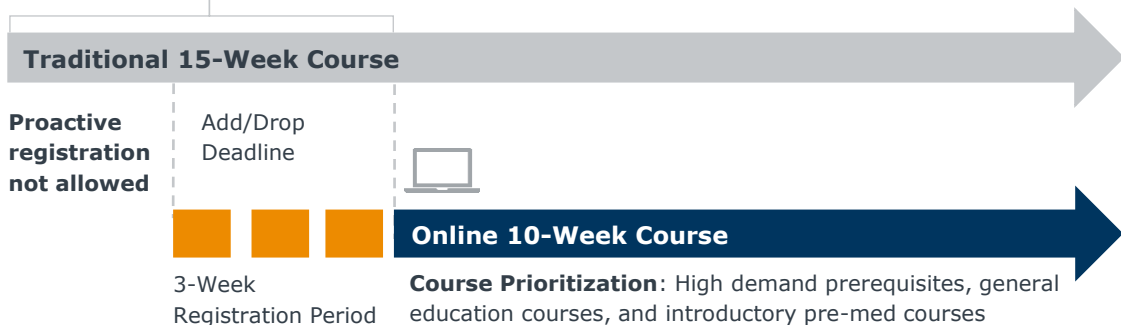
Success Academy participants get head start on credit accumulation and expected to graduate in fewer than 12 terms.

A Second Chance at a Full Course Load

Withdrawal Redirect Courses Keep Students on Track

THE UNIVERSITY OF
ALABAMA

Advisors notify drop/fail/withdraw (DFW) students of "fail-safe" option



Students avoid losing financial aid eligibility



Doesn't use valuable classroom space



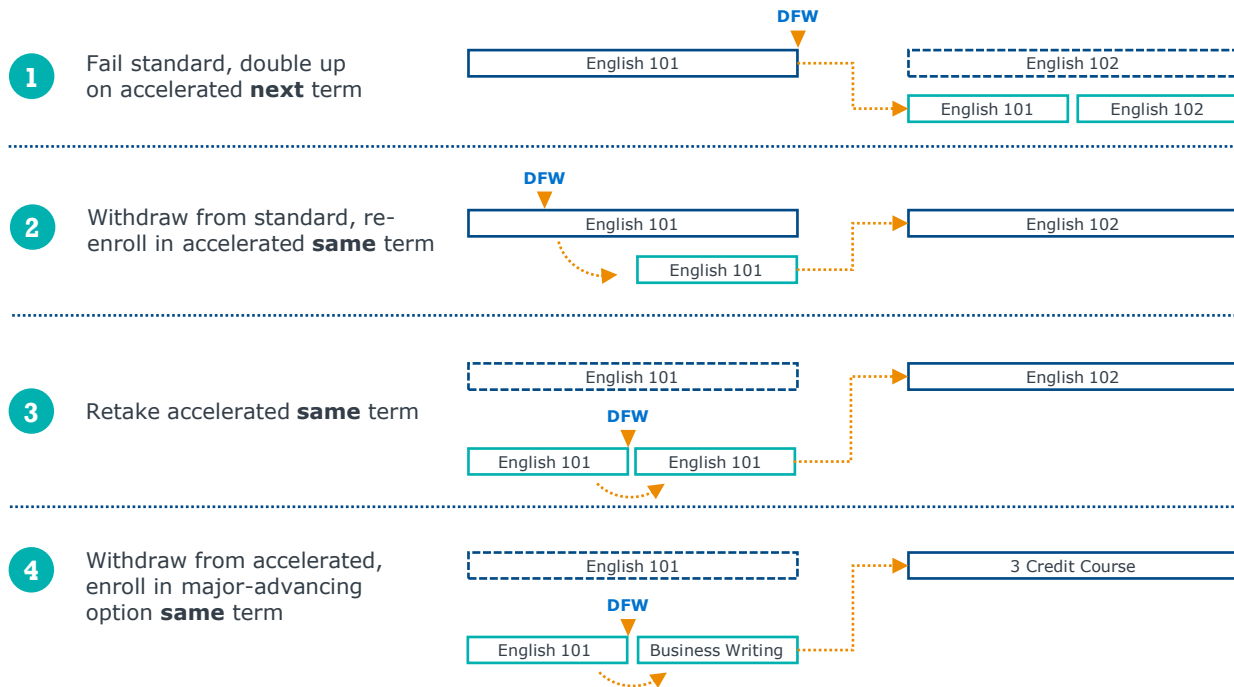
Can be repurposed as "catch up" module

Giving Students Multiple Paths to 30 Credits



Avoiding “Dead Time” in a Term from DFWs

Accelerated Courses Offer Four Ways to Get Back On Pace



A Student's Catch-Up is a Professor's Sabbatical

Flexibility Benefits Persuade Faculty to Experiment with Acceleration

37

Temple University Builds “Parts-of-Term” to Accommodate Accelerated Courses



Faculty Benefit From More Options in Teaching Load Distribution



Ability to offer popular courses more frequently



Flexibility to test 1-2 credit courses in new parts-of-term



Fast-track fulfilled teaching obligation to allow travel/leave¹

Using Good Examples to Encourage Adoption



“We had **experience with accelerated courses in the summer, so that was a natural starting point** in the transition to the regular term. Moving forward, we need to be more intentional in how we use our different parts of term. We need to **share with departments examples of how parts of term can be used effectively** to keep students on track.”

*Dr. Jodi Levine Laufgraben
Vice Provost, Academic Affairs Assessment & IR*

Sources: Western Kentucky University, “An Increased Emphasis on Bi-Term Courses at WKU?”: https://www.wku.edu/convocation/documents/increased_emphasis_on_biterms.pdf; EAB interviews and analysis.

1) Benefit cited by Western Kentucky University

Complicating Financial Aid Eligibility

Keeping Students Financially Whole Amidst Multiple Term Start Dates

Working Out Kinks in Financial Aid¹



Disburse aid based on initial credit load, not projected full-time enrollment



A grace period between census dates allows students dipping below 12 SCH to restore full load before aid adjustments



Recover unused aid overages from students dropping below initial credit load after 2nd accelerated term drop/add date

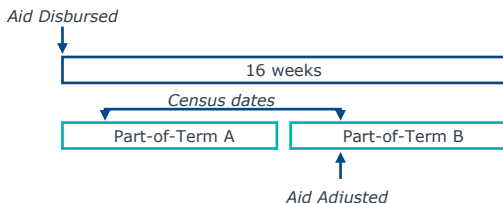


Accelerated Pathways: Beyond “All or Nothing” Without the Added Cost

“When a student needs to withdraw from a course, having options in that second half of term allows them to stay on track to four-year graduation without any additional cost or debt like if they were to take a summer course.”

*Dr. Jodi Levine Laufgraben
Vice Provost, Academic Affairs Assessment & IR*

The New Aid Adjustment Cycle



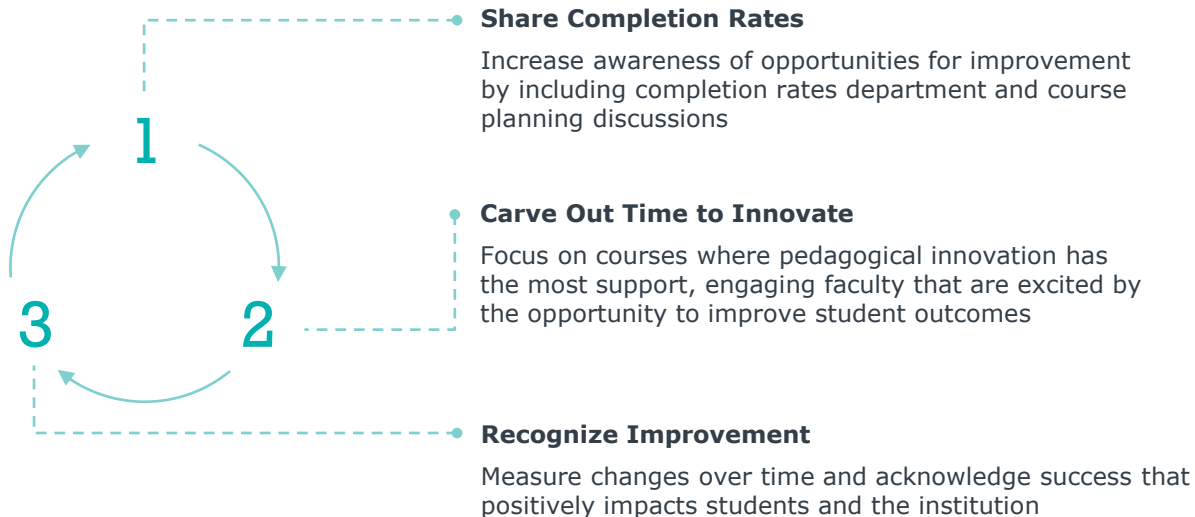
1) For full-time students. Full-time indicates a +12 credit hour load.



Conclusion



Principles for Improving Course Completion





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