

Improving Student Outcomes in Critical Gateway Courses

The Course Completion Playbook



Ashley Delamater
Senior Analyst
EAB Strategic Research

adelamater@eab.com
202-266-6552

Academic Affairs Forum

Managing your audio

Use Telephone

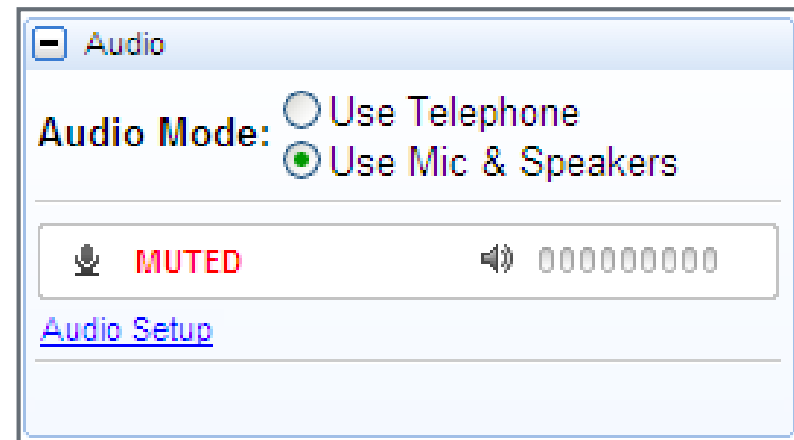
If you select the “use telephone” option, please dial in with the phone number and access code provided.



The screenshot shows a window titled "Audio" with a minus sign in the top-left corner. Under "Audio Mode:", the radio button for "Use Telephone" is selected. Below this, the text "Dial: +1 800 555 1212" and "Access Code: 141-607-114 (and [additional numbers](#) ..)" is displayed. At the bottom, a green message states "You are connected to audio".

Use Microphone and Speakers

If you select the “mic & speakers” option, please be sure that your speakers/headphones are connected.



The screenshot shows a window titled "Audio" with a minus sign in the top-left corner. Under "Audio Mode:", the radio button for "Use Mic & Speakers" is selected. Below this, there is a status bar containing a microphone icon followed by the word "MUTED" in red, and a speaker icon followed by the number "000000000". At the bottom, there is a blue link labeled "Audio Setup".

Managing your screen



Questions:

To ask the presenter a question, please type into the question panel and press send.

Questions Panel

The screenshot shows the GoToWebinar interface. On the left, there is a vertical toolbar with icons for chat, a screen, and a hand. The main panel has a menu bar with 'File', 'View', and 'Help'. Below the menu bar, there are two expandable sections: 'Audio' and 'Questions'. The 'Audio' section is expanded and shows 'Audio Mode' with two radio buttons: 'Use Telephone' (selected) and 'Use Mic & Speakers'. Below this, it displays 'Dial: +1 800 555 1212', 'Access Code: 227-984-025', and 'Audio PIN: 70'. A note says 'If you're already on the call, press #70# now. (and [additional numbers ..](#))'. The 'Questions' section is also expanded and shows a large text area with the placeholder text '[Enter a question for staff]'. To the right of the text area is a vertical scrollbar. At the bottom right of the 'Questions' section is a 'Send' button. Below the 'Questions' section, there is a footer area that says 'How to Schedule a webinar?' and 'Webinar ID: 202-981-385'. At the very bottom is the 'GoToWebinar™' logo.

Student Success Depends on Course Completion



Student Success Initiatives Can No Longer Ignore What Happens Inside the Classroom



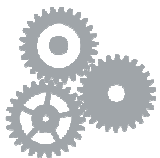
Course Completion Rates Are an Important Indicator for Student Success



Some Faculty Remain Skeptical That Improving Pedagogy Is Either Necessary or Possible



Hundreds of Successful Course Redesigns Have Demonstrated That Completion Rates Can Be Improved Without Sacrificing Rigor



Improving Gateway Course Completion Rates More Than Just a Matter of Pedagogy

Backed by Science

A Large Body of Empirical Research Supports Course Improvement

Course Redesign



- Supports institutions in course redesign efforts aimed at improving student learning and reducing costs
- Over 195 redesign projects undertaken

Active Learning Environments



- Active learning classroom design developed by North Carolina State University meant to scale active learning to large courses
- Over 250 institutions SCALE-UP sites in the US

Gateway Course Assessment & Improvement



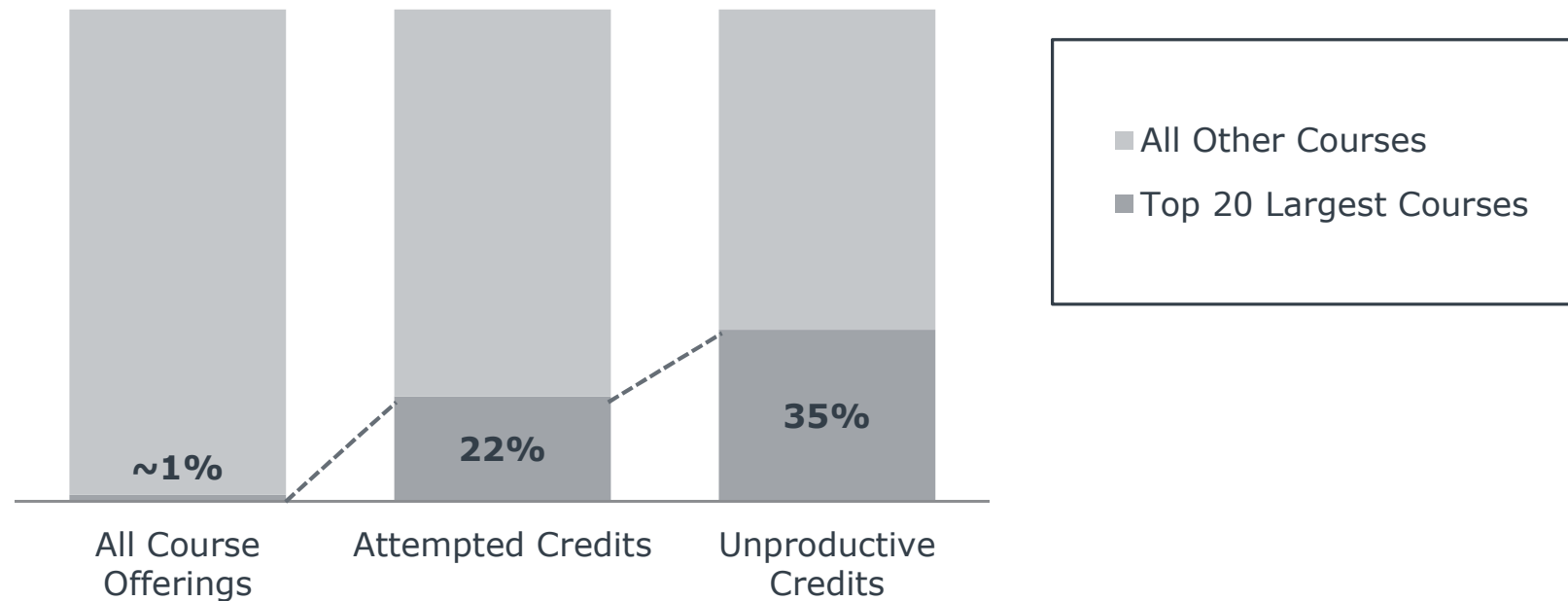
- Comprehensive gateway course improvement processes involving analytics and F2F and virtual course redesign support communities
- 39 participating colleges and universities

- 1 Four Steps to Addressing Course Completion Rates
 - 2 Tactics for Improving Course Completion Rates
-

A Few Courses Generate Most Unproductive Credits

Improving Large Gateway Courses Has Disproportionate Impact

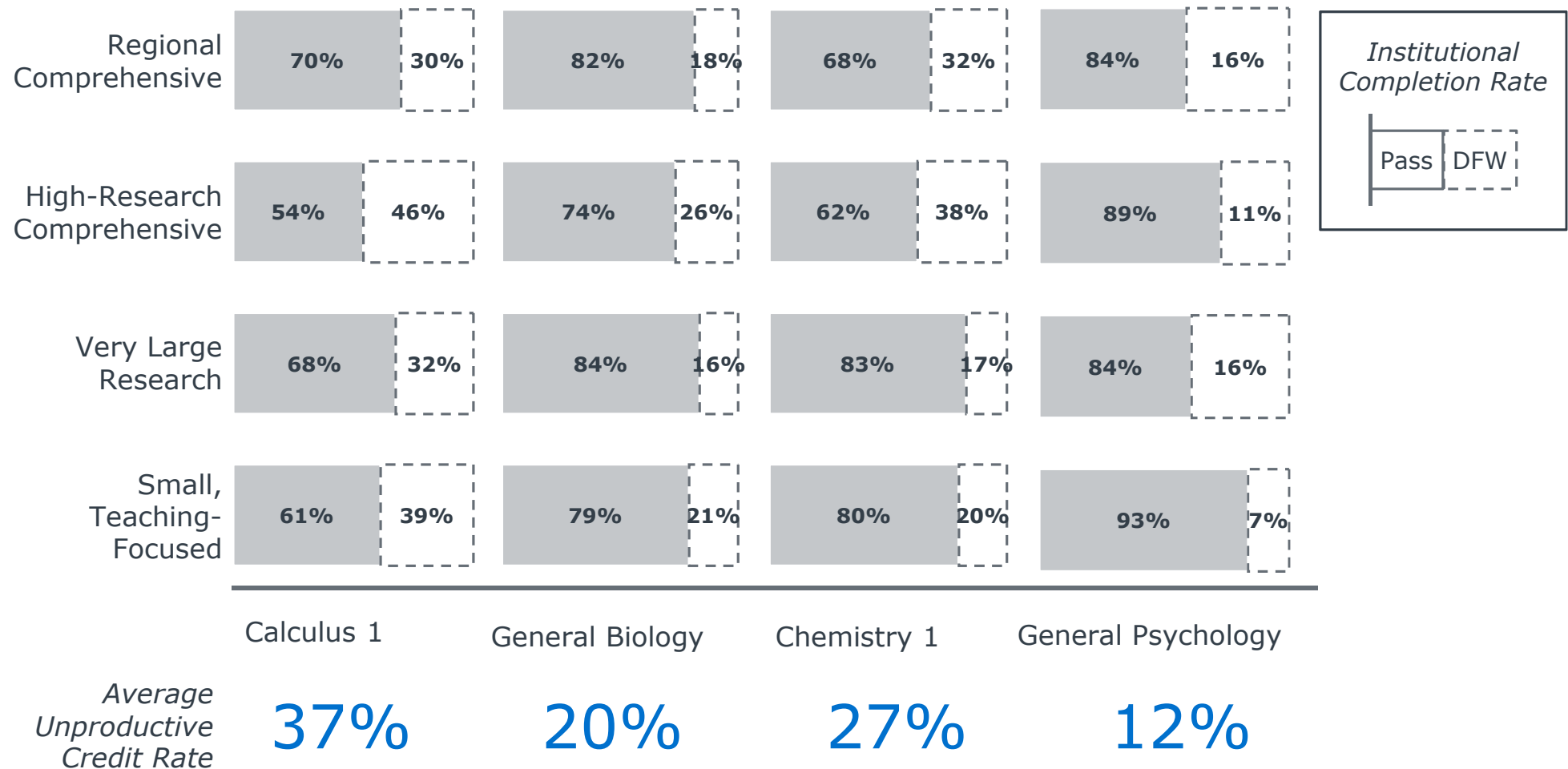
Attempted and Unproductive Credits from Top 20 Largest Courses



The Usual Suspects

Most Institutions Leaking Credits from Same Intro Courses

Course Completion Rates in Gateway Courses at Seven Universities¹



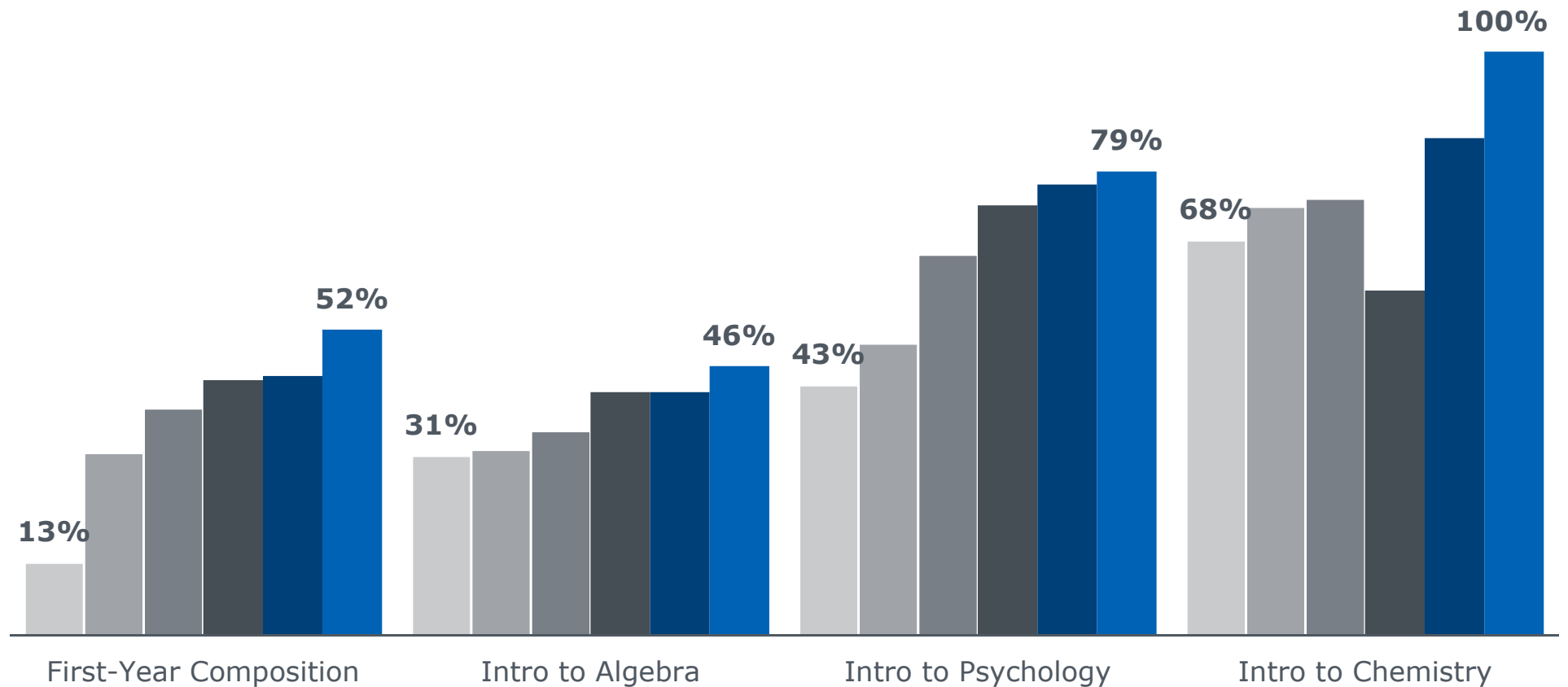
1) Academic Performance Solutions data and analysis.

Not Just the Student's Fault

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 University



Prioritizing Investments in Course Redesign

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** 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

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

Addressing Faculty Concerns

When You Say “Reduce DFWs,” They Hear “Lower Academic Standards”

Common Faculty Concerns About Course Redesign



Factors Out of My Control

High course failure rates are due entirely to poorly prepared students, increasing class sizes, greater use of adjunct instructors



Reduces Institutional Rigor

Calls to improve course completion rates are actually implicit demands to reduce the rigor of instruction



Administrative Overreach

Efforts to improve course completion rates represent administrative interference in teaching



Way to Increase Workload

Course redesign is just a way to enlarge class sizes and increase faculty workload



We Need to Weed Out Students

Gateway courses need to screen out students and limit entrance to oversubscribed majors

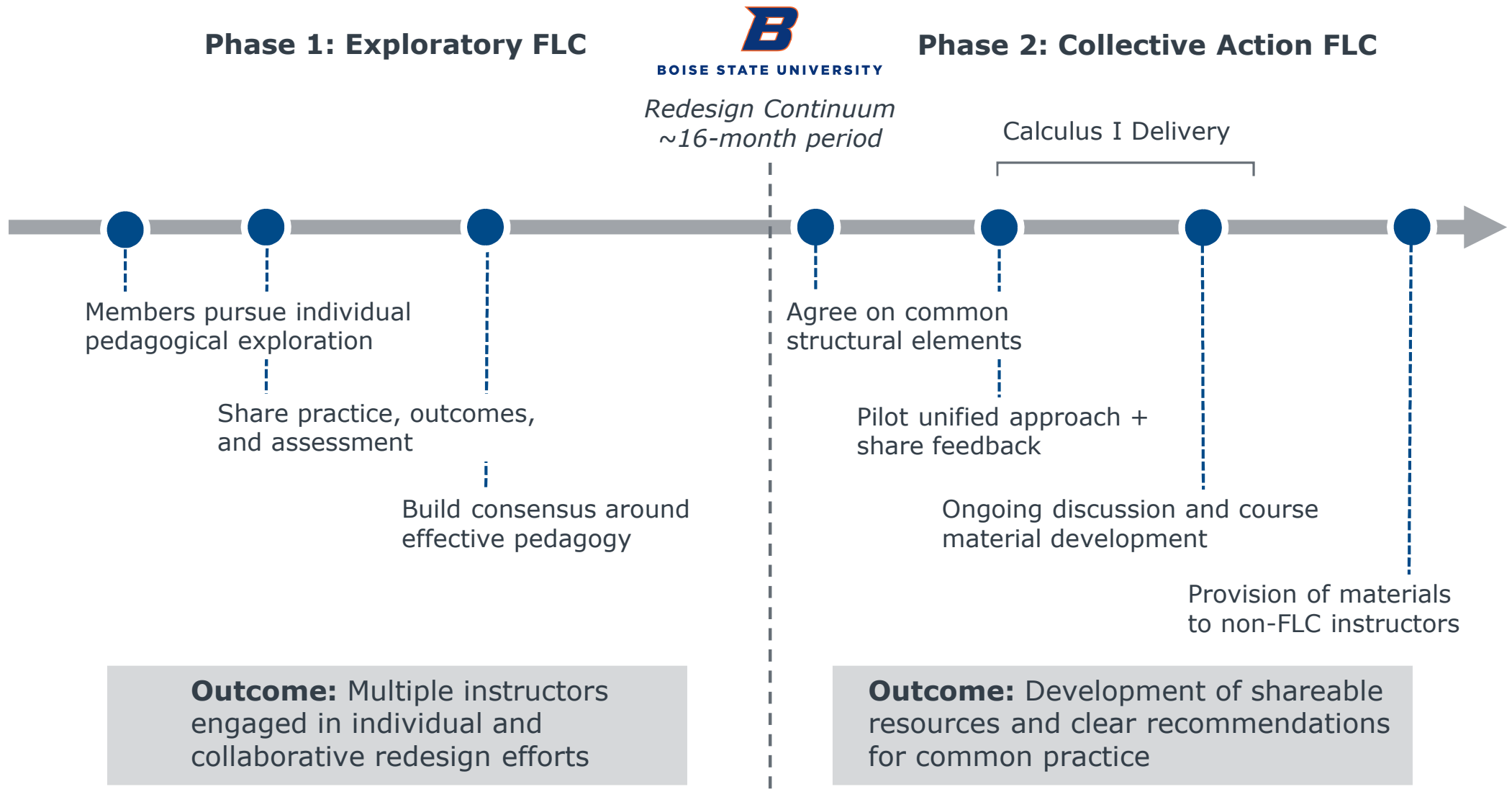


Rewards Bad Teaching

Giving more resources to instructors with low completion rates is “rewarding bad teachers”

It Takes a Village

The Role of Faculty Learning Communities in Course Redesign



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
- Nonacademic 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

- 1 Four Steps to Addressing Course Completion Rates
 - 2 **Tactics for Improving Course Completion Rates**
-

Course Completion Diagnostic

Course Completion Diagnostic

Assessment

Early and Frequent Low-Stakes Assessment

Analysis to Run

How predictive of final gateway course grades are multiple absences and pre-mid term assessments?

Assessing Current Practice

Yes No

Are students assessed multiple times outside of the midterm and the final?

☐ ☐

Do faculty provide feedback and information on relevant campus services based on those assessments?

☐ ☐

Do on-going assessments make up a small percentage of a student's overall grade?

☐ ☐

Do on-going assessments use various testing approaches (e.g. multiple choice, short essay, online or computer-based mini-tests, etc.)?

☐ ☐

If you answered 'no' to any of the above, see Frequent Low-Stakes Assessments p. 21

Standardized Assessment

Analysis to Run

Are DFW rates generally consistent among instructors teaching the same course?

Assessing Current Practice

Yes No

Do faculty teaching sections of the same course jointly determine the expected learning objectives for the course?

☐ ☐

Do faculty teaching sections of the same course use a shared approach to assessments?

☐ ☐

Do faculty teaching sections of the same course agree upon a common set of course materials like textbooks and readings?

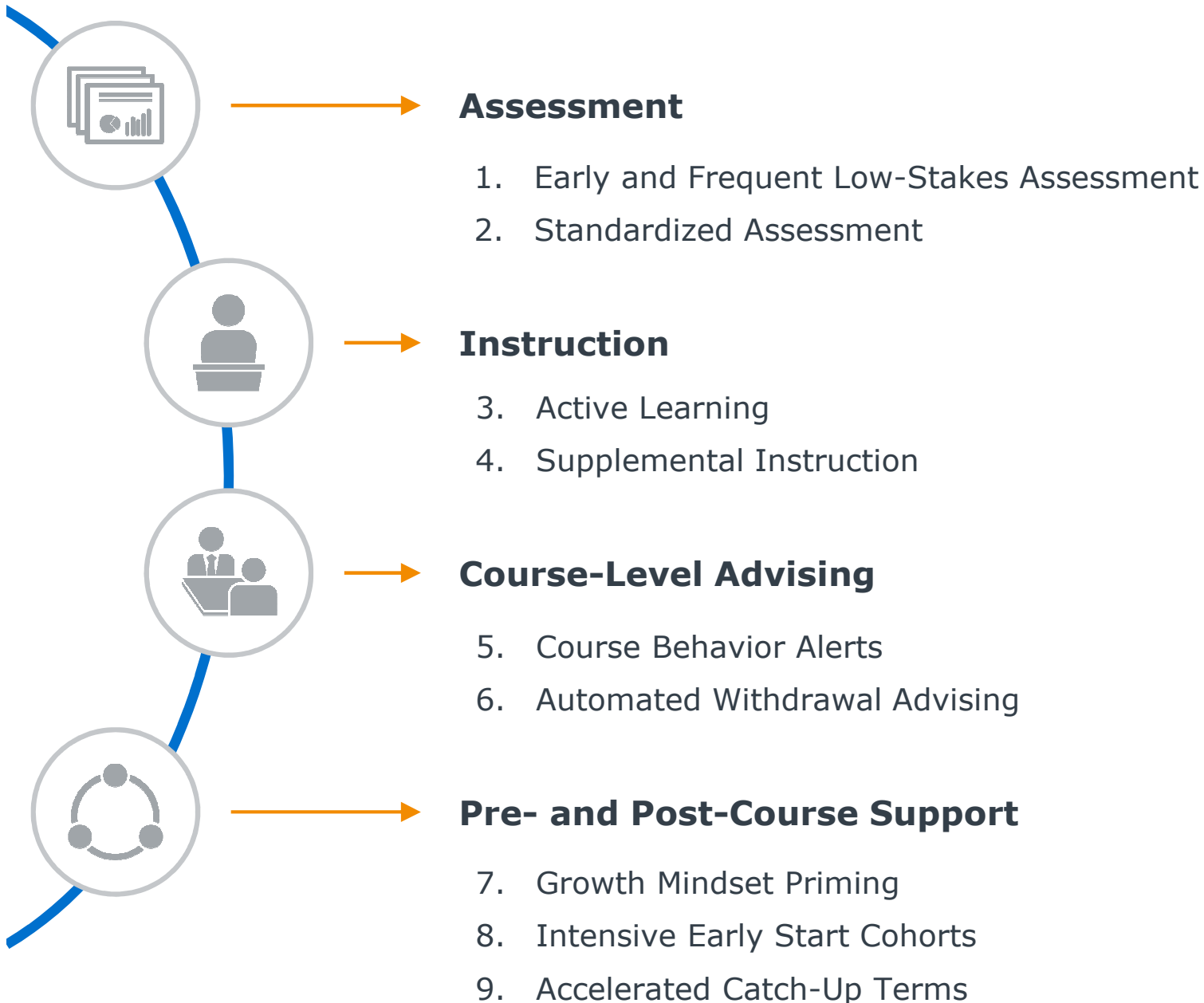
☐ ☐

Do faculty agree upon a uniform approach to grading homework, projects, and exams?

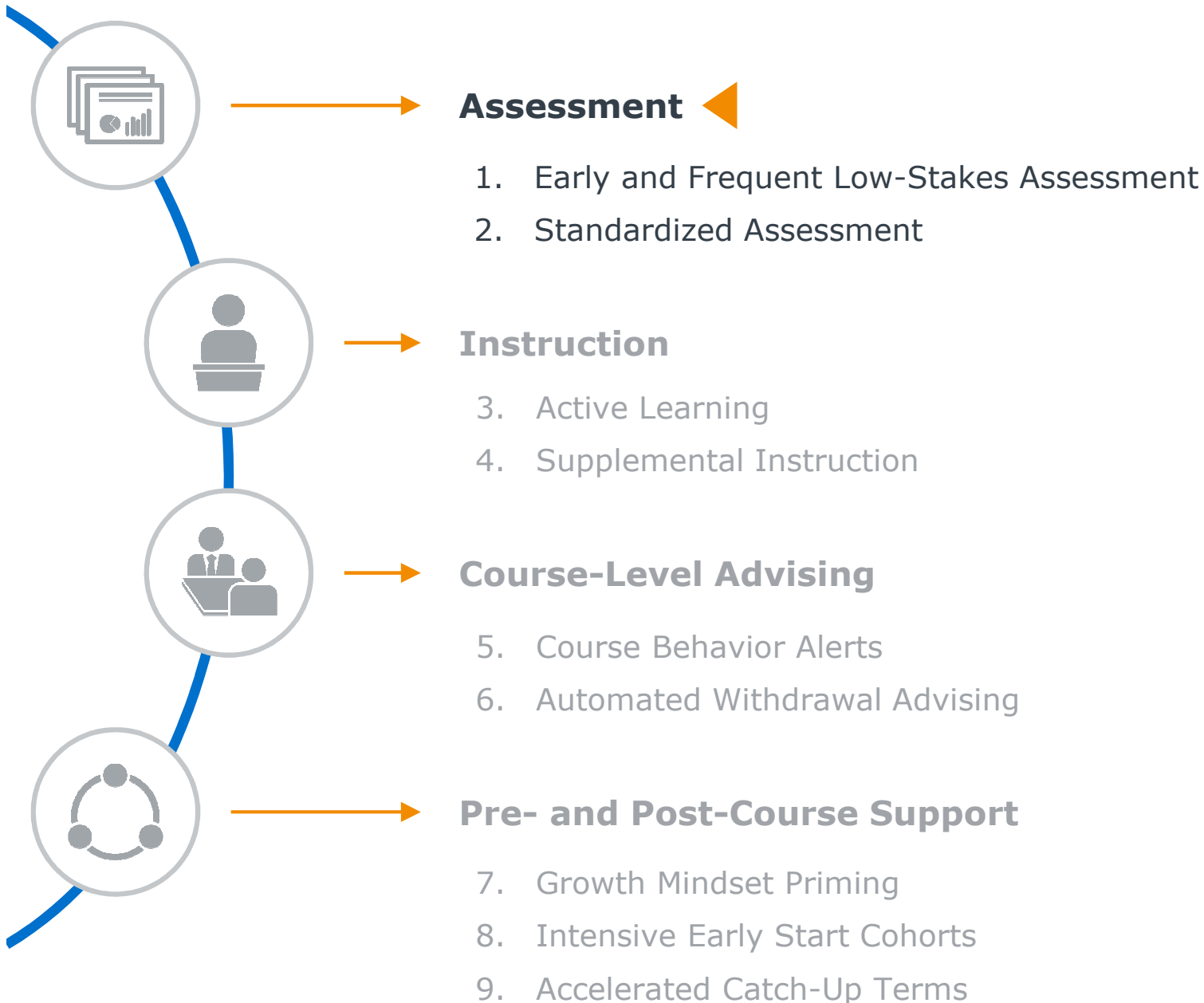
☐ ☐

If you answered 'no' to any of the above, see Standardized Assessment p. 24

Tactics for Improving Course Completion Rates



Tactics for Improving Course Completion Rates



Personalized Learning

Accounting for Individual Students Gaps and Needs

“Adaptive Release” Ensures Mastery of Foundational Skills



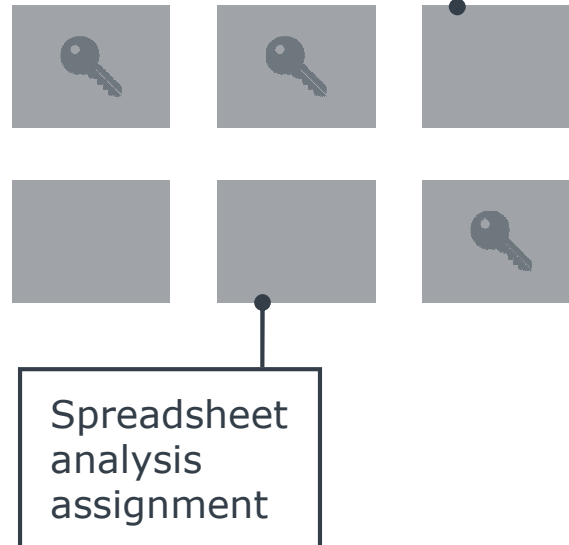
Econ 122



Pivot Tables Quiz

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

Unlocks Homework



Early results show lasting effects

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

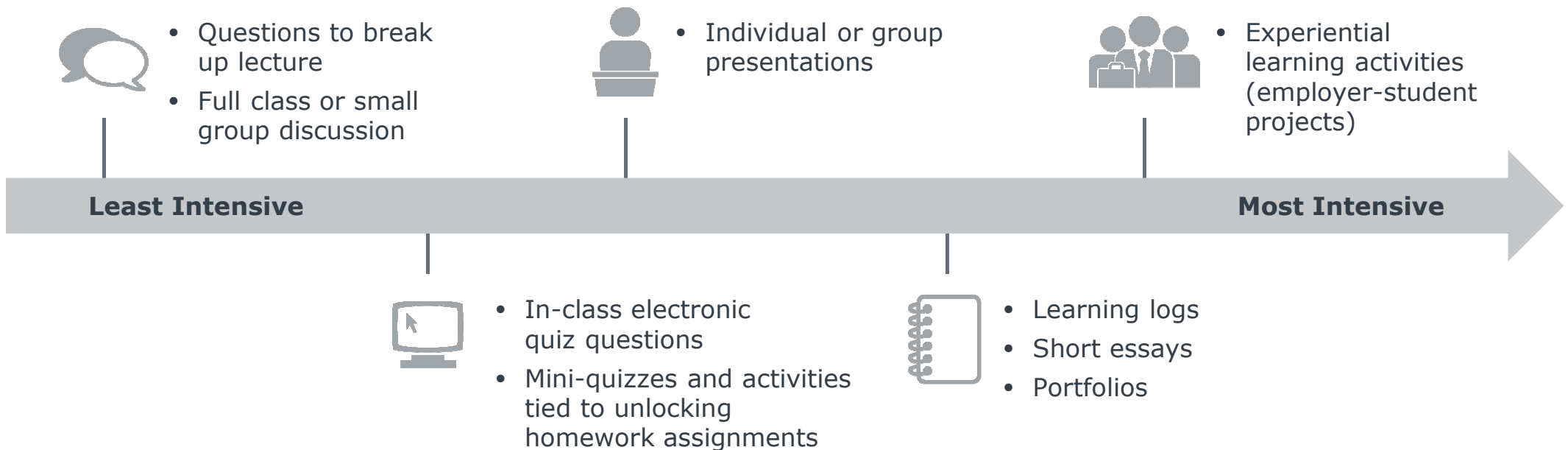
Push-button implementation

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

An Assessment for All Seasons

More Than One Way to Build in Low-Stakes Assessments

Sample Types of Assessment¹



1) Several assessment types listed can be used as active learning activities. For more information see Active Learning on p.28.

Implementation Guidance

1

Provide Students with Targeted Feedback

Assessments should give students a sense of how they are doing in a course and quickly identify where they may have gaps in mastery.

2

Connect Students with Resources

Instructors should connect students with additional resources and services to help them fill in any gaps in their mastery.

3

Close the Loop

Instructors should be tracking and following up on any gaps identified in student mastery of course concepts.

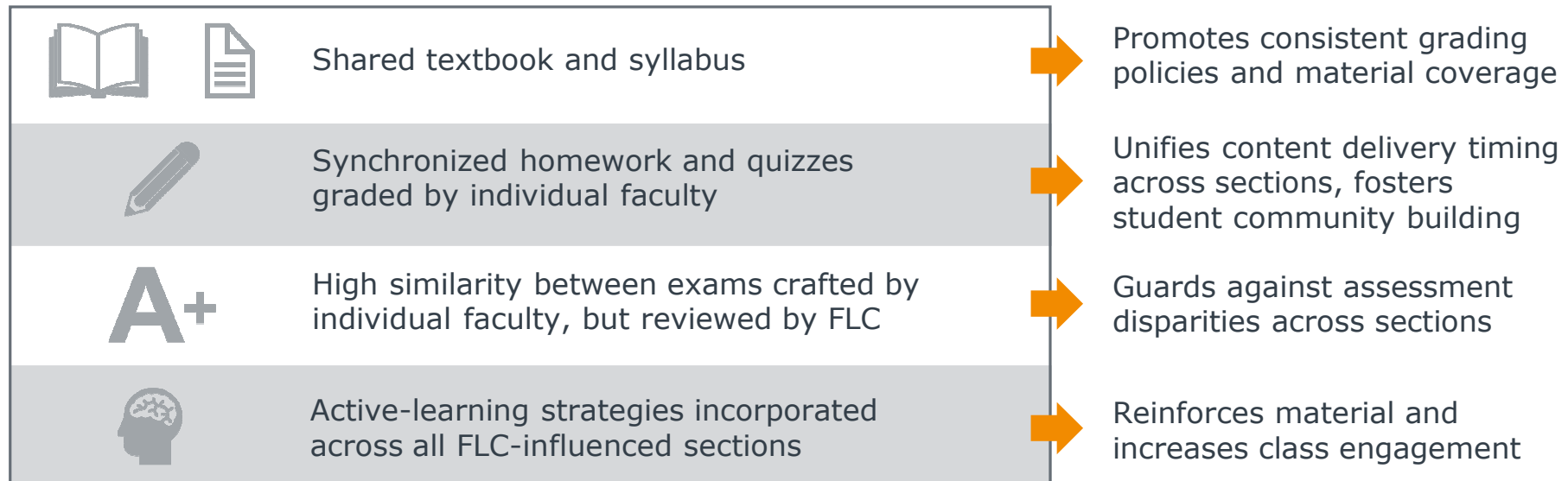
Beyond A Shared Textbook

Boise State “Coherent Calculus” Scales Redesign Benefits to All Students

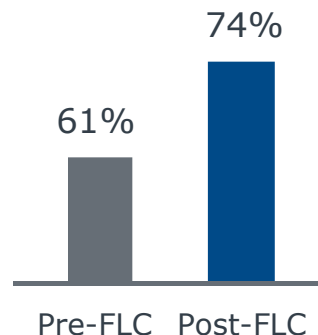
A Coherent Multi-Section Course



BOISE STATE UNIVERSITY



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

Implementation Guidance

1

Understand the Pitfalls of Grading Practices

Share information and data on the consequences of norm-referenced grading and encourage concept mastery in grading rather than “grading on a curve”.

2

Provide Faculty with Resources on Assessment

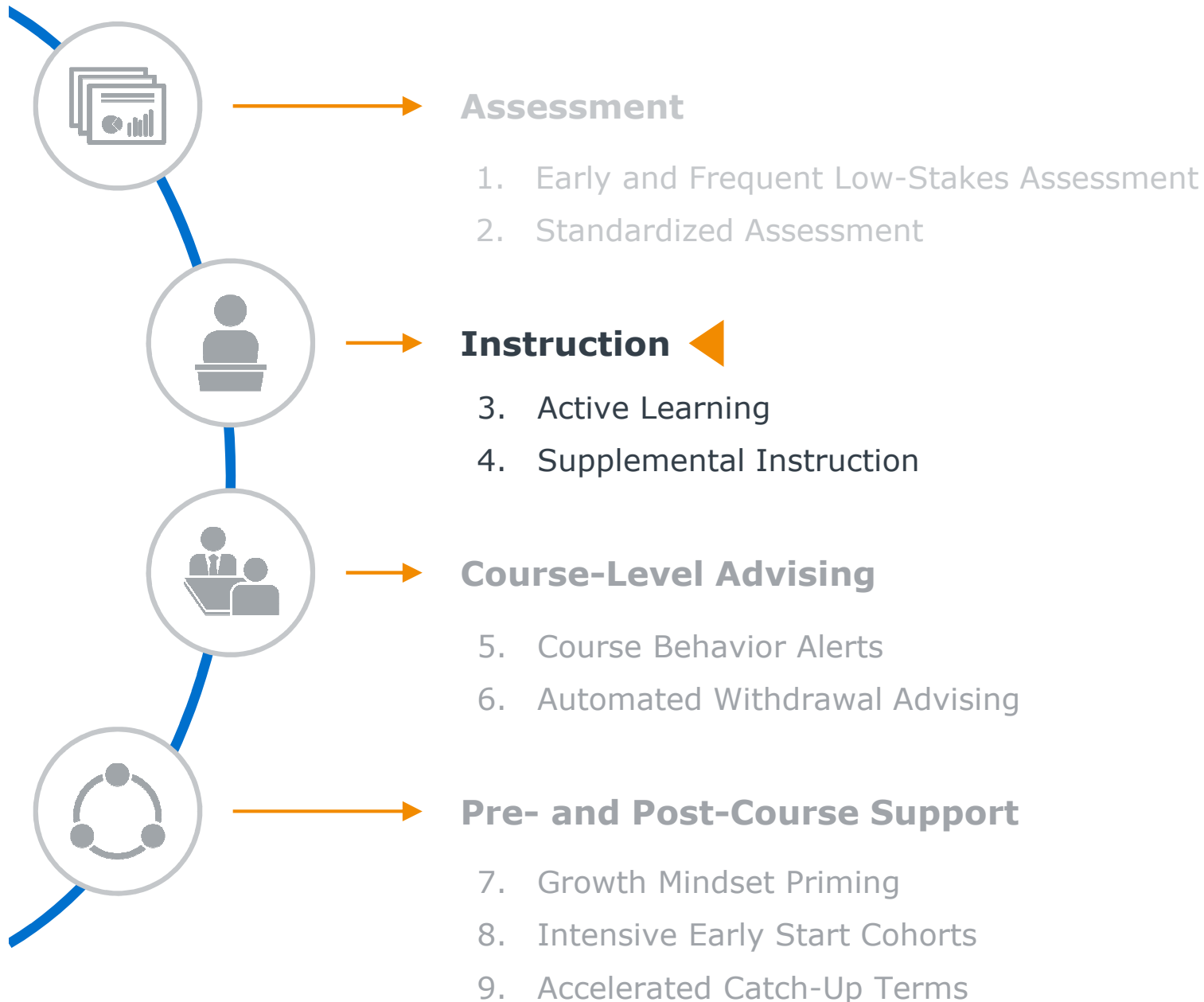
Supply instructors with resources on different types of assessments and their merits, how to build assessments, and how to administer assessments.

3

Support the Use of Shared Materials by Instructors

Encourage instructors to pool and share resources to promote a more consistent use of materials across sections.

Tactics for Improving Course Completion Rates

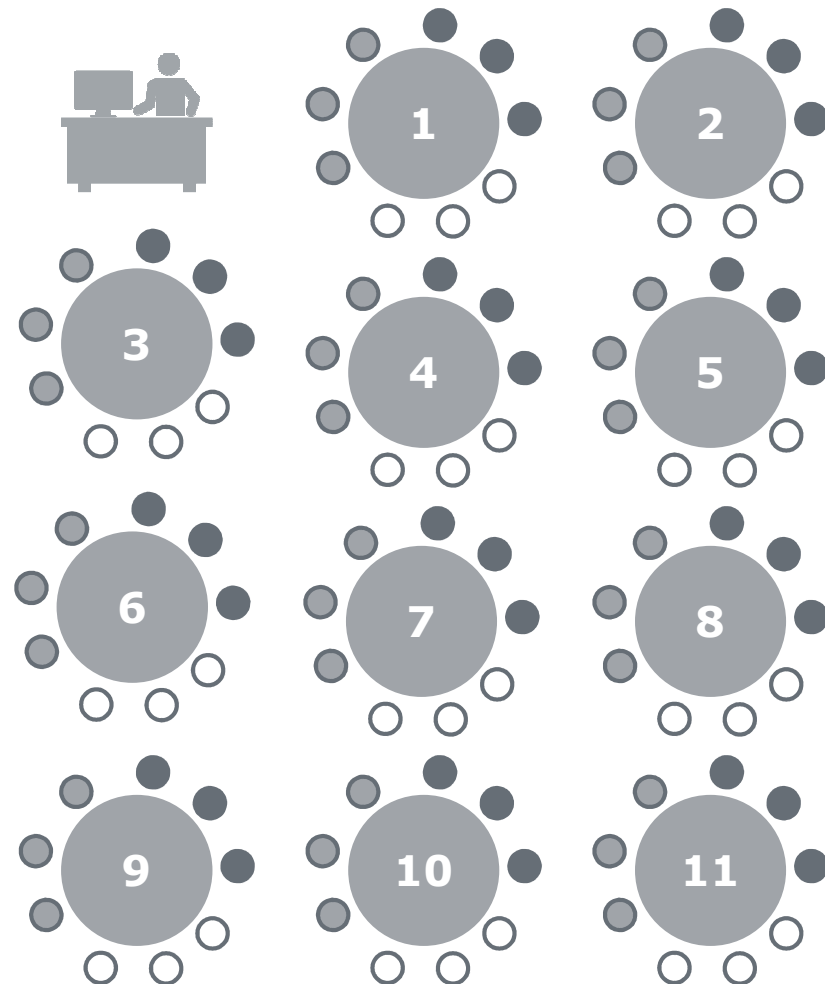


Designed to Scale

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

Implementation Guidance

1

Balance Top-Down Support with Bottom-up Action

Use course redesign stipends and grants to help incentivize and support pedagogical innovation efforts.

2

Provide Instructors with Pedagogical Guidance

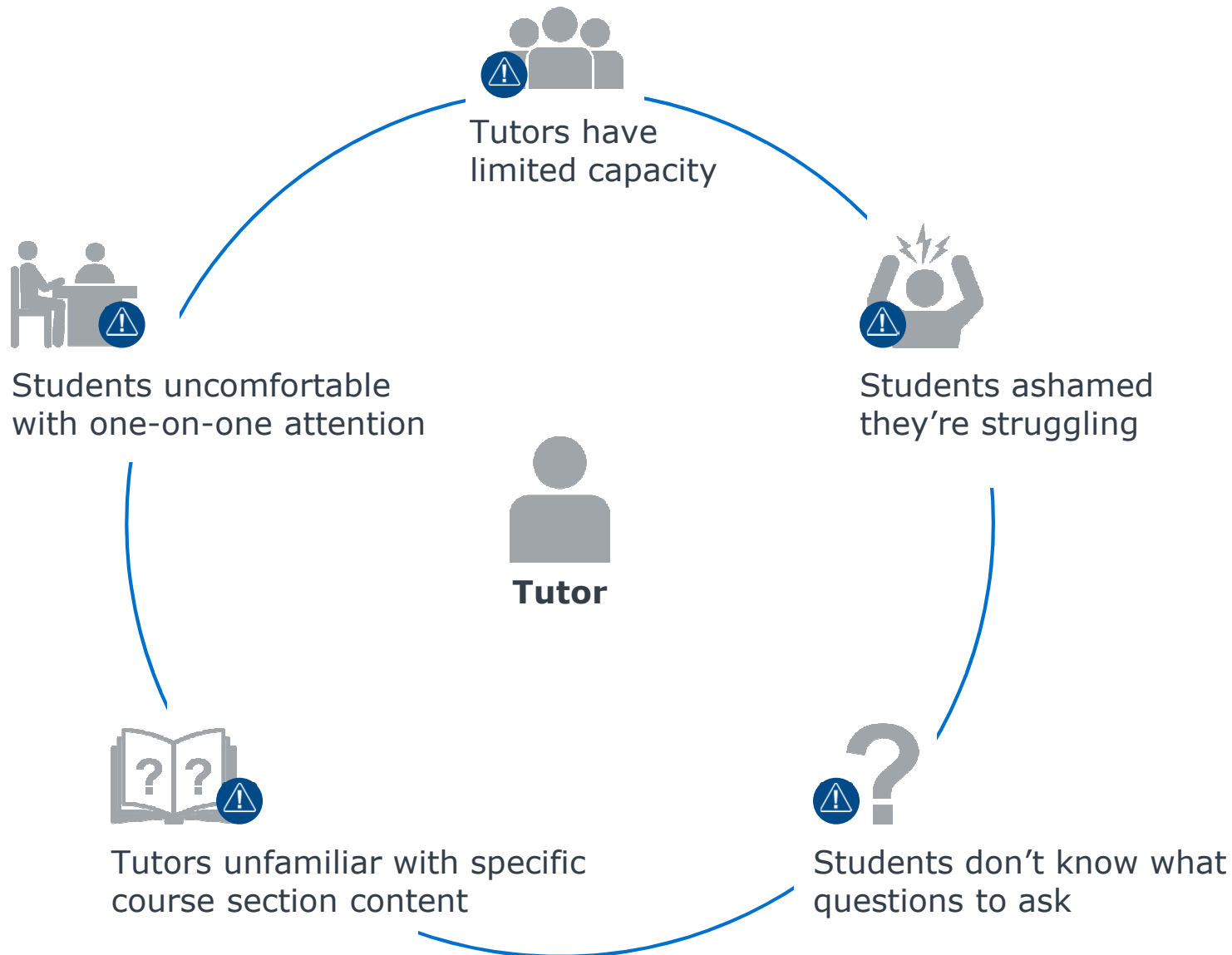
Ensure faculty have access to resources and experts who can guide them through exploration of active learning pedagogies for the classroom.

3

Key Elements of Successful Blended Learning Models

Consider the incorporation of interactive software, individualized support for students such as on-demand assistance, and structured progress incentives.

Challenges to Scaling Tutoring



Scaling Additional Academic Support

Supplemental Instruction Demonstrates Measurable Impact at MTSU



- ▶ Targets high-enrollment courses and high-DFW courses
- ▶ Peer-assisted group study and discussion sections meet several times per week
- ▶ Sessions cover difficult course concepts, study skills, test prep, communication skills

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

Implementation Guidance

1 | **Determine Which Courses to Target**

Target large courses, particularly those that are lecture-based, courses with high DFW rates, general education courses, and critical gateway courses.

2 | **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.

3 | **Improve Student Learning**

Create an active learning environment where students are able to ask questions and have input on the focus of supplemental instruction sessions. Use mini-assessments to help identify where students need the most support.

Tactics for Improving Course Completion Rates



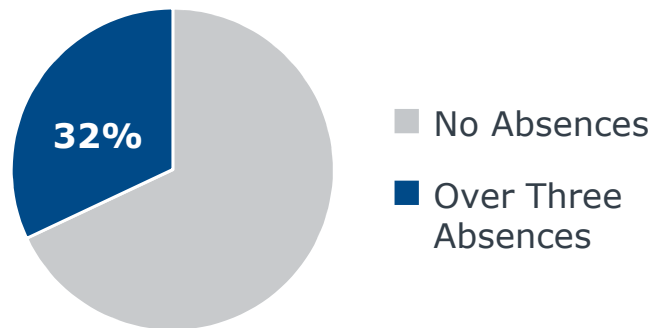
Reaching Out to Students with Two or More Absences

Attendance Tracking at Mississippi State Boosts Student Outcomes

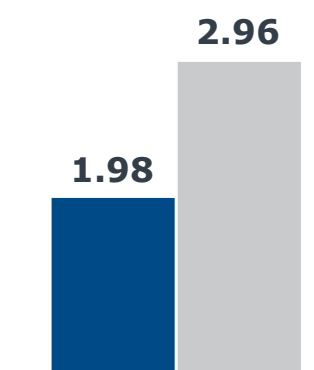


MISSISSIPPI STATE
UNIVERSITY

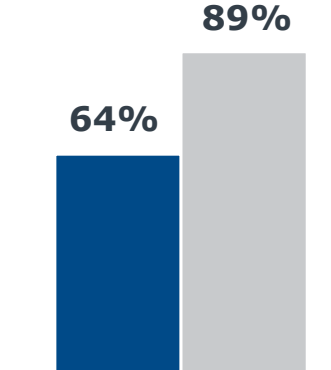
Percentage of Students with 3+ Absences by Midterms



Average First-Year GPA



Sophomore Year Retention



Course Absence Intervention at Mississippi State



Faculty manually track attendance



Attendance alerts sent to support staff and RAs



RAs contact students with 2+ absences

62%

of students resolved attendance issues

Implementation Guidance

1 | **Implement a Simple Reporting System**

Provide faculty with a single referral point for any student concern. Reporting should be built directly into the electronic course rosters, and submissions should auto-populate with the relevant course and student data.

2 | **Permit and Encourage Assistants to Submit Alerts**

Teaching assistants should be encouraged and enabled to submit alerts since they have frequent contact with students. Include early alerts in teaching assistant job descriptions to normalize compliance.

3 | **Contacting Students**

Emphasize next steps, not alert status and ensure alerts are handled in a way that is sensitive to both faculty and students with regard to privacy, tone, and intervention triggers.

Why Students Withdraw

Some Withdrawals Are Unavoidable; Others Are Not

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

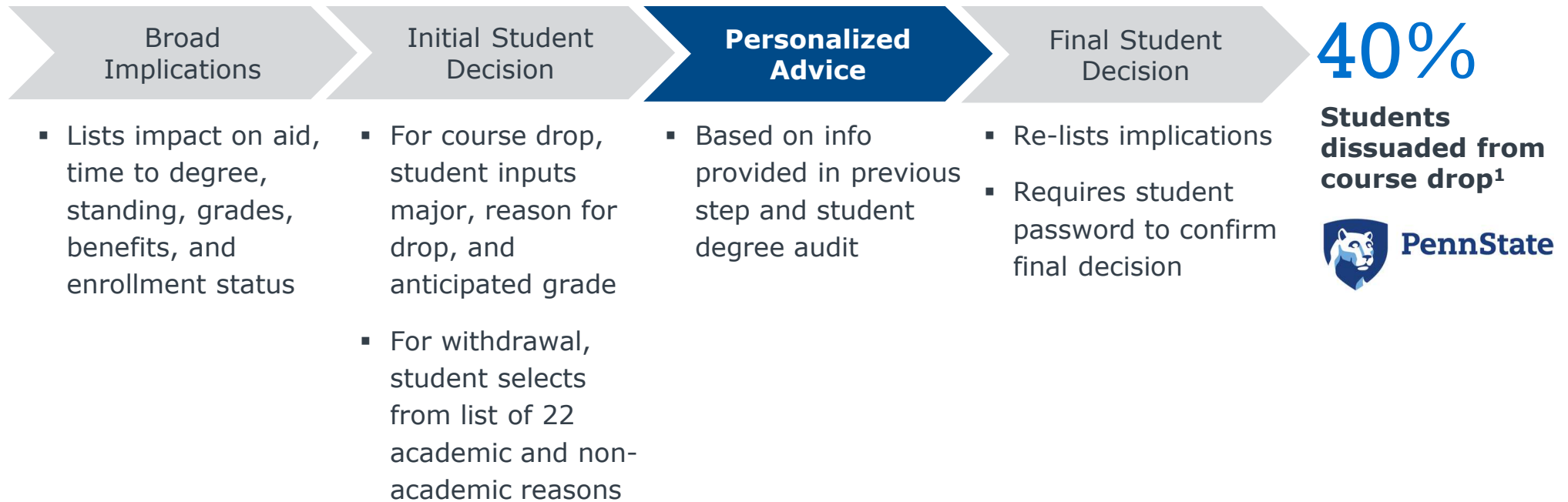
Even the best advisors cannot always dedicate adequate time to assessing all requests

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



Incorporates Advising into Formerly Transactional Process



Scales Intervention to Avoid Overburdening Advisors



Provides Data to Target Future Institutional Intervention

1) Estimate based on 2012 withdrawals

Implementation Guidance

1 | **Direct Withdrawing Students to Meet with Advisor**

Advisors can use survey data to help students develop a personalized plan to complete their degrees at the institution.

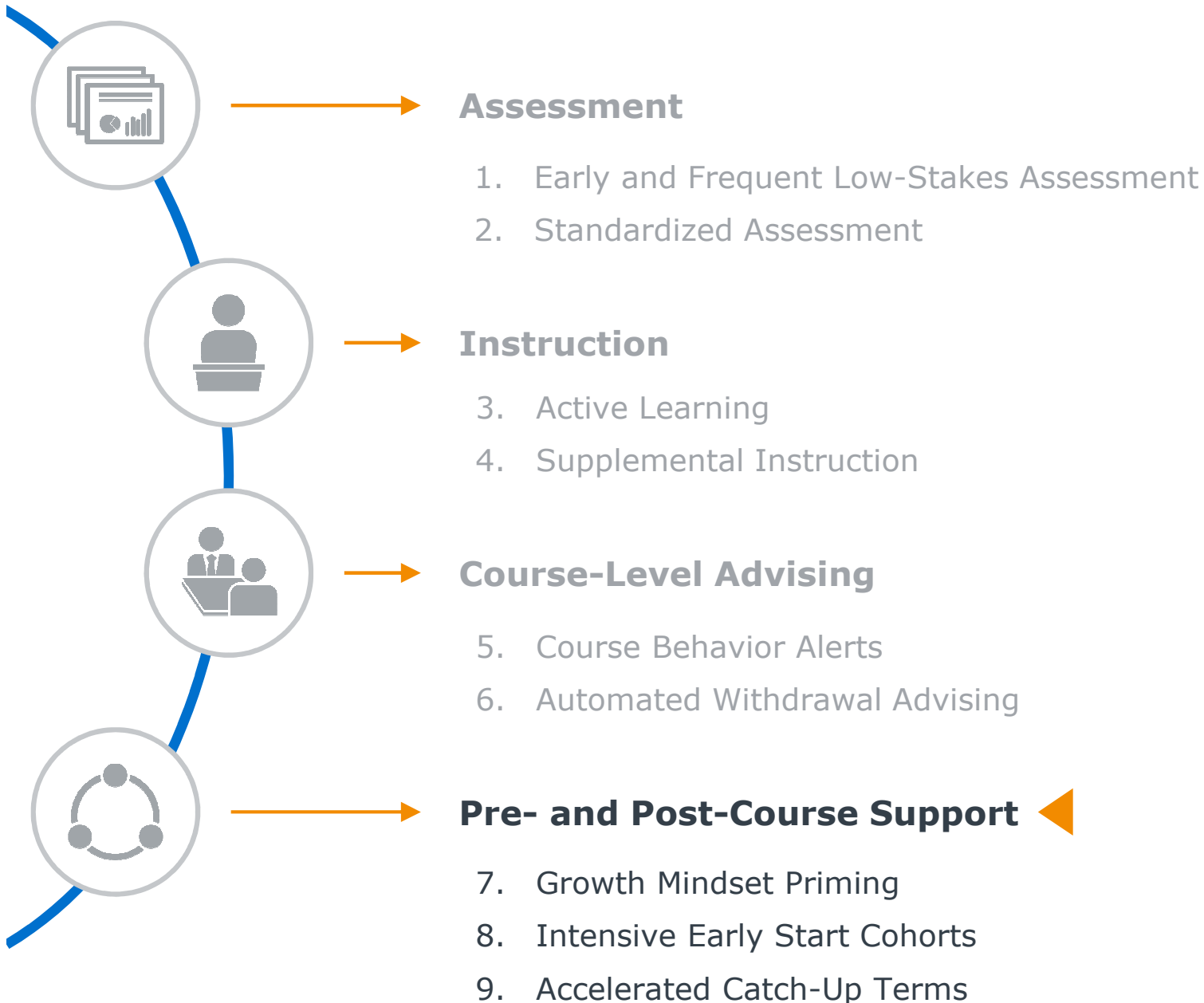
2 | **Simplify Withdrawals for Necessary Reasons**

Permit students to withdraw for health or family reasons without encountering bureaucratic roadblocks.

3 | **Use Survey Data to Better Predict Attrition Risk**

Student characteristics and commonly selected reasons for withdrawal should be used to identify where resources may need to be expanded or better targeted.

Tactics for Improving Course Completion Rates

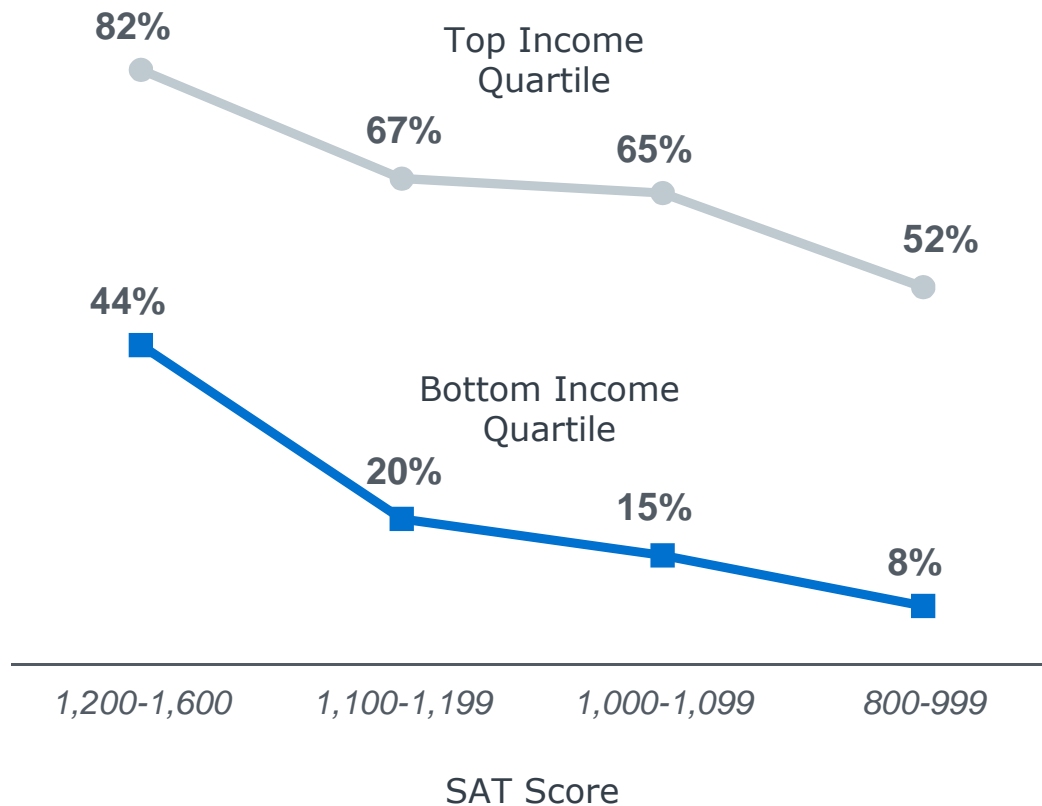


The Role of Resilience

At-Risk Students Often One Obstacle Away from Attrition

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

1) "Mind-Set Interventions Are a Scalable Treatment for Academic Underachievement," Association for Psychological Science, Vol 26: Issue 6, 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.”

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

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!”

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

25-45 minutes

91% Participation

Implementation Guidance



1

Embed Growth Mindset Module Into Pre-Orientation

Embed readings on growth and belonging into the checklist of things students must complete before orientation and have students apply lessons from the readings by writing an encouraging message to future students about acclimating to college life.

2

Link Relevant Resources to Growth Mindset Exercise

Map relevant student support services and campus community groups and activities to lessons in the growth and belonging readings.

3

Leverage Messages to Better Target Resources

Analyze growth mindset messages to identify patterns across student groups and use the information to better target support services.

Summer Bridge to Nowhere

Traditional Bridge Programs Lack Graduation Impact



No credit for remediation or skills courses



“The Summer Bridge Program (SBP) is a four-week program [for] select first-time freshmen students [...] **Participants take math and English workshops**, designed to...”



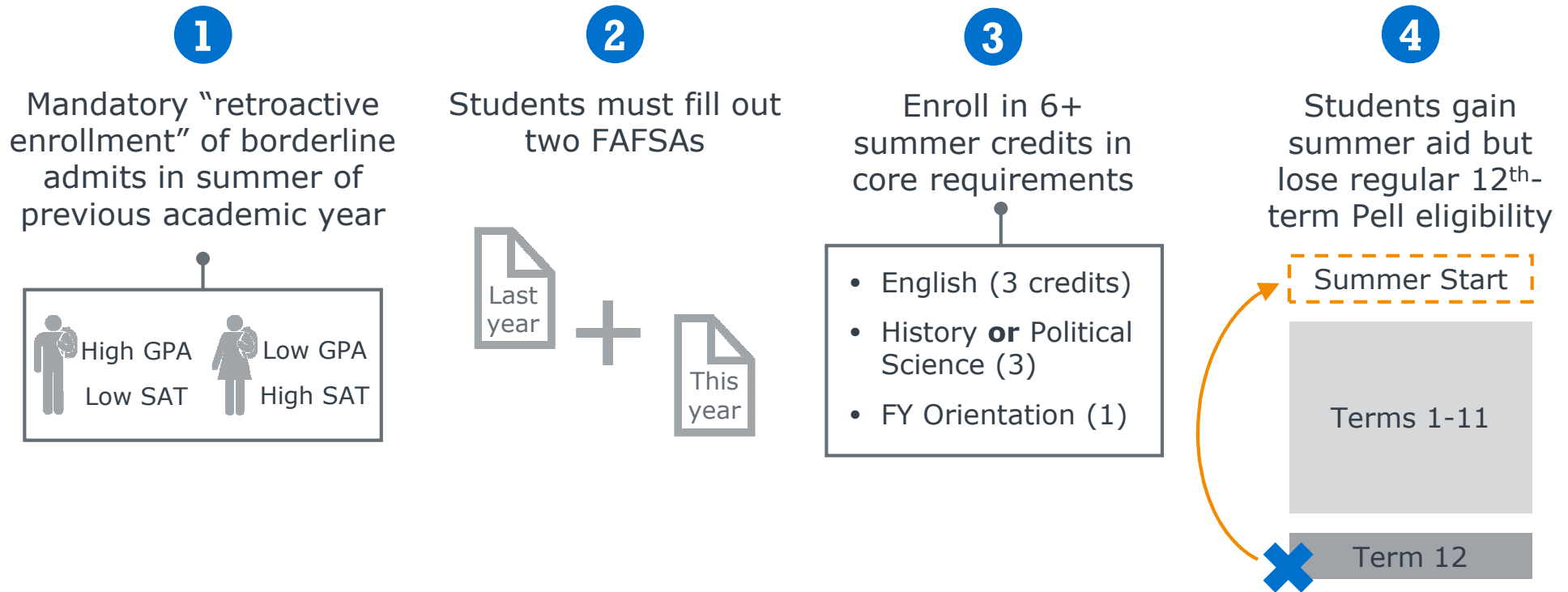
Confidence undermined by being classified “at-risk”



“...is designed for students from our partner high school and **students who self-identify as students of color or new American** [...] focuses on mentoring, community building, grit and identity development...”

Getting a Head Start on Credit Momentum

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



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.

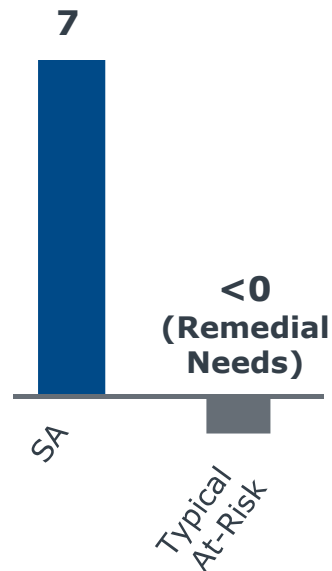
A Sprinting Start for Our Riskiest Students

Boosting Credit Accumulation and Confidence



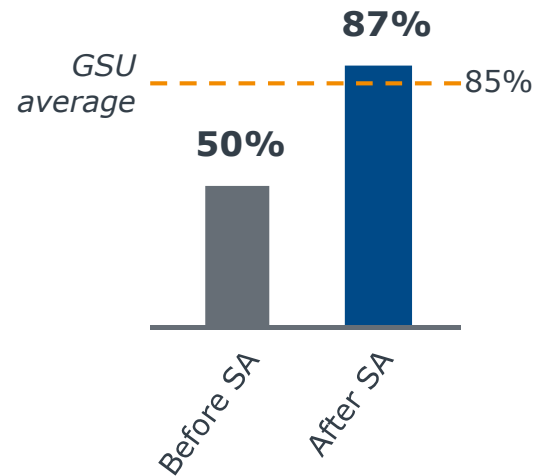
Head Start on All-Purpose Credits

Day One Credit Accumulation

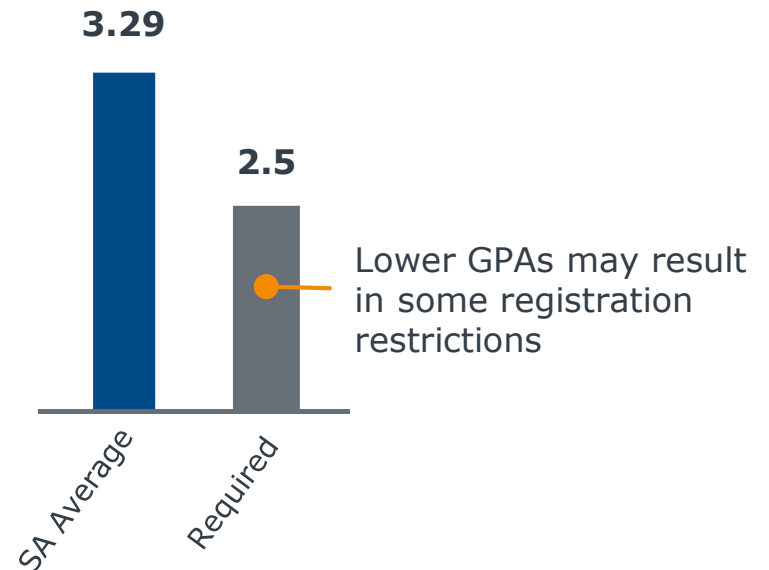


Raising the Retention Average

Fall-to-Fall Retention, Borderline Admits



Easily Clearing GPA Expectations



A Tool for Building Grit

“The role of Success Academy (SA) is not just to create flexibility, but also to **build confidence** and show students they are capable of college-level work. Students with some on-campus experience under their belt **will do better in challenging courses later on.**”

Tim Renick
Vice President, Georgia State University

Implementation Guidance

1

Ensure Students Take Productive Credits

Target lower-division gateway courses with high student fail or withdrawal rates—frequently English, writing, and math courses—and offer courses that apply to all majors to ensure credits remain productive even if a student changes his or her intended major.

2

Provide Students with Targeted Support Services

In addition to traditional advising activities, build students' financial literacy and study skills. Help students succeed in their courses by requiring them to attend support services such as tutoring and supplemental instruction as a group.

3

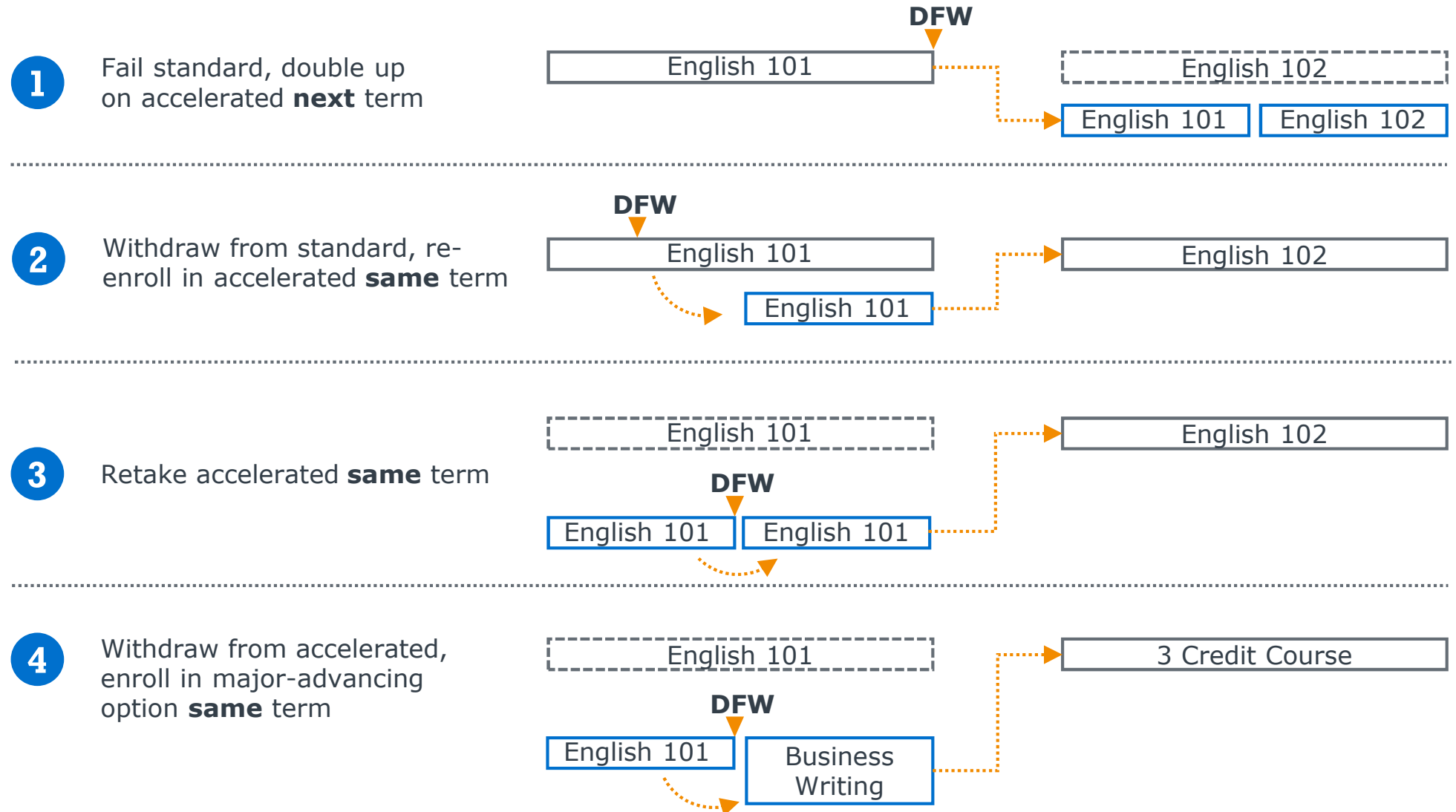
Keep Program Messaging Positive

Frame participation in the program as exclusive, similar to a special session for honors students or athletes. To prevent students from feeling discouraged, do not use "at risk" in any student-facing documents.

Giving Students Multiple Paths to 30 Credits

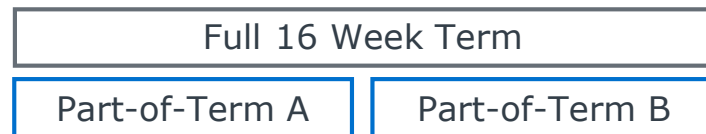
Avoiding “Dead Time” in a Term from DFWs

Accelerated Courses Offer Four Ways to Get Back on Pace



Enabling Catch-up Terms

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



Working Out Kinks in Financial Aid¹



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

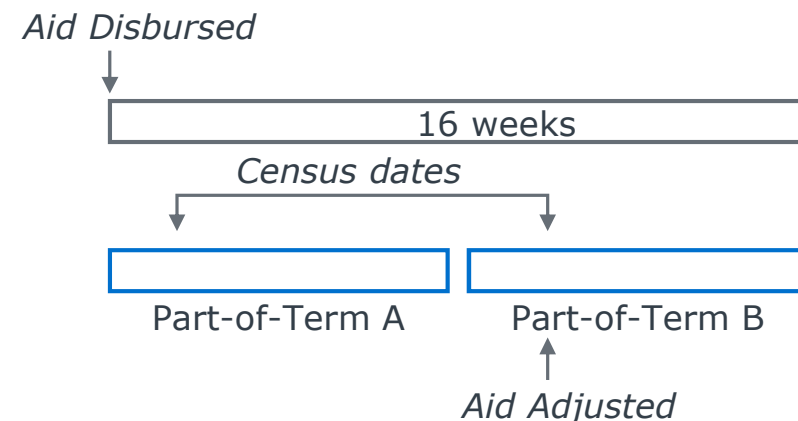


2 A grace period between census dates allows students dipping below 12 SCH to restore full load before aid adjustments



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

The New Aid Adjustment Cycle



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

Implementation Guidance

1

Determining Which Courses to Target

Consider deploying catch-up terms for lower-division courses with large enrollments, courses enrolling a higher-than-average share of students on financial aid, prerequisites, and general education courses.

2

Use As Interventions for At-Risk Students

Monitor registration records through mid-term for students who drop, withdraw, or miss the registration deadline and inform them of accelerated alternatives.

3


Administering Catch-Up Terms

Department chairs should assess the capacity of current faculty to offer additional “catch-up” offerings. Distribute financial aid based on current enrollment rather than projected enrollment to help prevent students from having to repay excess aid.

Introducing the Course Completion Playbook



46



Course Completion Playbook

Analyses and Tools to Improve Student Outcomes in Critical Gateway Courses

Academic Affairs Forum

Completion Diagnostic

Pre-Test/Retest Assessment

Final gateway course grades are multiple attempts and pre-mid-term assessments?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>


Assessment (cont.)

Formative assessment: Do students know what they need to know?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Sample Types of Assessment:

- **Formative:** Informal, low-stakes, frequent, and ongoing
- **Summative:** Formal, high-stakes, infrequent, and end-of-course
- **Diagnostic:** Informal, low-stakes, frequent, and ongoing
- **Assessment:** Formal, high-stakes, infrequent, and end-of-course



EAB

About Services Areas of Expertise Events Careers

Welcome Matthew Pellish

Latest Content

Research Brief
[Efficiency Initiatives: Realizing Efficiency Savings at Research Universities](#)

This report identifies strategies for reducing costs and improving processes such as procurement, organizational restructuring, and benefits adjustments. | [More](#)

[View more latest content](#)

Your Memberships

Today's Daily Briefing

August 03, 2015

Around the industry: 'Very aggressive' wild turkey terrorizes campus)

Should campus police be armed?)

Seven ways to rekindle your passion for your job)

Why the White House is bringing Pell Grants to prisoners)

America's colleges are getting a bad rap on the skills gap)

How one campus absorbed \$12M in cuts but stayed true to its academic mission)



The Course Completion Playbook

Analyses and Tools to Improve Student Outcomes in Critical Gateway Courses



Ashley Delamater

Senior Analyst

EAB Strategic Research

adelamater@eab.com

202-266-6552



EAB

2445 M Street NW, Washington DC 20037

P 202.266.6400 | **F** 202.266.5700 | eab.com