Using Poll Everywhere as an online polling technology in the classroom to motivate student response.

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 Introduction:

 Surveys and electronic response systems are beginning to emerge in classrooms around the world. They are being used to gather information and provide instant feedback about any question presented. Some response systems include clickers, a receiver, and response software. Others are web based, such as Poll Everywhere, where responses are gathered via web, text message, or twitter and the responses are gathered and presented through the web. This new way of polling and taking surveys strays away from the traditional raise your hand answering system. This then brings up the question, is the extra time this new way of polling really worth it? Also, with the new web based system, can it still be used if there is no Internet available, or only one wired computer in the classroom?

 Poll Everywhere is an online polling system that collects responses and displays them in a graph for multiple choice responses or text responses for short answers. (Learning Round Table, 2010) There is no designated hardware and no software required for the use of this system. This program is free for audiences up to 30 people, which is above an average K-12 classroom in most states, but for responses above that will be required to pay a pre-determined fee ahead of time. (November Learning, 2009) We would like to learn how web based polling systems can be used in our everyday classroom as well as their differences with clicker response systems that use hand held clickers and computer software. Is there a significance difference?

 Purchased clickers are hand-held remotes that transfer the information the learner puts in to a receiver plugged into a computer, generally at the front of the room. The information is then gathered using the designated software that comes with the clickers and presented for either the teacher or everyone in the room to see. The information can either be anonymous or display the student sending the information. Some clickers allow for only multiple-choice answers while others allow for short answer responses as well.

History:

 Online polling systems have been used in television shows such as “Who Wants to be a Millionaire?” (Kam & Sommer, 2006) They are slowly emerging into the classrooms. The majority of the clicker use that is studied is at the high school level or in the higher education classes. There is not however much research done on the web based polling systems because not many studies have been reported on them yet. These online systems are similar in use to the purchased clicker systems so they should have similar results. The major difference is, with the online program, students use their own Smartphone, ipod Touch, or a computer. The program does not need to be downloaded into the computer’s hard drive, and runs through the web. What makes Poll Everywhere different from other web based polling programs, is that not only can answers be sent using a computer linked to the website, but texts can be sent with the answer, or answers can be “tweeted” in. The polls can also be an embedded widget into your class webpage, or even embedded directly into a PowerPoint presentation where the responses can be displayed live. (Engaging Learners with Poll Everywhere, 2010)

 Classroom response systems are being used in many higher education classrooms in various subjects. The topics do not make a difference in how the systems are used which accommodates to any class. (Draper and Brown, Page 84) The clickers have been used to take attendance, but more importantly assess a students understanding throughout a lecture, or ask opinion questions where multiple responses may be given. When used in the classroom, clickers and online polling programs assess student learning and motivate participation.

Summary:

 Public Response Systems have been used around the world. The information gathered has shown mostly positive attributes that the systems provide. Kam and Sommer (2006) have found that students feel more comfortable during discussions expressing their opinions. In their study the devices were used in various ways. They were used to check the comprehension of the course material, which provided a way of improving students’ sense of opinion. When the students were evaluated on their experience using the system, the results found that the responses of the students about the polling technology were positive. They possessed an interest and willingness to continue the use of the technology. The evaluations showed that “90% of the class believed the polling technology made it easier to express honest opinions, and the use of the technology has stimulated a number of lively discussions along the way.”

 Kennedy and Cutts (2005) found similar results. They found that the use of the polling systems have increased the likelihood of student response. This has allowed students to become active participants in the learning process. Students feel more comfortable testing their knowledge of the concepts because they are being presented in an anonymous and risk-free way. This has increased the communication between the learners and teacher. Kennedy and Cutts (2005) used information from a study that was done on high school students. The polling technology was used as a formative assessment tool in lectures. The results of the study showed that the high school students who were moderately successful with their answers throughout the class, performed better in the formal assessments than groups who did not answer questions correctly throughout the lectures, but still showed improvement. The study also found that the “students who performed significantly better in the formal assessment tasks were those who both responded more often and more correctly over the course of the semester.”

 Jenkins did a study using the Electronic Survey System in several of her lecture classes in the United Kingdom. In her study, she gave each student his or her own personal remote, which had a three-digit code. When the students entered their answer the code showed on the screen so the students knew their response was received, but the answer was still anonymous. A graph appeared at the end, which showed class results for students to compare what they said to the rest of the class. Jenkins used the responses received to determine if she needs to continue with that material or if the class is ready to move on. Jenkins compared this experience to when she has taught similar classes in the past without the Electronic Survey System. She found that in the past when she asked similar questions the answers could have only had two option answers. This would mean students would raise their hand but not all students would answer with one of the options. By raising their hand “there is no anonymity in this situation, both the lecturer and the peer group can see whether and how each individual is answering, and this discourages unconfident students from participating.” (Jenkins, Page 530) She found that the simplest use of the Electronic Survey system to determine the mastery of the content is through multiple-choice questions. She also found her class to be more lively in discussions about the material discussed in the surveys. On the days that the survey system was not used the discussion was still more lively than in previous years. With one of the classes “60 percent [of the class] reported that they had worked out the answers to all the questions when they knew they would be responding via handsets.” (Jenkins, page 532)

 Poll Everywhere is comparative to these purchased systems in that learners enter in their information and a program collects the responses and reports the results in a graph. Short answer or open-ended questions can be displayed as well through typing in the letters. There are special features in Poll Everywhere that prevents learners from responding more than once, and options for how people can respond can be chosen. With the limited free option of extending to 30 responses these options can be very useful. With free, online services there can be downfalls to the system, such as the use of cell phones in the classroom is banned in almost every school which means that the teacher needs to use the alternative which is everyone using a hand-held device that can access the internet, such as an ipod Touch, or use a computer which accesses the internet.

 There are comparing websites that provide similar polling systems to Poll Everywhere. PollDaddy, like Poll Everywhere allows the user to block repeated votes and can use a widget to embed to a website. What makes the two different is that PollDaddy has free polling for 100 responses a month with 10 questions per survey, and has more options for adding media. (polldaddy.com) SurveyMonkey is also similar in that it is free in use and the answers are displayed as bar graphs. (www.surveymonkey.com) However, unlike Poll Everywhere, neither of these services can be used with text messaging or twitter. All of these services compared to the response systems help to reduce the overall costs, especially if all of the students are able to use their own cell phone, ipod touch, or computer.

 Compared to the expense services, the online programs may be more difficult to use in a K-12 school because of the need for cell phones or computers for each student. These services are just as quick and easy to use and may be embedded in any PowerPoint presentation or website.

 With each of the programs, clicker system or online program, students have shown positive responses and feel more engaged in class and in their learning. Draper and Brown (2004) used the response system for assessment, formative and summative, and to initiate discussion. The anonymous feedback provided the teacher with information about how the class was doing and what they have learned.

Conclusion:

Classroom Response Systems (CRS ) come in many shapes and forms. The price of the hardware and software to run these devices can be very expensive. There are several alternatives to these clicker systems that are free to use. Poll Everywhere is a web based polling alternative that gathers live responses and posts results within seconds.

Unlike other web based classroom response systems, Poll Everywhere allows responses to be sent in through cell phones text messaging, twitter, and the web. This allows students to use their personal cell phones as a typical clicker device. This also allows responses to be calculated without Internet access in the room.

Questions can vary from multiple-choice questions with specific answers, or opinion answers, as well as True/False questions. Another type of question is text polls where students can type or text in responses, questions, or ideas. This allows for a variety of uses and polling responses. The free version allows up to 30 responses, which accommodates an average size classroom.

Poll Everywhere and other electronic survey systems have been used to increase classroom participation and attentiveness, encourage risk-taking with anonymous student responses, and gauge student comprehension of material with in seconds. These systems are also used to assess comprehension of homework assignments with a short quiz, and pose open-ended questions, which grabs student’s attention. (November Learning, 2009)

Using polling systems in the classroom shouldn’t be used in place of traditional raising your hand assessment but will work well as an alternative form of assessment. These polling systems shouldn’t be used all of the time because there are some instances where just a general show of hands will be sufficient, while other times the polls might be used to gather more accurate, anonymous feedback. For large groups of students, the polling systems can gather more accurate yes/no or true/false responses from the class when with just the raise of a hand may be too close of a call to estimate. The graphs that show the results help to make the information more real by visually seeing how the class voted.

Resources:

Draper and Brown, (2004). *Increasing interactivity in lectures using an electronic voting system.* Retrieved from the Journal of Computer Assisted Learning. Vol. 20. 81-64

Jenkins, *Technique and Technology: Electronic Voting Systems in an English Literature Lecture.* Pedagogy, 526-533.

Kam and Sommer, (2006). *Real-Time Polling Technology in a Public Opinion Course.* Retrieved from Political Science and Politics, 113-117.

Kennedy and Cutts, (2005). *The association between students’ use of an electronic voting system and their learning outcomes.* Retrieved from the Journal of Computer Assisted Learning Vol. 21. 260-268.

Learning Round Table of the American Library Association, (2010). *Engaging Learners with Poll Everywhere.* Retrieved from <http://alalearning.org/2010/02/11/engaging-learners-with-poll-everywhere/>

November Learning, (2009). *Real-time Assessment with Poll Everywhere.* Retrieved from <http://novemberlearning.com/resources/handouts/real-time-assessment-with-poll-everywhere/>