In the Classroom 138

Using Audience Response Systems in your Classroom

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Stan Skrabut: Well, welcome back. Thanks ever so much for taking time to listen to this podcast. It certainly means a lot. I know you could be doing other things. Perhaps you are, but you're still hanging out with me and I really do appreciate it. This week, we are going to take a look at audience response systems. Over the course of my career, I have been in charge of audience response systems or clickers. However, not as many instructors are using them as I think they should because they increase classroom engagement.

Since this podcast is really about improving the classroom and increasing classroom engagement and success, I thought it was a good time that we checked out audience response systems to include clickers and other strategies. This podcast has been on my mind for a long time. Quite a few years ago, I read a wonderful book by Derek Bruff called *Teaching with Classroom Response Systems*. It is an absolute great book, one that should be on your shelf, and I will certainly put a link in the show notes, but it has largely shaped today's presentation. While rough focused on clickers, I'm going to also include other polling strategies, specifically some that I have used, and that'll be well suited for your classroom.

First of all, going back to the basics, a clicker audience response system, what is it? Well, basically, it's a device or if you're using an application, it could be an application that rapidly collects and analyzes responses, that said, in a nutshell. With a clicker or one of these audience response systems, you can get students actively involved in your class. You can increase engagement, and that's what this is all about. That really begs to the question, why do you want to use it? Well, there's three primary reasons that you would want to use an audience response system, one, increase student participation, two, increase student engagement, and three, get feedback for what students really have been learning.

I would like to add that Dr. Ruth Clark who wrote the book on evidence-based training pointed out that presentations that use clickers result in higher grades than those without, so another reason why you would maybe want to use clickers. Let's dive into those first three reasons that I presented you. First, increase student participation. The nice thing about clickers is no matter how large your class is, you can get everybody involved.

If you are relying just on one person answering a question, then moving on to another person to answer a question, that is a very small percentage in your class. With an audience response system, you can get everybody involved. Because everybody's involved, you could also make this a graded opportunity, which

increases accountability, and you can get them to start focusing on the class. They can't sit there and rest on their laurels and zone out, because, at any time, you may pull up a question that they have to be actively engaged in.

Also, this can be a great attendance tool. If you assign clickers that have a number associated with a student by asking them to check-in, you can basically do attendance. On the flip side, you can also not assign students to a specific clicker, or you can turn off the accountability portion, so you can ask for feedback that is anonymous. That's another thing that you can do, but basically, it gets everybody involved.

The other thing that it does is increase student engagement. Students have an opportunity for every question that you ask to think about their response, lock it in and see how they measure up to others in the class. They can do this without being pressured by other people to go in a certain direction. They can lock in their answer well ahead of time, and then you can see where they sit when all the answers are aggregated. This allows you to tap into each individual, and because you're not affected by that peer pressure, you have more diverse answers that you are gathering.

Thinking about the engagement piece, other things that you can do is you could-- If you assign students to-- Well, it really depends on what system that you're using. With some systems, it's possible that you can organize students into groups and you can then make it a little competitive. You can have a contest between groups on how well they answered. That's when you're actually assigning one of these audience response systems to an individual students and making that association. You have to really think about how you're going to use these audience response systems. Like I said, you also have an opportunity to get feedback from your class. If you know if you lock it into a specific student, this allows you to gauge how well students are doing it.

I talked about previously in a previous episode of recalling information, an audience response systems can be used for that. They can also be used for pre-testing. You can go out and ask the questions of the class, which is a wonderful strategy that's closely tied to the recall where you get their cerebral juices flowing around a question. You pose this question, get what the feedback is from the students and then go into your lesson and you can revisit that question to see how well they did in a post-test manner.

With an audience response system, you can also use it in terms of grading, that you can collect and grade quizzes as they're occurring through the class getting students to respond. This is different than just sitting down and taking a quiz, a 10 question quiz, is you can roll out the questions one at a time throughout your class, but it could still count for a grade at the end of the day.

Lots of different ways that you can use it for engaging your students. One strategy is to think, vote, and share. This is in this particular strategy you will post the question, have students vote on it. You can either share the results or not, maybe you want to keep them hidden and then have the students debate the results. If the results turn

out that it's overwhelmingly correct, then there's really no debate, that you can move on.

If you have a 50/50 response to it, then you can have a wonderful debate. Why did students choose one side? Why did students choose the other? You can select individuals from each different group and have them work it out, and then do a revote. In most cases, they will gravitate to the correct answer. This is a very nice strategy where you pose the question, hash it out, let them debate it out in order to get to the right answer.

When you're asking students for their feedback, make sure that you touch on all the groups that answered and get individuals to justify their answers or give a reason why they answered in a certain way. This is a great way to clarify misconceptions, but you don't want to give the correct answer to quick, it'll end up killing that discussion. You can do this in large groups or you can do this in small groups.

You can also have students in small groups if you have a very large class and have a clicker assigned to each of those groups and students can then discuss it in their small groups first before they lock in an answer. As I've mentioned before, you can make this competitive where you have the groups competing against each other. Basically, bragging rights that you can give a correct point if one group gets it right, and so forth.

When you are building the possible responses that a student can choose, ideally because you've given these questions over and over in the past, you know where the misconceptions are. Weaving those in as possible answers is great because that'll come out as far as students answering the question. If the answer is too obvious, they will certainly gravitate to one answer, but if you have somewhere they're sitting on the edge, you want to make sure that that's part of your question. Things that students commonly get wrong.

If you're weaving audience response systems into your class, one of the things that you really want to try to do is not just use it in one part of your class, but try to spread it out throughout your class, give multiple opportunities where you're using it in your class to break up the class, keep things interesting, and that move things along. You want to try to mix it up, at the most, probably every eight minutes where if you have a class, about every eight minutes at the most, you want to have students doing something, and so audience response systems are really a great tool to use during those times.

Another strategy that you can use the audience response system for is to allow students choice. It's like choose your own adventure. What you want to proceed, that maybe decide which text or which chapter or which activity or which book that you're going to pursue next, that you can give students the opportunity to vote in and decide what activity that they want to do next. One of the nice things about using audience response systems is it is a way to determine what students have learned, what they understand, what they don't understand.

Depending on the type of polling, it can be open questions. You can use it, for example, like the Muddiest Point where students type in where they're still stuck. Once again this leads to this idea of pinch points that you can go back into your learning management system to strengthen. You can also, at that moment in time, go ahead and solicit feedback from the students so you can do that impromptu instruction on that particular piece. Audience response systems work great in small classes, they also work very well in large classes.

When you're building your instruction, one of the things that you could do is just set up an entire class very much in the Socratic method where you are just teaching the class with clicker questions. You have a stack of questions on each topic that you're moving through, you're asking these questions, you're getting feedback from students, you're opening them up to discussions, you move on to the next question and you keep working your way through each topic as they're building their proficiency.

I'm going to talk about developing questions here in a few minutes. One of the questions you can certainly have in there are what are called generic questions that you have, in essence, true and false with really no question attached. It only comes into play when you ask the question in person and then you display those response opportunities. You can also do it for fill in the blank or not fill in the blank but for gathering a text response or multiple guess. You pose a question and indicate A is going to be this, B is going to be this, C is going to be this, D is going to be this, so you can do this very much impromptu. Having those questions sitting and ready kind of in your back pocket is very useful.

As I mentioned, you can use audience response systems in order to evaluate student learning. You can have questions that address content that you have covered maybe last week and here is a graded question that you're posing in front of your students. It collects that information, you can go back and then update your grade book accordingly. You can also do it if they were required to do some homework. That you go ahead and pose some questions that they have to answer based on the homework and use the audience response system in order to collect those answers. Just ideas that you can use.

When you're going ahead and building questions using an audience response system, ideally, you want to tie questions to learning objectives. Basically any activity that you're doing you want to tie back to the learning objectives so it just makes sense. A great place to start with questions are question banks that are associated with your textbook that you can draw some of those questions and weave those in or you can have students develop questions.

In previous episodes, I talked about building question pools. Those are great places to go ahead and pool questions. When you are, actually, presenting these, have somebody actually take notes so you know what questions are doing well or you can take notes. What questions perform well in your class, what questions are duds, and that way you can always continue to improve your class.

Think about different types of questions. You have open-ended questions, you have multiple choice, you have true and false. Those are different questions that you would certainly want to put in front of a class. Homework is a great place to look for weak areas. If they have homework that they've turned in, you find that students are not doing well in a particular area.

Well, when you start class the next day, maybe that's a question that you're going to put into your audience response system, and always trying to address anywhere there's a misconception. Like I said if you find a question that everybody's getting right and they're consistently doing that from class to class, get rid of that question. You want to try to use it to generate discussion, generate learning. Learning's not happening if everyone already knows the answer.

As I mentioned before, having those generic questions in your bank, you can always clear them out. Reuse those questions over and over again, so having something with multiple guess, A, B, C, D or true and false or yes or no or just have an open question, that allows you to build things on the fly. One strategy that came through the reading and I put a lot of articles into the show notes, so I encourage you to go check them out, is one instructor uses a strategy with his students for history and we'll leave an open poll just running.

Students have an opportunity to text in words that are confusing or quotes or ask questions, put thoughts out there and so it's just a way of having a back channel in a way. I talked about using Twitter as a backchannel and that's certainly a great way of doing it, so different ways to do it.

When I started this episode, I talked about Derek Bruff's book. In that book, he was primarily focused on clickers. I mentioned that I would provide some alternatives to that because clickers can be expensive and they're hard to replace and there's all kinds of different systems, so here are some alternatives. One of my favorites is called Plickers, P-L-I-C-K-E-R-S, and it works very well.

Basically, it uses these cards. These cards have kind of a QR code on it and each QR code is unique from each individual. Also, depending on how you rotate the card will indicate an answer. They have a little A, B, C, D on the card, and the letter that you wish to use has to be to the top of the card. With that, you use a mobile device to scan those QR codes within the room and the results will then magically appear in the Plickers' website is that you're collecting those answers.

I have used it in workshops and classes, and it worked tremendously well. It is actually one of my favorite systems because it just requires you to go out and copy their Plicker template and distribute them to the students, and the students can use them over and over again. I have them for each of my classes. I distribute a set and students bring them back to class and we use them. It works out extremely well.

You can also use Google Forms. I am a fan of Google, and I'm a fan of Google Forms. You can build out these individual questions, you can get a short link and maybe make a QR code, put it into your presentation. Students can scan that QR code and then respond to that particular poll and it will generate the results

automatically. You can click on those results or you can keep your screen blank and see those results right away and lead into those discussions.

The challenge with that is you're creating individual questions or individual polls for each question. Sometimes that's a little tedious, but it works quite well. If you want to capture a student's name to this, you would then have them log into that poll. There's a setting on Google Forms that indicates that somebody has to log in to their Google account in order to use that.

The nice thing about using Google Forms is you can embed them on a website, you can put them in a presentation, you can embed them in a Twitter, for example, in a tweet and push them out. There's lots of different ways that you can use that particular tool. There is another site out there called Nearpod, which is used quite often. It has a free version for up to 30 students and it also integrates with PowerPoint and Google Slides. You can collect that data, have those different questions. You can have certainly multiple questions spread across your slide deck. You basically have one site that you can set up these different questions, so that works out I think pretty well.

Slido, Slido is a tool that allows you to pull participants as well as receive questions. At a basic level, it will allow you to have three polls per event of up to 100 participants so you can only have three polls for that particular event. You can also receive unlimited questions from your participants. It also integrates with Google Slides, PowerPoint, and MS Teams. The campus I'm at, we use MS Teams, Microsoft Teams, and so it's nice to hear about that, so I'm going to have to experiment with that a little bit.

Poll Everywhere, I've used Poll Everywhere and it also has a free option that allows you to create unlimited number of questions for an audience size of 25 participants. It seems like it's made for a typical classroom. The cool thing is it integrates with PowerPoint, Google Slides and Microsoft Teams. I have used Poll Everywhere before and I'm happy with it. I just recommended it to my team again and so we may be using that in our classrooms coming up. That is a little bit of some alternative methods. There's hundreds others out there but these are some that just bubbled up for me.

Before I cut you loose, here's some tips for success. First of all, plan ahead. Before implementing an audience response system in your class, have a plan for how you're going to use it and when you're going to use it. Be deliberate about this, think about the questions you're going to ask, what type of responses are you looking for? What's going to happen when they submit the responses? Are you going to have a blackout screen? Are you not? A lot of things that go into this thinking about how you're going to use it, to make it work pretty seamless.

With that, you need to practice. Use them prior to holding a class, walk through your lesson, make sure that you can get to the questions, you can get to get to the results because once you get into the fray, things get a little squirrely. These type of tools are really good for first year introductory courses because they encourage

attendance, accountability, helps to reduce attrition because you have students very much engaged in the course.

Like everything, I've mentioned this over and over throughout the podcast. This is 138 episodes in, but always explain why you're doing something. Why are you using this particular tool? What are the benefits? Why this particular activity? This will help create buy-in, if students understand it, they agree with your logic, they'll certainly be more engaged. If you're using these audience response systems, make sure that you provide time to discuss the results.

You need to have that programmed into your lesson. That you not only do the poll, but also provide discussion to support the poll. Finally, provide training to your students on how to use the audience response system and that'll help you get the most out of it. A lot of things with this audience response system. There's a lot of great tools out there, both physical for clickers and also software based audience response systems.

Primary reasons why you would want to do it is it increases engagement and gets participation from everyone in your class. There's no one that's basically sitting out being a wallflower, and you can have everybody involved in your class. Those are some of the reasons why you should check it out if you have not. With that, I'm going to let you go but here's a quick plug from my book.