SNAPSHOT: EFFECTIVE TOOLS FOR STUDENT ENGAGEMENT

HOW NEW TECHNOLOGIES ENHANCE TODAY’S CLASSROOMS

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Technology Offers New Ways to Engage Students

There is perhaps no better example of the success of technology in the classroom than student response devices. Clickers, as they are more commonly called, are a time-honored and highly effective method of increasing student engagement in the classroom. Hundreds of studies and thousands of instructors and students have proven their effectiveness over the years.

By letting students use a simple handheld device to quickly respond to one or more questions, clickers have revolutionized the classroom—and many an instructor’s pedagogy. Today, new technologies and exciting innovations are bringing clickers in the classroom back to the forefront. Here are some examples of how technology is enabling new approaches—along with tips on what to look for in selecting a clicker system.

Incorporate Mobile Devices
Perhaps the biggest step in student response systems is including mobile devices. Today’s technology advances mean wireless coverage in many classrooms and across campuses. That lets instructors take advantage of students’ affinity for keeping their mobile phones close at hand and incorporate them into classroom activities. Some technologies even enable mobile response support in a blended classroom. Some students can participate in polling using standard handheld clickers, while others use smart phones or laptops. When students can use the device they prefer, participation is enhanced and instructors no longer have to deal with forgotten clickers. Regardless of the device, the same results are sent to the instructor.

Enhance and Enrich Discussions
Teaching methods that fall under the label “flipping the classroom” are generally excellent ways of increasing student involvement. In a nutshell, the term usually means making assignments outside the classroom. This frees up more time in class for student participation, discussions and engagement. Clickers play well into a flipped classroom scenario. They enhance engagement by pulling students into discussions and by encouraging feedback.

One way to foster debate is displaying poll results. The clicker software should help the instructor quickly show the class feedback and tabulate responses in a number of different ways.

Using Graphics Effectively
With mobile devices as student response systems, it’s time to take advantage of their large screens. Teachers can now incorporate graphics into lectures and display them on phones, tablets and notebooks with the clicker software. It’s a great way to incorporate new material into the classroom. It makes the instructor’s job easier, and stimulates discussion.

Some clicker software can include graphics—screen grabs, essentially—from sources as diverse as PowerPoint, YouTube or Google Earth. As a bonus, students can often save every poll question asked in class, along with their individual responses and any graphics used. The information is saved in the cloud, so students can access the material later as a study aid.

Learn from the Data
Using analytics to tease out patterns and problems by examining the data is becoming more common in many areas of education. In the classroom, good clicker software can collect student responses for analysis after the fact. Instructors can use simple analytics to drill down into the data, highlighting overall patterns in student responses or uncovering problem areas in their own instruction.

Integrate with other Systems
With learning management systems (LMS) serving as the central platform on many campuses, it makes sense to integrate an institution’s clicker system with its LMS. One feature to look for in any clicker software, therefore, is LTI integration (all major LMSes, including BlackBoard, Instructure Canvas and Moodle, are LTI-compliant). That means instructors can seamlessly move between the clicker software and the LMS with tasks such as uploading students’ daily clicker responses to the LMS.

Campustechnology.com/clickertechnology
NEW USES FOR POLLING IN TODAY’S CLASSROOMS

Polling students for their opinions is a powerful and popular way to increase engagement. Clickers, or student response devices, have long been used for that purpose. Dramatic new advances in polling software and the other types of devices students can use to participate has made polling one of the easiest, most effective ways there is to enhance student engagement.

The gold standard in clicker devices, with millions of devices in use in classrooms around the world, is i>clicker. This year, the company has embraced new technologies like wireless classrooms and ubiquitous mobile devices with a new, built-from-the-ground-up platform called the REEF Education platform. The new platform offers vast new capabilities for capitalizing on student devices both inside and outside the classroom.

The first piece of software to take advantage of the new platform is REEF Polling. Optimized for mobile devices, REEF follows the i>clicker mandate of being easy to use for both instructors and students.

Setting up a device to use with REEF is fast and easy. There’s a simple app downloaded to the device that steps the student through creating an i>clicker account for that device. A user at the University of Nebraska-Omaha commented that, “REEF Polling was so easy to set up, I thought I’d done something wrong.”

A key feature of REEF Polling is the ability for students to use their own phones, tablets or notebook computers as response devices. That means no more forgotten clickers. REEF also allows for a mix of devices. Students can use standard clickers or their own mobile devices.

One advantage of allowing standard clickers as well as personal mobile devices is some institutions and classrooms are not yet fully wireless-enabled. Thus, they’re not ready for the heavy wireless traffic mobile devices can create. By allowing a hybrid blend, institutions are assured that any classroom on campus, regardless of wireless capability, can support the clicker standard selected by the institution.

Also, instructors who prefer to ban mobile devices in class can continue to do so. They can mandate the use of standard clickers instead. Others can also allow a hybrid blend of both approaches.

Because REEF Polling is easy to use and works on so many devices, it encourages instructors to create plenty of polling questions, both as part of the prepared lecture or on the fly. When using mobile devices, questions can include sophisticated graphics from a huge variety of high-bandwidth apps, including screen shots Google Earth, Microsoft PowerPoint and YouTube.

“Literally anything you can display on a screen can be turned into a question.”
—Leslie Hendrix, an instructor at the University of North Carolina in Columbia

Students can store their answers individually, including any graphics, for a great study aid later. Since the software saves the student’s answers as well, it makes it easy for students to later review questions they may have answered incorrectly in class. ●
Data analytics—the systematic analysis of data for patterns over time—can help colleges and universities make better informed decisions and plan for certain outcomes. The use of analytics in education is drawing interest and attention in many areas. It can help predict when certain courses will be popular. It can also highlight underachieving students, often long before standard performance measurements might identify them as needing extra academic assistance.

Given the growing popularity of analytics, it’s natural that gathering, reporting on and analyzing data around student involvement in the classroom would be an obvious use of the technology. There are many ways to gather data on student engagement in class. One of the easiest is through the use of clickers. These are fast, easy, immediate and straightforward. Clickers can give an instructor or institution nearly instant information on basic items like student attendance; or something as sophisticated as the level of student understanding of a question or area of a lecture or discussion.

Educators can use the data at face value. They can also delve into it later for deeper insights. Analytics can reveal patterns through broad overviews of classroom behavior, even across an entire course. Teachers can also use the data to drill down and uncover an individual student’s response patterns. For example, clicker data can reveal that few students understood a certain point made in a lecture. Or that most in attendance struggled with a concept before coming to understand it when it was presented in a different way. That can be useful information for altering the curriculum or an instructor’s pedagogy.

Software that lets instructors, deans and other administrators parse data in different ways can also point out areas with the school structure that might need changing or improving. By combining one instructor’s clicker data with that of other sections across a course, patterns can emerge that highlight successful teaching styles or pinpoint problems in the curriculum overall.

Data taken straight from the classroom can help make a case for professional development in specific areas, such as the use of technology or more time for curriculum preparation. Clicker data can help answer questions such as, “Is it a concept itself that is difficult to understand,” or “Is it the method being used to present it?”

What if a challenging idea is shifted in the curriculum and introduced later in the semester? What if more time is spent on one area and less on another? What if clickers are used to enhance discussions around challenging topics, such as asking students to respond to a clicker question, then turn to a seatmate and defend their answer? A second round of clicker responses can then reveal who has changed their minds.

At a granular level, instructors can drill down on an individual’s attendance record. They can also compare that attendance record to issues with the subject matter overall. By combining data from the clicker system with data from the institution’s learning management system (LMS), patterns may emerge.

Does participation in offline discussion boards, which can also be tracked by the LMS, correlate to participation in class and to a better overall understanding of the topic? It’s likely that it does. So how can teachers encourage offline discussions, especially around challenging subject areas?

In short, using data analytics can enhance various areas of higher education by including the sort of immediate, hands-on data that clickers tend to produce. With the right software, everyone from instructors to deans can uncover ways to help improve the education experience.
In today’s age of short attention spans and endless distractions, how can educators grab and hold a student’s attention for the time it takes to introduce a new idea? Even with the prevalence of technologies like big-screen displays, high-end videos, mobile devices and wireless coverage—or perhaps because of all those potential distractions—educators are always on the lookout for new ideas to improve student engagement.

Here are several highly recommended resources from authors and bloggers—most of them teachers themselves. These folks have tackled the question of student engagement. An excellent book on how to be an effective, engaging teacher is Elizabeth Barkley’s “Student Engagement Techniques: A Handbook for College Faculty” (Jossey-Bass; 2009).

In her book, Barkley explores student engagement from different angles, with topics ranging from a basic understanding of student engagement (promoting synergy between motivation and active learning) to tips and strategies for instructors (be clear on your learning goals; limit and chunk information). She includes plenty of hands-on student engagement techniques from educators.

In a chapter on analysis and critical thinking, she points out that “once students have acquired foundational knowledge, skills, and understanding, they must learn to use it in some way.” Information only acquires value, she says, when students begin to use it to build something meaningful, such as “concepts, principals, and relationships.” To that end, she offers specific techniques that require student engagement in considering and debating ideas in the classroom.

Another solid resource on student engagement is Ken Bain’s “What the Best College Teachers Do” (Harvard University Press, 2004). Bain’s well-known book profiles outstanding teachers in higher education and how they succeed in the classroom. He first looks at how students learn, then delves into how instructors prepare to teach, what the average teacher expects of students, how he or she conducts class, and treatment of students.

One of Bain’s points that resonates today: teachers should use assessments and evaluations throughout the teaching process, instead of at discrete points. He notes that such assessments reflect not only on a student’s learning, but also the instructor’s teaching. That means quick pop quizzes delivered by a clicker device, for example, might be used throughout a course to re-evaluate not only the course’s progress, but also the educator’s.

In a 2013 blog, Dr. Tim Elmore, book author and president of a non-profit organization focused on youth leadership development called Growing Leaders, writes about “Four Ways to Increase Student Engagement.” In the post, he suggests that one key to grabbing students’ attention is entertainment. That word doesn’t need to be a bad thing, he says. To entertain merely means “to capture and hold one’s attention.” In some ways, that’s another definition of engagement.

Elmore cited the results of a study his company conducted among higher education students in which he asked what elements they appreciated most when learning something new in an academic or non-academic environment. He describes the top four responses from the students: “They love narratives. They love interaction. They love pictures. They want us to make the complex simple…” Based on his study, one of his suggestions is to reach out to students in ways that they understand. “Use the vehicles of communication they prefer,” he says. Although Elmore doesn’t say so explicitly, that certainly includes electronic devices like tablets and smart phones.

For a topic as timely as student engagement; bookstores, magazines, blogs, and education sites are teeming with resources. Common themes from many experts include these basic tenets:

- Reach out to students in a way they understand and appreciate
- Check progress regularly with quick assessments
- Encourage collaboration
- Don’t be afraid to change an approach or use a new idea to help students understand
NEW USES OF MOBILE DEVICES BOOST STUDENT ENGAGEMENT

Once considered a distraction, teachers are using mobile devices to capture students’ attention.

The combination of mobile devices in the hands of every student—and wireless coverage throughout many campuses and classrooms—has opened dramatic new possibilities for engaging students. Once considered an unwelcome distraction, teachers can use mobile devices to catch and hold student attention.

Teachers are incorporating mobile devices into their classrooms and curriculums in many creative ways. Most students are intimately familiar with their personal devices (and hardly ever forget to bring them along to class), so mobile phone apps for the classroom are an obvious way to use the devices productively to engage an entire lecture hall.

Research continues to substantiate the idea that better student engagement leads to better learning outcomes, so it makes sense to uncover new ways to engage students. One time-honored method has now been brought to mobile devices—the use of personal polling devices or clickers. Gareth Hancock, who heads product development for Macmillan New Ventures, points to a number of studies that cite the positive effects on student engagement brought to the classroom by polling devices.

A familiar name in student engagement within the classroom, i>clicker, has recognized that fact. As Hancock explains, i>clicker is making big moves into the market to expand on the idea of student engagement both inside and outside the classroom. Its biggest splash so far this year is the new REEF Education platform. This opens the door to vast new possibilities in student engagement, both within and outside the classroom.

“We’re in a time when every student has a mobile device,” says Hancock. Clearly, the company recognizes that and is moving to take advantage.

The first product launched under the REEF Education platform is REEF Polling. This runs as a mobile-optimized polling system, and works with either Apple or Android mobile devices. That makes it easy for instructors to incorporate polling software into lectures. “REEF Polling is the first incarnation of our expanded vision,” says Hancock.

Within the classroom, REEF Polling is expanding on i>clicker’s vision of expanding student engagement by expanding the use of mobile devices. Beyond the classroom, i>clicker is looking for other student engagement opportunities as well. For now, REEF Polling blows open the door to dramatic new ways to engage students:

- Its ease of use as a polling platform helps instructors create questions on the fly during a lecture
- Instructors can instantly include screenshots from any software program, from Microsoft PowerPoint to Google Earth
- REEF Polling’s flexibility means students can use their own mobile devices or traditional i>clicker devices in the same classroom and at the same time
- Each student’s answers are saved individually alongside a screenshot and the question asked, making for an excellent study guide later
- The product is cloud-based, which dramatically reduces support and integrates with all the major LMSes
- Analytics are included to help instructors watch for patterns in student involvement and understanding.

“REEF Polling really respects instructor workflow,” says Hancock. “They love it for quick quizzes, for example. And it automates scoring, which makes things that much easier for instructors.”

So what’s ahead for i>clicker? Hancock alludes to new products and capabilities that will reach well beyond the classroom, enhancing student engagement in areas as diverse as analytics, financial aid, student interaction with advisors, tutoring centers, extracurricular campus groups and even student government.

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