

When all the students in a class are engaged in the work, offering answers to questions, and discussing the lesson as a group, it's a highly effective learning environment. One relatively inexpensive piece of technology is a useful tool in helping create that kind of classroom.

Classroom clickers, instant response systems, hand-held response systems, student response systems -- these are all names for a technology we use to promote active learning in the classroom. Students respond to questions asked by the teacher using a small handheld keypad, similar to a TV remote control.

How can these be used in the classroom?

These systems work with the current technology of interactive whiteboards (the brand we use is called a Smartboard) and with programs installed on the teacher's computer. The teacher presents a lesson and poses a question on the Smartboard. Students have a moment to reflect on their answer or are given time for discussion in small groups before giving their answer. The teacher then asks the students to click in their response using the hand-held device. Their responses are entered into the program through a receiver. The teacher can tell when all the students have responded because the number of responses is displayed. When all students have responded, the teacher and students have instant feedback from the question. The teacher can move to the next slide where the computer program has calculated the correct number of responses. The teacher can decide, based on the data, to move on or spend more time on that point.

What are the benefits?

They include improved communication, instant feedback, and increased learning. Communication is improved by allowing every student to respond, not just one. In this way, more students are participating in the activity.

The instant feedback is valuable to both the students and the teacher. The students can see the other students' responses, which can help spur increased discussion about the topic. The teacher can use this immediate feedback to pinpoint the material that needs more attention.

Increased learning is encouraged through collaboration and teamwork. Group exercises can be developed to encourage students to work together and discuss their responses. Learning is also increased due to students being more attentive. Students have the opportunity to respond to real-time questions, instead of waiting until the end of the presentation.

"Classroom clickers" are a tremendous way for students to become engaged in the classroom activity and interact with their classmates and teachers.

"With clickers, you're giving every student a voice, even the introverts," says Edna Ross, a resource teaching professor at the University of Louisville. Anyone who's ever sat in

class and knew the answer to a question, but didn't raise their hand, will know what she means.

Long before it was a law, good teachers always worked hard to make sure no child was left behind. Tools like these can be a great help in that effort.

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