macmillan learning

Educators' Guide To

Evidence-Based Strategies for Elevating Student Engagement

Introduction

The pandemic upended learning for students and created previously unimaginable challenges for educators. Fostering student engagement, while not a new challenge, became even more difficult to do in virtual and hybrid settings. The National Survey of Student Engagement found that throughout the pandemic important modes of engagement, such as collaborative learning and instructor-student interaction, declined significantly for students.[1] And, when the *Chronicle of Higher Education* asked its readers about student disengagement in 2022, "More than 100 people wrote in to describe a disconcerting level of disconnection among students, using words like 'defeated,' 'exhausted,' and 'overwhelmed'."[2]

Improving student engagement remains a challenge among instructors even now that in-person classes have largely resumed. Fostering deep, meaningful student engagement may not feel easy. This edition of the *Educator's Guide* brings together some of the best research-informed practices for successfully engaging your students before, during, and after class.

Improving student engagement starts with a clear sense of what an engaged student is. It's easy to look at a student who has trouble staying awake during lectures or doesn't take assignments seriously and label them as disengaged. It's important not to confuse the stereotype of a "good" or "model" student with an engaged one. Though related, motivation and engagement aren't the same.

Educational neuroscience consultant David Sousa believes student engagement is "the amount of attention, interest, curiosity, and positive emotional connections that students have when they are learning, whether in the classroom or on their own."[3] There are varying degrees of engagement, and it can present itself a little differently in each student.

Engagement isn't just a matter of what happens in the classroom. How students prepare for class, interact with course materials, work on class assignments, and prepare for assessments are all components of student engagement. Throughout this guide, we will share evidence-based strategies for engaging students before, during, and after class.

1. Center for Postsecondary Research Indiana University School of Education (2021). National Survey of Student Engagement.
2. McMurtrie, B. (2022, July 12). A 'stunning' level of student disconnection. The Chronicle of Higher Education. Retrieved September 9, 2022, from https://www.chronicle.com/article/a-stunning-level-of-student-disconnection
3. Sousa, D. A. (2016). Engaging the rewired brain. Learning Sciences.

Engagement Is Central to Learning

Research curated by the Collaborative for Academic, Social, and Emotional Learning indicates that students' emotional connection to education plays an important role in their learning outcomes. Engaged students are more likely to be motivated to learn and to persist despite the challenges they may experience. Keeping your students interested, enthusiastic, and passionate about the course material isn't easy, but there are resources that can assist. Macmillan Learning's Learning Science team works tirelessly to review existing educational literature research and conduct our own research with educators and students. By keeping the needs, perspectives, and experiences of diverse educators and students front and center throughout the product development process, we work to deliver teaching and learning resources that make it easier to engage their students before, during, and after class for deeper learning.

MARCY BAUGHMAN

Executive Director, Learning Science and Insights
Macmillan Learning

Before Class

Preparation that Optimizes Learning

Metacognition

Merriam-Webster defines metacognition as ***"awareness or analysis of one's own learning or thinking processes"***. The Learning Science team at Macmillan Learning often looks to the definition provided by Davidy Conley: "Metacognition occurs when learners demonstrate awareness of their cognitive processes and then monitor and analyze those processes." Or to put it another way, the process of thinking *about* thinking. But what value does this exercise hold for students and the teachers who guide them? Asking students to self-reflect on factors like:

- the type of learner they consider themselves to be
- how they respond, evaluate, and communicate knowledge gained
- the goals they set for themselves and how they strive for those goals

is not only a valuable exercise for the students themselves, but also for the educators who seek to broaden and deepen their knowledge and understanding.

Self-efficacy

Self-efficacy is defined as an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments.[4]

Self-efficacy reflects confidence in the ability to exert control over one's motivation, behavior, and social environment.

These cognitive self-evaluations influence all manner of human experiences, including:

- the goals for which people strive
- the amount of energy expended toward goal achievement, and
- the likelihood of attaining particular levels of behavioral performance.

—American Psychological Association

When students know themselves—and instructors understand students' self-perception, goals, motivation, and challenges (perceived and actual) — creating personalized learning experiences becomes the natural next step. When students reflect on their

4. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.
Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.
Bandura, A. (1997). Self-Efficacy: The exercise of control. New York, NY: W. H. Freeman.

own capacity to execute behaviors toward their own goals, these metacognitive exercises help develop self-efficacy and improve learning outcomes. Next, we'll describe how educators are currently using courseware to support pedagogically-sound student engagement practices.

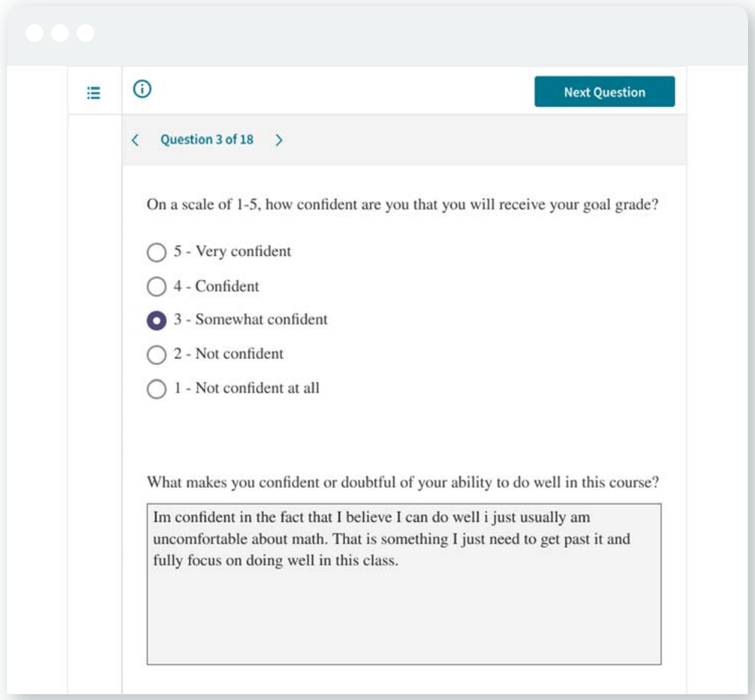
STRATEGY 1

Goals have to be set before they can be met.

Goal-setting and Reflection Surveys

Goal-setting, task and workload analysis, and self-reflection are key metacognitive techniques. Asking the right questions to help students identify their desired course goals, their confidence, and monitor their own progress throughout the course, is a powerful tool in helping students develop self-efficacy.

There are six assignable surveys in Achieve designed to get students to set goals for themselves and reflect on their learning throughout the semester. This includes an initial survey and five check-ins. For each survey you assign, you will receive insights on the strategies students are using, how they think the semester is going, and how you can target interventions and support based on your class.



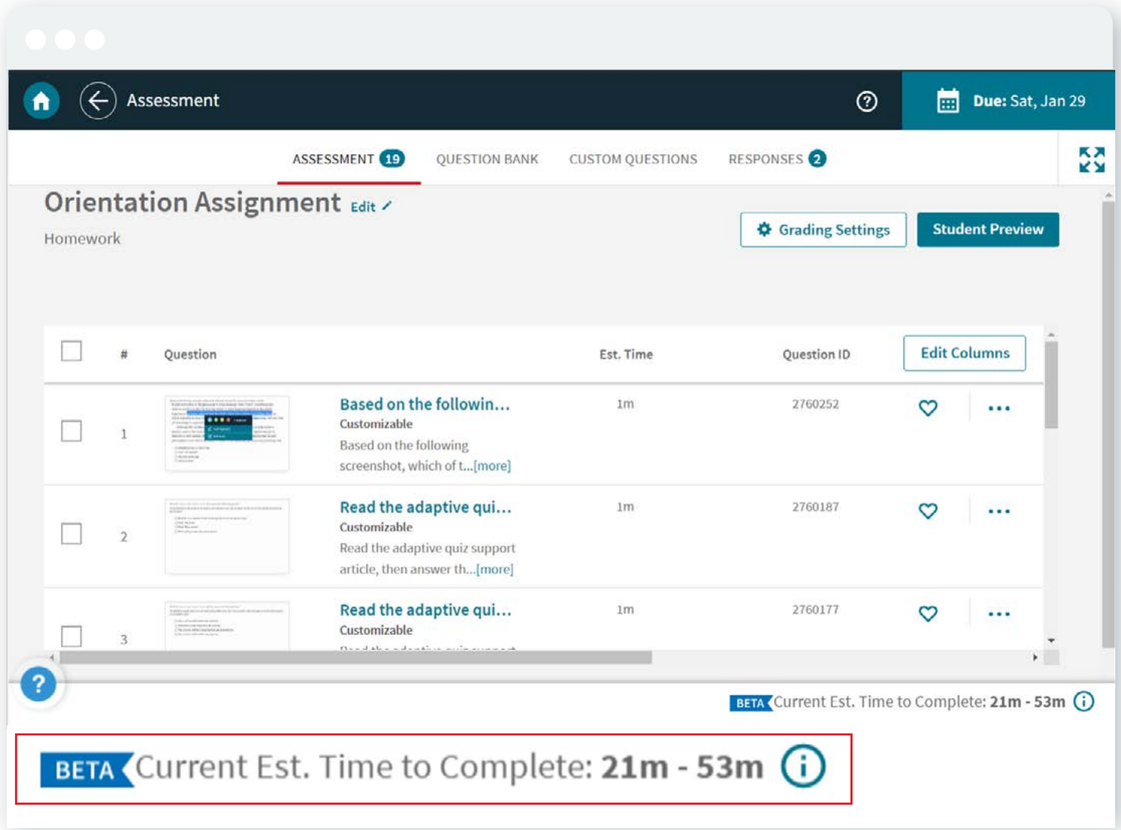
STRATEGY 2

Help students develop time management skills.

Time-on-task Assessment Metadata

A key element of developing self-efficacy is having a clear understanding of the time required to successfully complete a task. Organizational psychology educator and researcher Brigitte Claessens defines time management as “Behaviors that aim at achieving an effective use of time while performing certain goal-directed activities.”[5]

Time-on-task assessment metadata provides instructors with insights that can be shared with students to assist them in properly planning their homework and study time.

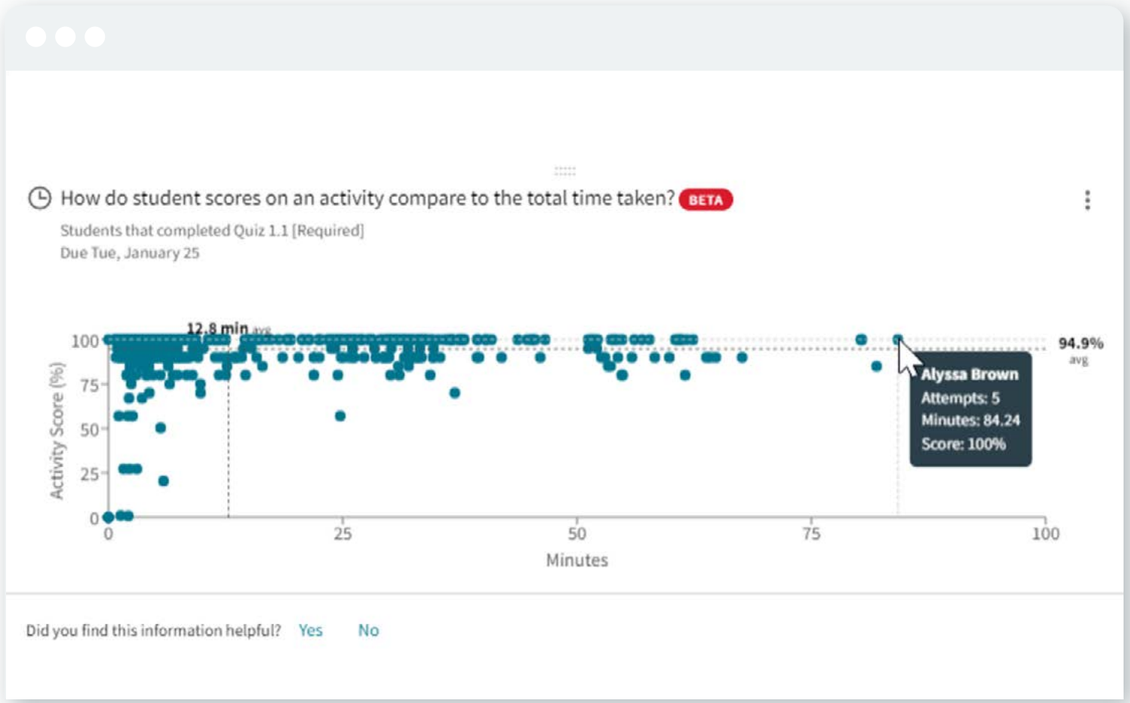


5. Claessens, B. J., Van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. Personnel Review, 36(2), 255–276.

Before Class

Time-on-task Insights Cards

Achieve's new Time-on-Task Insights Cards enable instructors to proactively communicate the estimated time to complete assignments to assist students in managing their time. Aggregated time-on-task data also makes it easy for instructors to identify time-on-task outliers that may indicate possible student cheating or gaps in understanding.

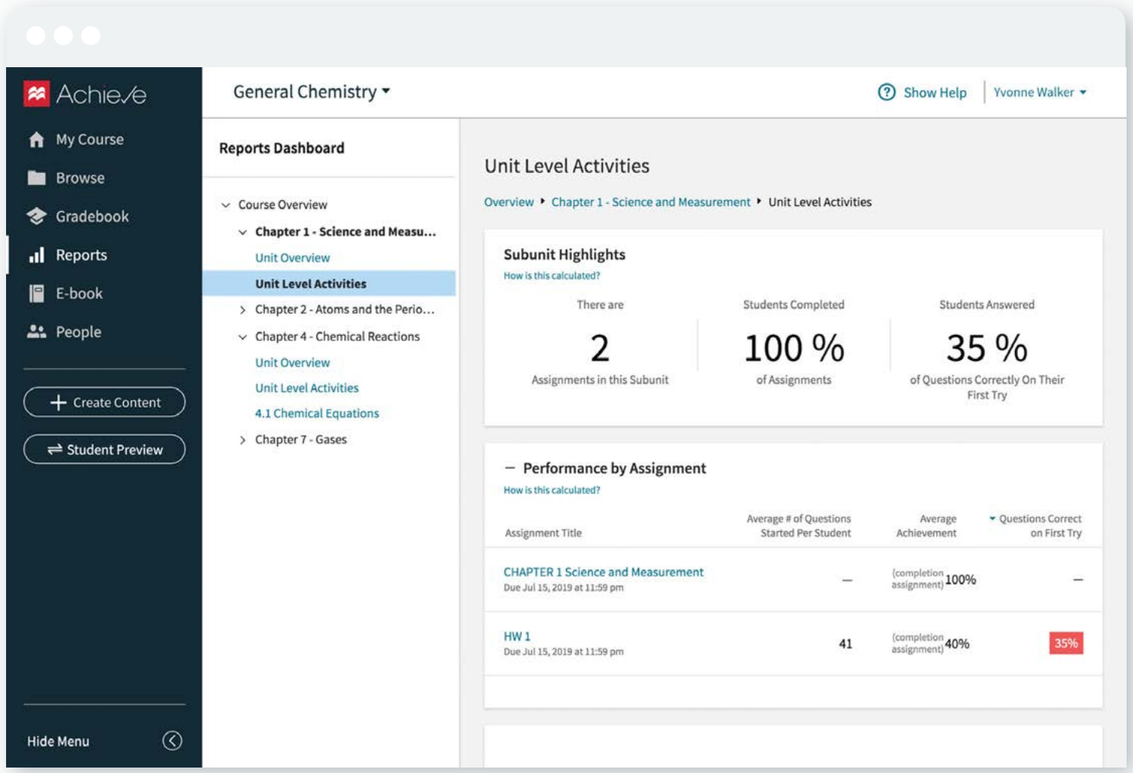


STRATEGY 3

Get the insight you need to course correct for your students.

Analytics

Ideally, analytics will highlight barriers to learning, before class begins. The Insights and Reporting feature does just that, providing powerful analytics, in an elegant dashboard, that offer instructors a window into student progress and facilitate lessons tailored to students' needs.



During Class

Designing and Managing Classes That Prioritize Engagement

Active learning strategies are among the most well known student engagement strategies, but they can be difficult to implement in the classroom. It takes time and effort to plan in-class activities, and students' varying levels of preparedness can make them difficult to carry out.

Active learning strategies are, in part, so effective because they foster two-way conversations. Active learning happens when instructors involve students in the lesson and students subsequently learn by doing. This is as opposed to passive learning where students learn by receiving information presented to them by an instructor—a one way conversation. In order for active learning to take place, students must be present and ready to participate.

In 2010, a meta-analysis revealed that attendance positively affects both course grades and GPA and is the single strongest predictor of college grades.[6] The relationship between attendance and student performance is well documented[7], with local context, prior performance, and motivation having been explored as contributing factors.[8]

6.Marcus Credé, Sylvia G.Roch, and Urszula M. Kieszczynka, "Class Attendance in College: A Meta-Analytic Review of the Relationship of Class Attendance with Grades and Student Characteristics," Review of Educational Research 80, no. 2 (2010): 272–295.

7.Victoria Alexander, Richard Hicks "Does Class Attendance Predict Academic Performance in First Year Psychology Tutorials?," International Journal of Psychological Studies 8, no. 1 (2016): 28–32; Steven E. Gump, "The Cost of Cutting Class: Attendance as a Predictor of Success," College Teaching 53, no. 1, (2005): 21–26; Daniel R. Marburger, "Does Mandatory Attendance Improve Student Performance?," The Journal of Economic Education 37, no. 2 (2006): 148–155.

8.Sarah Moore, Claire Armstrong, and Jill Pearson, "Lecture Absenteeism Among Students in Higher Education: A Valuable Route to Understanding Student Motivation," Journal of Higher Education Policy and Management 30, no. 1 (2008): 15–24.

During Class

Attendance doesn't just enable the transfer of content knowledge, it also provides students with access to other, noncontent-specific contextual information, resources, and relationships that can positively impact their knowledge and sense of belonging.

Once you have students in class it is important to engage with them through active learning pedagogies that rely on student attendance.[9] Research on iClicker usage by our Learning and Insights team has revealed that by adding polling to a course, attendance improves by up to 10%. This research also indicates that you only need 3–5 polling questions to engage students in class without overwhelming them—so, incorporating active learning doesn't have to be a heavy lift to be effective.

9. Credé, Roch, and Kieszczynka, "Class Attendance in College"; Catherine H. Crouch and Eric Mazur, "Peer Instruction: Ten Years of Experience and Results," American Journal of Physics 69, no. 9 (2001): 970–977; David McIlroy, Sue Palmer-Conn, Bridget Lawler, Karen Poole, and Ömer Faruk Ursavas, "Secondary-Level Achievement: Nonintellective Factors Implicated in the Process and Product of Performance," Journal of Individual Differences 38, no. 2 (2017): 102–112.

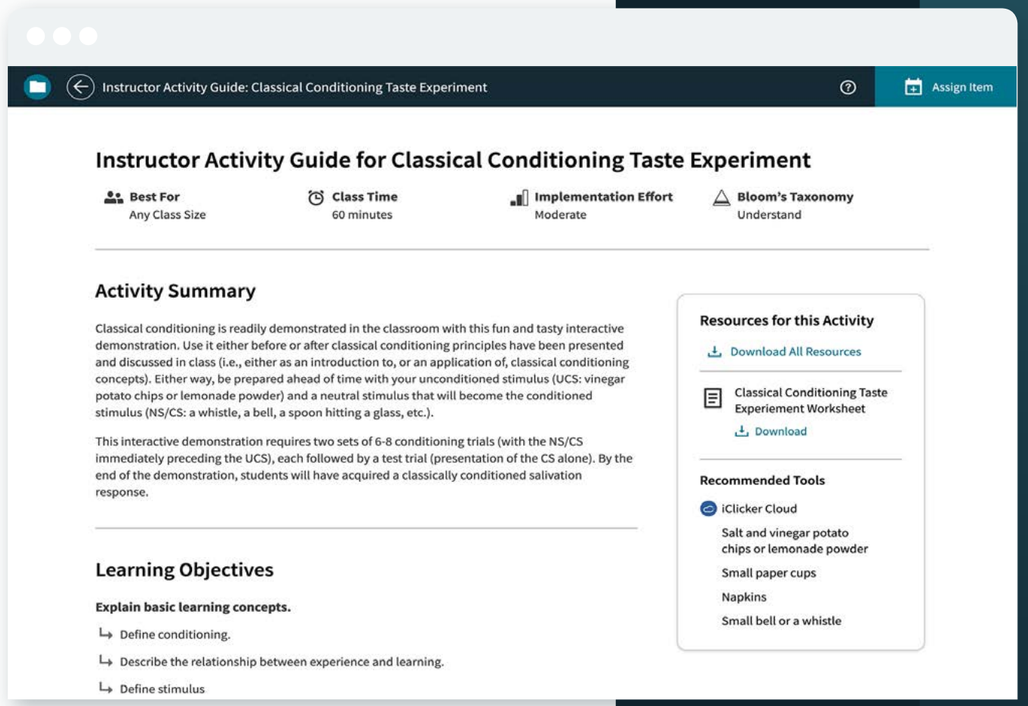
During Class

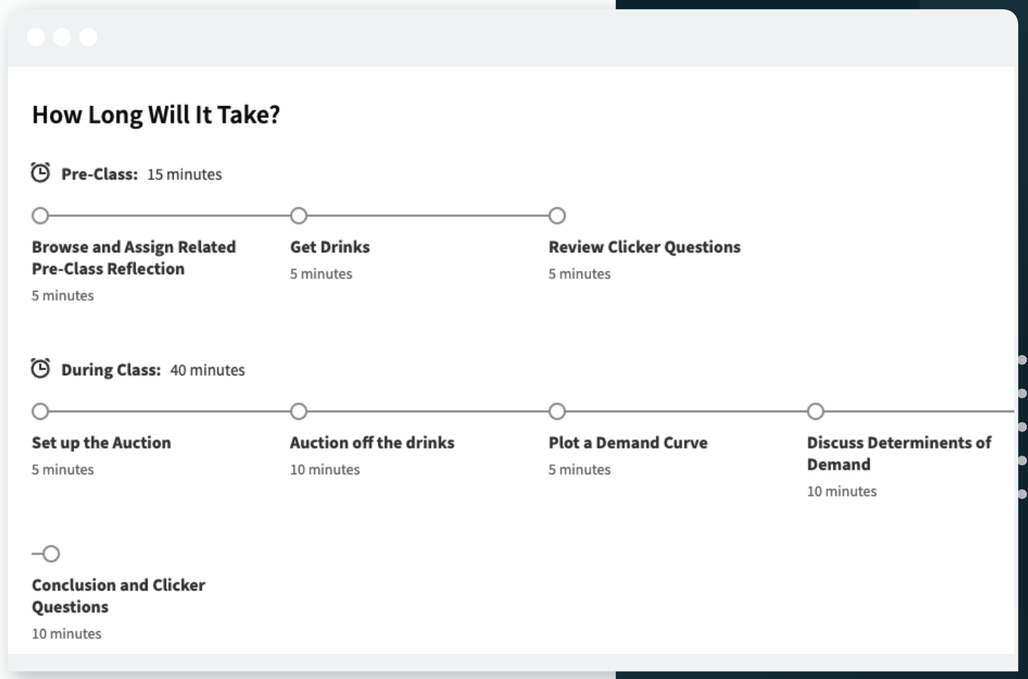
STRATEGY 4

Use active learning activities that create lively classes.

Instructor Activity Guides

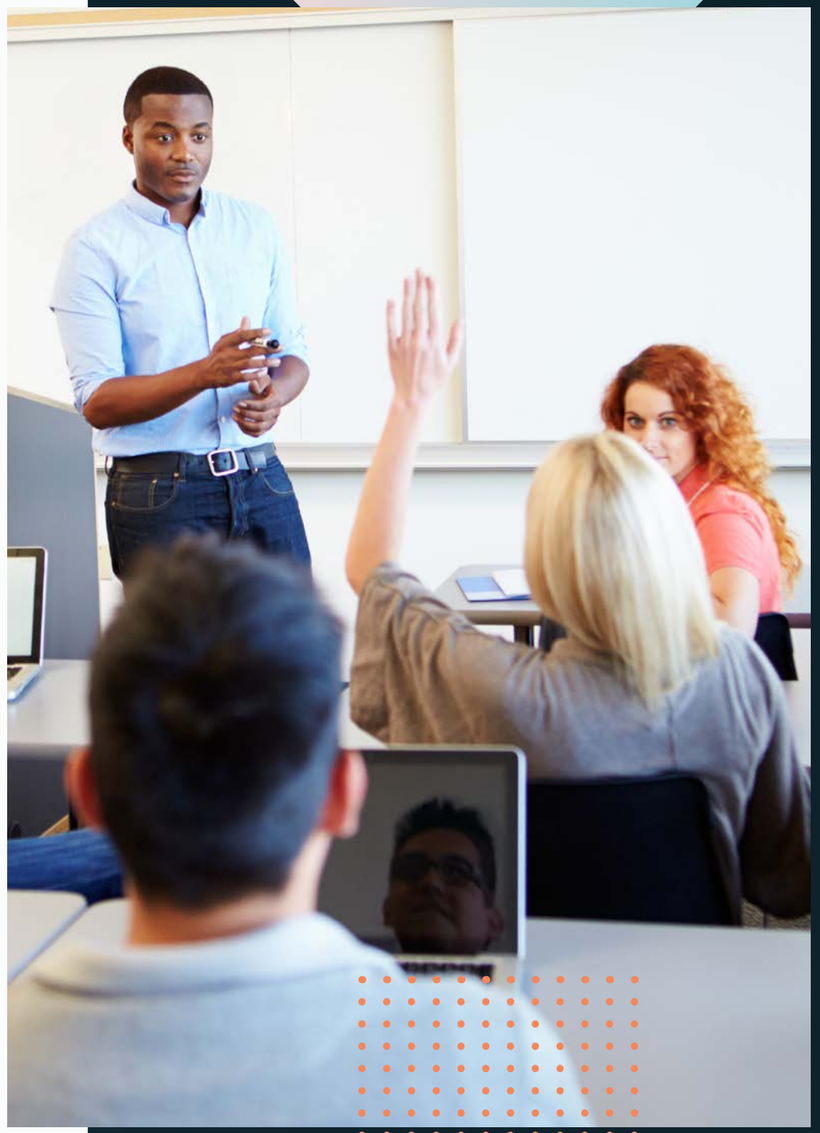
Achieve comes with Instructor Activity Guides that can help you jump-start classes. The Guides in-class activities aligned to your course that invite your students to identify errors, construct shared knowledge, and motivate one another to learn. Every Instructor Activity Guide was created by educators and subject matter experts.





STRATEGY 5

Ask students what they think in real time.



Quickly and Easily Make Passive Classes Active with In-Class Polling

iClicker access is free with Achieve courses, and its polling features were designed to make active learning possible for every classroom. iClicker gives every student a voice by allowing every student to get involved—not just your most active participants. You can use polling questions to reset students' attention, helping them focus when their minds start to wander during lectures. Or you can plan entire in-class activities around iClicker Polling.

iClicker Question Types

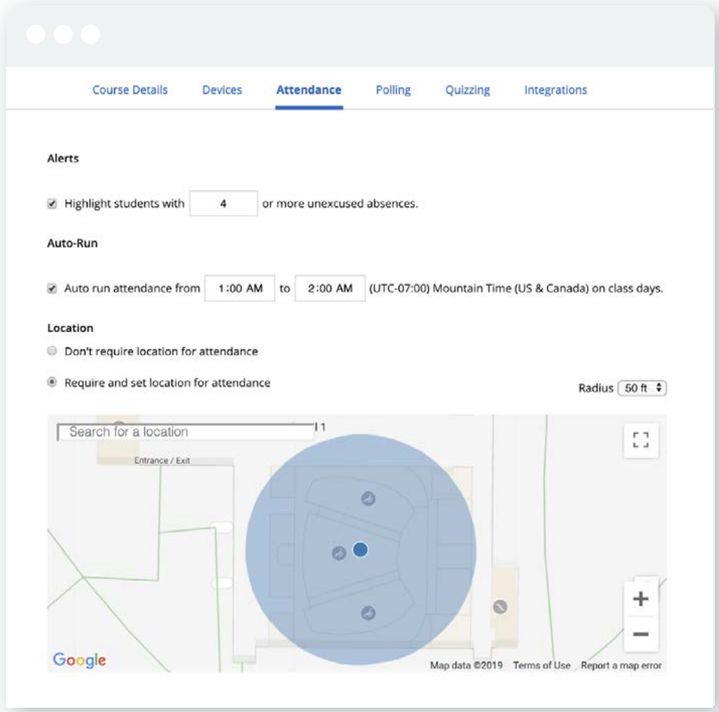
- **Multiple Choice.** The classic single-select polling format with max flexibility to run multiple-choice, true/false, yes/no, or quick survey questions.
- **Multiple Answer.** With these questions, students evaluate each possible response instead of simply hunting for one "best" answer.
- **Target.** Ideal for courses and concepts where visual understanding is critical, students answer image-based questions by clicking or tapping the correct location.
- **Short Answer.** These open-ended questions illuminate students' understanding. Trends in student responses are displayed via a custom word cloud.
- **Numeric.** Particularly ideal for math-based courses, students can respond with open-ended numeric values up to eight digits and can include scientific notation and exponents.
- **Anonymous Mode.** Ask sensitive questions that students might not feel comfortable answering if their response could be traced to their identity.
- **Exit Polling.** Instructors receive in-the-moment insight into student understanding. Students learn by reflecting on the class session and evaluating their own learning in real-time.

STRATEGY 6

If showing up is half the battle, reward student attendance.

Take Attendance with iClicker

It may seem simple but part of engaging students during class is getting them to show up. Whether you have an in-class poll planned for the day or not, you can require your students to indicate that they're in class using iClicker Attendance. This will create an attendance record for you and your students. Even if you don't usually assign attendance grades, this can be a helpful self-monitoring tool for students.



After Class

A Successful Student Engagement Plan Doesn't Stop at the Door

Learning doesn't stop for students when they leave the classroom, and neither should your plan for engaging them.

Adaptive learning is the pinnacle of the personalized learning experience. In an effort to create a more effective learning path, Achieve harnesses the power of our technology to tailor our assessments, feedback, and instruction to each student's own needs. Our Achieve algorithm can focus in on where a student needs more support by assessing their mastery of the course, and by offering appropriate content and assessments as they progress through their learning journey.

Additionally, research indicates that due to the *testing effect*, quizzing is both an effective assessment and learning tool. However, when questions and answers are repeated in subsequent quiz attempts, there is an increased opportunity for cheating. Question randomization on multi-take quizzes makes cheating more difficult.

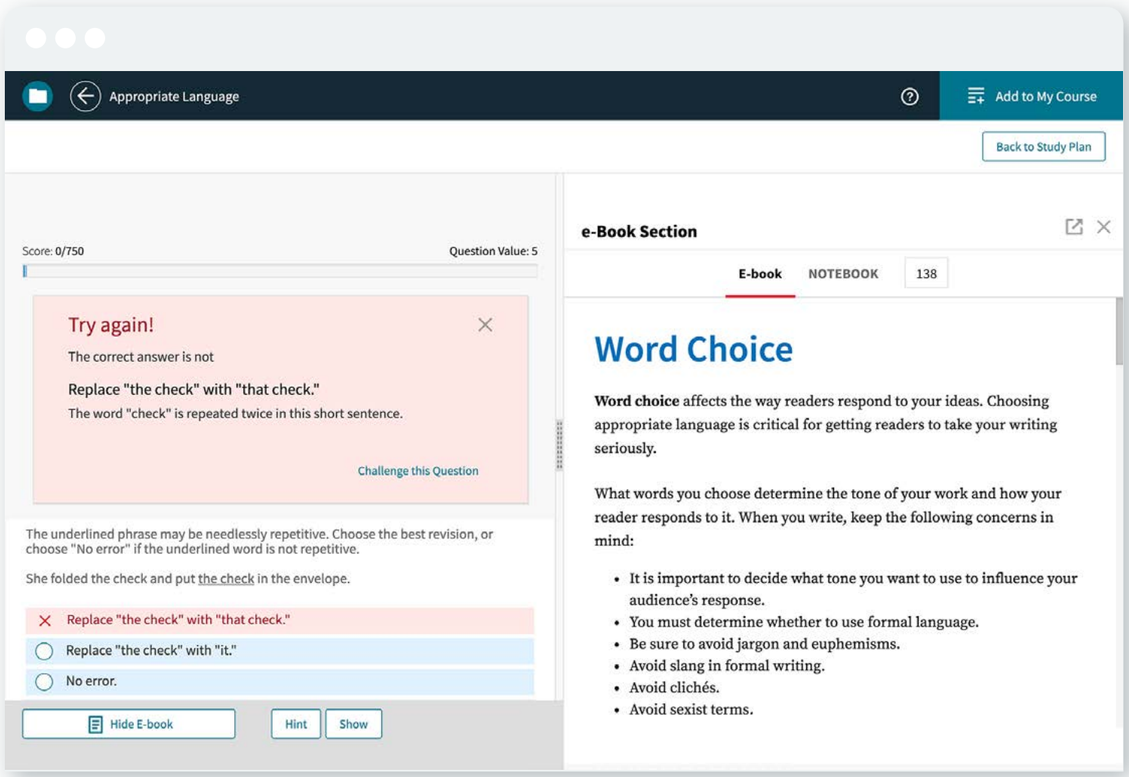
After Class

STRATEGY 7

Tailor assignments to the learner, while keeping everyone on the same page.

LearningCurve Adaptive Quizzing

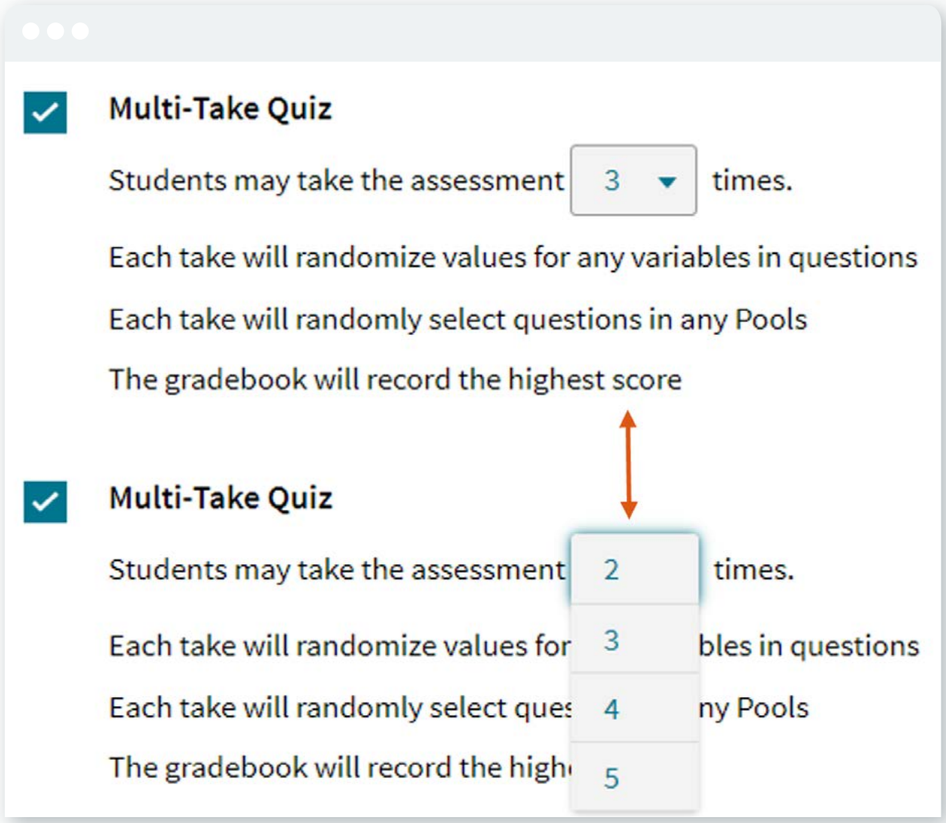
LearningCurve Adaptive quizzing provides personalized question sets and clear feedback based on each student's correct and incorrect answers--offering an easy way for students to prepare for class by reviewing the e-book and then assessing their understanding of the concepts.



After Class

Multi-take Quiz Options

New Multi-take Quiz options provide instructors with more control over the number of allotted takes (“attempts”) of an assignment, supporting the most commonly used pedagogical methods for quizzing.



Achieve is an intuitive learning support solution that can help you strengthen student engagement in and outside of class. Regardless of your students' levels of preparedness and whatever your course modality, the Achieve platform has powerful media and assessment tools that give every student a voice.

For more on how Achieve and iClicker can help you engage students for better learning outcomes, visit:

Achieve

iClicker

1. Center for Postsecondary Research Indiana University School of Education (2021). National Survey of Student Engagement.

2. McMurtrie, B. (2022, July 12). A ‘stunning’ level of student disconnection. The Chronicle of Higher Education. Retrieved September 9, 2022, from https://www.chronicle.com/article/a-stunning-level-of-student-disconnection

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