

# BUYER'S **g**uide

Instant polling—what teacher doesn't sometimes want to stop class and quiz the students to see how much they are absorbing? Traditionally, this simply wasn't practical. By the time you've converted into quiz mode, supplied the appropriate questions, given the students ample response time, collected the answers, and assessed and compiled the results, well, you're probably at least a day or two later. Student response systems can change that dynamic dramatically.

You've seen them in action on television shows such as "Who Wants to Be a Millionaire?" The basic concept is simple—each student has a *clicker*, a device similar to a television remote control that they use to answer your questions. A receiver connected to your computer tallies the answers automatically and nearly instantly. If nearly everyone gets the right answers, you might proceed with the lesson. If most don't, you may need to go over the lesson again.

Every one of the products in this buyer's guide provide at least this level of functionality and thus can be a huge advantage in the classroom. Most have features well beyond simple aggregate polling. A typical response system has at least 5 buttons for multiple choice responses, the more sophisticated can handle short text answers as well. Many are truly interactive, capable of showing that the user's answer was received, and even if it was correct or not.

As with most technologies, student response systems have become affordable enough for the typical classroom because the technology has become common in the corporate and higher education arenas. Although the basic clickers and base technology are essentially the same, the support software can vary from mere hardware drivers to deep and rigorously developed and tested curriculum. Naturally, price reflects this.

Other major factors affecting price are the sophistication of the clickers and the communication type (infrared or radio frequency). Radio frequency (RF) devices are the more expensive. They, unlike the television remote-style infrared devices, don't require line-of-sight to operate, can handle many more users, and have more robust interactivity. Infrared devices are best suited for smaller classes (some can handle as few as 30 users dependably).

Most of the systems profiled here come in sets. A set includes a base unit, a number of clickers, and software for the base computer. Most of the clickers require batteries, but like a typical remote control, the batteries last for a considerable time.

Pricing and evaluating the system that will best fit your school's needs is beyond what a two-page article can hope to provide. However, these are among the leading and most popular choices currently available for K-12 and higher education.

## Student Response Systems

Company/URL/Phone	Model(s)	Communication Type
<b>eInstruction</b> <a href="http://www.einstruction.com">http://www.einstruction.com</a> 1.888.707.6819	CPS IR; CPS RF 	Infrared; Radio Frequency
<b>GTCO CalComp</b> <a href="http://www.interwritelearning.com">http://www.interwritelearning.com</a> 1.866.496.4949	PRS; PRS RF 	Infrared; Radio Frequency (2.4 GHz)
<b>iClicker</b> <a href="http://www.iclicker.com">http://www.iclicker.com</a> 1.866.209.5698	iClicker 	Radio Frequency (915 MHz)
<b>Qwizdom</b> <a href="http://www.quizdom.com">http://www.quizdom.com</a> 1.800.347.3050	Qwizdom Q4 and Qwizdom Q5 RF 	Radio Frequency
<b>Renaissance Learning</b> <a href="http://www.renlearn.com">http://www.renlearn.com</a> 1.800.656.6740	Classroom Response System 	Radio Frequency
<b>Turning Technologies</b> <a href="http://www.turningtechnologies.com">http://www.turningtechnologies.com</a> 1.866.746.3015	ResponseCard IR; ResponseCard XL; ResponseCard RF 	Infrared; Infrared; Radio Frequency

Pricing*	Base Unit	Clicker(s)	Requirements	Software	Feature Notes
Sold in classroom packs including clickers, base, and software from \$1,495 (24-clicker IR) to \$3,745 (40-clicker RF) Additional parts pricing: \$250 IR, \$350 RF Base Units; \$63 IR clicker, \$95 RF clicker	IR and RF units both USB (powered) IR base maximum of 64 remotes, with 60' range; RF base maximum of ~1,000 remotes, 200' range	Both types use 2 AAA batteries. IR unit has 8 alphabetical buttons, requires line-of-sight to base unit. RF unit has 3-line LCD screen allowing as many as 12-character responses	Win XP/Mac OS X	REAP (real-time evaluation of academic progress) gradebook, data management	RF clickers have strong input features, good for middle and high school users. Strong suite of curriculum software available for K–12. IR solution relatively limited
Sold in classroom packs including clickers, base, and software from \$1,725 (32-clicker IR) to \$2,250 (32-clicker RF) Additional parts pricing: \$249 Base Units; \$45 clicker	RS-232/USB (requires power supply), IR base maximum of 64 remotes, with 60' range; RF base maximum of 2,000 remotes/base, can chain as many as 4 bases, 150' range	Both types use 3 AAA batteries. IR unit has 10 alphabetical buttons and two programmable keys; RF unit has 2-line LCD screen, 18 input keys	Win XP/Mac OS X	InterWrite PRS gradebook, data management	Powerful interactive clickers, RF models very strong for the price. GTCO CalComp offers great curriculum support and deep content, especially for elementary and middle school
\$100 Base Unit; \$35 Clicker (free base unit with purchase of 100 clickers)	USB (powered), LCD displays voting data (timer, vote count, and % of responses for choices A–E, as many as 1,500 remotes, 200' range. Includes flash drive with software, also used for storing student data	Five keypad choices, unique ID, LED vote status, power, and battery displays, 3 AAA batteries	Win XP/Mac OS X	Open source iclicker floating menu software (enables you to use the system over any application), igrader gradebook software	Among the most popular systems in higher ed, robust and simple five-button clickers ideal for multiple choice, but not flexible. 915 MHz frequency won't conflict with Wi-Fi networks. Relatively sparse K–12 curriculum support
Sold in classroom packs including clickers, presenter clicker, base, and software from \$1,680 (16-clicker Q4) to \$3,290 (24-clicker Q5)	USB (powered), 1,000 remotes, 1,000' range.	Q4 uses batteries, Q5 is rechargeable. Both include full numeric 18-button keypads, the Q5 adds a help button and a rocker pad for text input. Q5 has backlight capabilities	Win XP/Mac OS X	Interact data management (includes control, content, and learning game software)	One of the deepest sets of curriculum, unique Instructor Remote, highly interactive clickers with private "assistance request" button. Despite complex capabilities, suitable for younger readers
Sold in classroom packs including 24 clickers, base, and software \$2,199. Individual clickers \$79	USB (powered), 1,000 remotes, 1,000' range	2 AA batteries, 5-line LCD display, onboard memory for self-paced testing, multifunction calculator capacity	Win XP/Mac OS X	Classroom Response System software and AccelTest 2.2 gradebook	Low-cost RF system with high-end feature set including large LCD screen, onboard RAM and calculator function
Customized classroom pack pricing, contact vendor. \$395 base unit with software, \$34 IR clicker; ~\$50 XL; \$64 RF clicker	USB (powered), IR and XL models use same receiver. IR can handle 50-60 clickers with 90' range; RF 1,000 clickers, 400' range	12 keypad choices on all models, XL model includes onboard memory (as many as 99 answers can be stored) for self-paced testing mode. All models use coin-type batteries.	Win XP/Mac OS X	TurningPoint classroom management software	Self-pace mode is a powerful feature. Turning Technologies also offers a "virtual" clicker system for classroom with networked computing devices

\*Pricing in this category is extremely volatile, and custom bids are the norm.