

GOOGLE MODERATOR AND OTHER CLICKER ALTERNATIVES

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The use of Audience Response Systems, commonly called “clickers,” has grown in recent years as instructors have discovered the dual benefits of interaction and accountability when teaching large classes. Caldwell (2007) has shown that “these systems are especially valuable as a means of introducing and monitoring peer learning methods”. MacArthur and Jones (2008) have found that students generally have a positive attitude towards clickers, as well as research indicates measureable increases in learning through the use of collaborative response systems.

Without clickers, enforcing accountability may still be possible through the use of online quizzes, but interaction remains difficult to implement. One of more obvious problems is the chaotic noise that results with verbal communication, but more subtle dangers lurk as well, such as reaching students who normally hesitate to volunteer, especially in large class settings. One business model using clickers generally involves students purchasing a handheld device (often in the \$20-\$25 range) and then also paying \$20 or more to activate the device for the current semester.

Students register the device on the company Web site, and the instructor synchronizes the database in order to know which students have registered devices, thus creating accountability for “quizzes” in class. During the lecture, students “vote” for multiple choice answers on screen, and real-time results are displayed (anonymously) after the polling is finished, providing instant formative feedback.

Another model is for a department or institution to purchase clickers and make available in the classroom. Students pick up the clicker as they enter the room each day and replace when exiting. Using this approach does not allow for direct accountability, unless students are registered to a specific number on the clicker, which is documented and tracked.

Currently, the three largest clicker companies, eInstruction®, iClicker®, and TurningTechnologies®, have started to branch out into mobile communications and “virtual” clickers (i.e., students might be allowed to use their laptops rather than a dedicated clicker device to vote, though they would still have to pay a fee per semester to be included in the database). Third-party companies have also begun to join the market. One of the most used, PollEverywhere.com, offers the same type of voting approach using not only laptops (browser-based), but also smart mobile devices (SMS texting).

Students do not need to purchase proprietary equipment, and many students now have phones, and calling plans, capable of sending text messages. The basic service is free, though a maximum of only 30 responses may be collected per “poll” (i.e.,

question). For some courses, this level of formative feedback might be sufficient, even though not every student can vote.

Microsoft® also offers its own clicker alternative in the form of the promising Microsoft Interactive Classroom (MIC), which is a free add-in to MS-Office. A new tab labeled "Academic" appears inside PowerPoint, which allows for the creation of multiple-choice or true-false questions, and offers the ability to start a polling session. If students also install MIC and then open OneNote (a default component of MS-Office), they are prompted to join the session and submit responses when the questions appear in the PowerPoint presentation on the screen. One large caveat is that students must have laptops—there is no smart mobile device option—and they must be able to join the same subnet as the instructor, perhaps via login to the campus wireless.

Because not every student owns a laptop or the requisite Microsoft programs, a solution that includes smart devices would offer the greatest benefits. One of the free Google services, called Google Moderator, may have been created for more open-ended polls, but if used in specific ways, it can offer many of the benefits of clickers while still allowing for different devices (laptops, smartphones and devices) and yet remains a free service. Unlike PollEverywhere.com, which has a maximum of 30 responses per question, Google Moderator allows for up to 200 responses per question. Admittedly, the use of Google Moderator as a clicker replacement qualifies as a "workaround"—the program is not built for this initially and the steps faculty have to take are less than obvious initially. Here is the workflow from the faculty's perspective:

- Login/Sign up to your Google/Gmail account at <http://www.google.com/moderator/>
- Click the button to "create series" (on the right side of the screen)
- Name your series title (suggestion: either the content or the date of the class period).
- Switch the default "People will be submitting" selection to read "Ideas" (in a topic).
- Place a checkmark to allow people to submit anonymously.
- Click the button at the bottom to "create series."

Simple method-Agree/Disagree statements (this will be analogous to True/False questions)

- In the box at the bottom ("submit an idea"), type a single statement that students are meant to agree/disagree with. 250 characters maximum.
- Click "Submit"
- Click on "share" to get URL. Paste URL in email to students. (Or, post to Facebook instead: paste URL to a "closed group")
- Students open the URL and vote either "check" (for yes) or "x-mark" (for no). Important: students without a Gmail/Google account will not be able to vote. They are allowed to post with a (fake) username just for this session, if desired.
- The bars do not progress visually, but mouse-over to see a current tally for either vote.
- Students should be told not to "submit an idea" of their own at the bottom.

Greater flexibility (and complexity)-pre-made "suggestions" (this will be analogous to Multiple Choice questions)

- Create a new series (click the “Google Moderator logo in the top-left and reproduce the steps discussed above). This time, do not leave the description blank-that is where your question to the students should be posed.
- Click on “submit suggestions” to pre-type each of the possible multiple-choice answers that students will choose between.
- Click on Home (near the top-left) and click “share” to get the URL.
- Students receive the URL and see the question. They click on “view suggestions”.
- One at a time, students vote on each of your choices (click the check or x-mark). Or they can use the arrow key to move to the one they want to vote for, and only place the check there.

Maximum flexibility (and complexity)-typed “suggestions” (this will be analogous to Fill in the Blank questions)

- Instead of creating suggestions (possible answers) ahead of time, create none. When students receive the URL, they click on “submit a suggestion” to type their own response. Note: they can still also vote on everybody else’s suggestions.

Simpson and Oliver (2007) suggest that “to use clickers effectively requires an understanding and belief in active learning, and hence there are faculty development implications. There are also institutional and organizational issues, such as the practical management and administration of these systems which have not been wholly resolved”. As we maintain our focus on providing higher level, synthetic divergent questions, the method for which we deploy them, especially in the use of technology, is advancing and diverse. Whether we select to use a cloud-based or localized system, it seems that clickers continue to be a viable way to collect data on student understanding, and subsequently provide faculty members a target from which to redirect their pedagogy in an attempt to assist students’ comprehension.

Links

<http://www.google.com/moderator>

<http://www.einstruction.com/products/student-response-systems>

<http://www.iclicker.com/dnn>

<http://www.microsoft.com/education/products/office/2010/default.aspx#add-ins>

<http://www.polleverywhere.com>

<http://www.turningtechnologies.com>

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