

FREE CLICKERS!!! Using PollEverywhere for Formative Assessment in the Classroom






Michael A. Posner
Department of Mathematical Sciences
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Outline

- What are Personal Response Systems
- Using Poll Everywhere
- Poll Everywhere in the Classroom
- Poll Everywhere vs. Clickers
- Student Reactions
- Summary


What are "Clickers"?

- Personal Response Systems (PRS)
 - Manual 
 - "Clickers" 
 - Poll Everywhere 

A B C D

PRS in the Classroom

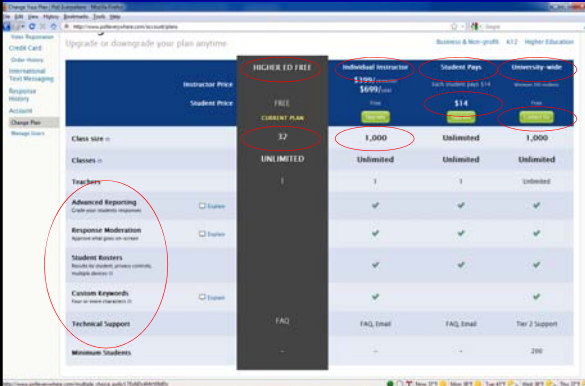
- Benefits/Utility of PRS
 - Engaged students.....
 - "Just in Time Teaching"
 - Formative Assessment
 - Summarize Simulations
 - Invest in Predictions
 - Using Classroom Data
 - Student Surveys

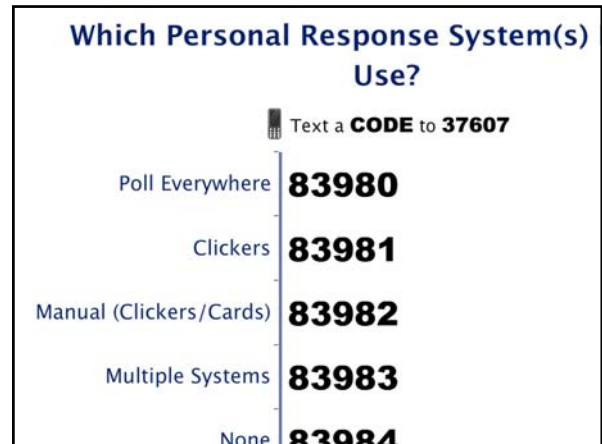
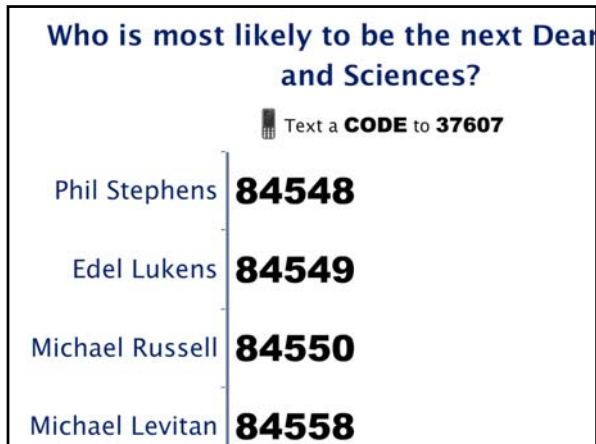


Poll Everywhere

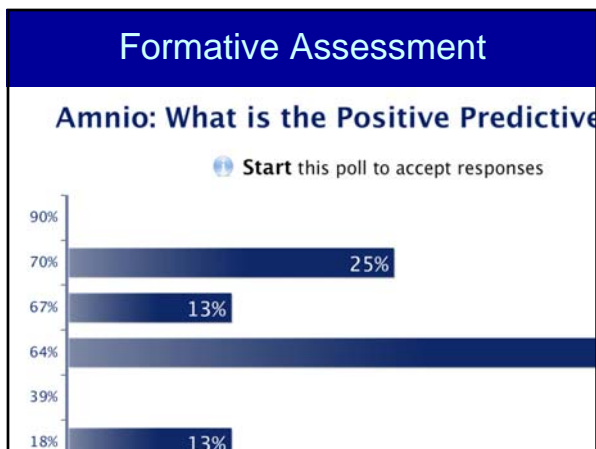
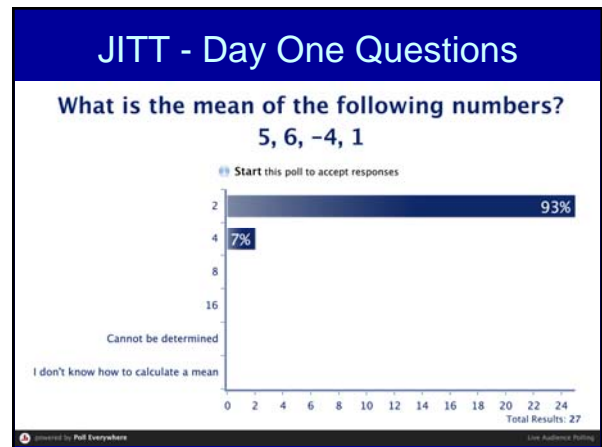
- What is PollEverywhere.com?
 - A **FREE*** web-based personal response system
 - *Free for up to 32 students per class
 - Allows students to **TEXT** in responses
 - Can be embedded into presentations
 - Allows tracking of students (attendance, questions) with purchased accounts

Getting a PollEverywhere Account





- ### My FAQ about PollEverywhere
- Do you really allow your students to use cell phones in the class?!?
 - Does everyone have a cell phone with an unlimited texting plan?
 - What if someone "forgets" their cellphone?



Simulations - Random Rectangles

What is the average area of the rectangles?

1. Best Guess
2. Representative 5
3. Random 5
4. Random 20

Random Rectangles using PE

(Subset of Instruction Sheet)

Look at the following page for a few seconds. What is your best guess for the average area of the rectangles?

TEXT TO 37607 FOLLOWED BY YOUR ANSWER FROM THE TABLE BELOW:

Guess	<3	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9	11-11.9	12-12.9	13-15.9	16+
Text	83913	83914	83915	83916	83917	97479	97480	97481	97547	97548	97549	97550	97551

Random Rectangles – Results

Predictions - Birthday Problem

How many people do you need to have a 99% chance of two having a birthday?

Start this poll to accept responses

Gathering Classroom Data

- Gather data from students
 - Number of friends on Facebook
 - Ever been tested for HIV?
 - Ever cheated on a significant other?
 - What experiment would you like to conduct?

Surveys

- March Madness!!!
- Online homework preferences
- Likelihood of taking second course

PE vs. Clickers: A Novice View

	Poll Everywhere	Clickers
Cost	Free for small classes, 1/3(?) large (univ), Texting cost? (stud) ✔	\$30-55/unit (stud), hardware (univ)
Hardware	None ✔	Required
Internet	Necessary	Not Necessary ✔
Reception	Internet Deadspots	? Receiver Deadspots
#char/response	10	1-2 ✔
Access	% w/o cellphone?	% w/o clickers? ✔
Cheating	Share cellphone?	Share clicker? ✔
Record Q Result	PE Account	? Screenshot
Anonymity	Toggling Unknown	Toggled by Q ✔
On The Fly....	Create Question	Questionless ✔

PE vs. Clickers: A Novice View II

	Poll Everywhere	Clickers
Question Types	Multiple Choice Open-ended	Multiple (5) Choice ? Some have more
Answer Types	Alphanumeric	? Clicker-dependent
Records Answers	Yes	? Yes
CMS Integration	Unknown	Supported
Results	Online or Powerpoint	Barchart in any Presentation
Proximity (online courses)	PolIEVERYWHERE Twitter / Web Options	Satellite Polling web-clicker
Multiple Qs	Yes	? Some
Clicker Tests	Cumbersome	Some
Detailed Data	No?	Yes (M Brown)

Student Reactions

- General Reaction (out of 5) from three classes (MAT1230, MAT1250, and MAT1235)
 - Poll Everywhere **Enjoyment**.
 - Poll Everywhere **Learning**.
- Open-ended feedback (MAT1235)
 - I think that using Poll Everywhere in the classroom is a **great idea**. It makes class more **interactive** and it is a lot of **fun**, definitely **engaging**
 - It helped me **stay focused** in a large class, and was great to have real life data to make class more realistic
 - Poll everywhere is a lot **easier** and **more efficient** than other clickers I have used in various classes

Student Reactions

- Open-ended feedback (MAT1235)
 - Overall it was good. It helped my learning by keeping me more **engaged** and was sort of **fun**
 - It was a **great classroom tool** and was a **fun** way for teacher to get class opinions without people being influenced by other kids
 - I love Poll Everywhere! <3
 - I really enjoyed the poll everywhere feature. It was **helpful, creative and interesting**
 - Poll everywhere is really **neat**
 - I like it better than clickers, its much **easier to use**
 - Its good for class **participation**

Student Reactions

- Open-ended feedback (MAT1250)
 - I personally liked Poll Everywhere better than the clickers. I don't like having to carry around the clicker with me, whereas I always have my phone on me. I also don't like that I had to buy the clicker.
 - I would just like to say that I think Poll Everywhere is excellent for the classroom, and a much better alternative to the clickers. Class materials - textbooks, notebooks, calculators, etc. - are so expensive, and clickers are just an expensive, unnecessary purchase that some teachers require us to make. Poll Everywhere works just as well, and is free to those of us who have text messaging plans (and we seem to be the overwhelming majority). As a student who pays much of her own expenses for college, I very highly recommend Poll Everywhere be used rather than clickers in the future.

Student Reactions

- Open-ended feedback (MAT1250)
 - I've used clickers in several of my other courses. The clickers are actually very similar to Poll Everywhere, except clickers cost at least \$50 and using a cell phone is free. Really, I think the only advantage that the clickers have is that professors can use them as a means of taking attendance and can use them as a way to grade a student's participation since the clicker program allows the professor to see the student's name as well as their response. If Poll Everywhere has a way to maybe recognize a student's cell phone number, then a professor could just use a reference list of student names and numbers to see who responded to the poll. If this is the case, then I definitely think more professors should use Poll Everywhere instead of clickers. Also, clickers are sometimes misplaced or forgotten, whereas almost every student always carries their cell phone with them to class, so nearly full class participation could be guaranteed at all times. Cost of texting could be an issue with Poll Everywhere, but many students today have unlimited texting, so it's not too major of a concern.

Professor Reactions

- Students loved using it...so I did too!
- Brought the class to life
- No startup cost/hardware was huge benefit
- Great for formative assessment
- Great for saving results of simulations
- Want to experiment with integrating student records
- Want to experiment with clickers

Resources

- Formative Assessment Theory
 - Black & William, *Inside the Black Box: Raising Standards Through Classroom Assessment.*
 - Assessment Methods in Statistical Education: An International Perspective. By Bidgood, Hunt, and Joliffe. Wiley.
- Effectiveness
 - Search ICOTS, IASE, JSE, SERJ
 - See providers websites
- Databases in Clicker Questions
 - <http://mathquest.carroll.edu/resources.htm>
 - <http://www.ou.edu/statsclickers/clickerQuestions.htm>
 - Includes misconceptions
 - Publishers

Will You Use a PRS In a Future Cla

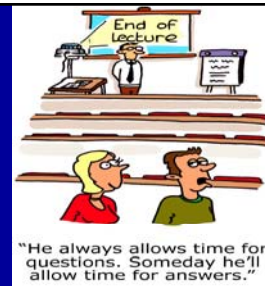
Text a **CODE** to **37607**

Definitely! As much as I can!	84525
Will try it and evaluate.	84527
Maybe	84528
Not a Chance!	84529

What question would you like to ask of peers?

Text **84494** and your message to **37607**

No responses received yet. They will appear here...



- This presentation is posted on my website: <http://homepage.villanova.edu/michael.posner>
- If you have any feedback, please let me know
- **Conflict of Interest Disclaimer:** I have no financial affiliation with any of these companies