

The Mobile Conundrum:

Pros and Cons of Technology in the Classroom

Presentation Topics

5 minutes	Renee Altier Introduction to iClicker and REEF Education
10 minutes	Edna Ross, University of Louisville Hardware in the Classroom
10 minutes	Allison Sout, University of Kentucky Mobile Devices in the Classroom
10 minutes	Leslie Hendrix, University of South Carolina Hybrid Mobile and Hardware Classroom
15-20 minutes	Questions & Discussion

Hardware in the Classroom

Edna Ross

University of Louisville



Teaches Introduction to Psychology

- Up to 340 students per section in 2 sections of the course every semester
- 680 students total per semester
- Early adopter of iClicker and first to use at University of Louisville, where iClicker is now the standard
 - **NEVER LOOKED BACK**
- Bookstore sells used remotes very inexpensively
- Students can use their remotes for all 4 years
- Used for class participation credits and clicker points account for 10% of course grade
- Students get distracted easily in large lecture classes, especially freshmen

Why hardware only?

Don't want to encourage or reinforce a focus on their cell phones; want students to be **fully engaged** in the class



The Benefits of iClicker (cont'd)

- Numeric mode on iClicker 2 makes multiple choice questions more challenging than just multiple guess
- Critical thinking questions where students must select 'all the correct answers out of a list of 8-10 options shape students to study the discriminating features of concepts instead of just memorizing definitions
- Helps to minimize class size and emphasize class participation
 - Students love seeing their classmates' responses



The Benefits of iClicker

- iClicker 2 data integrates easily and seamlessly with Blackboard
- Gives every student a voice—doesn't penalize the introverts
- Faculty new to iClicker are uniformly surprised and impressed with how easy it is to learn and use
- “Questions on the fly” feature encourages and enables spontaneity—keeps lectures ‘real’
- Helps prevent what David Myers calls the ‘curse of knowledge’ in the current class with the current students



Example: Critical Thinking iClicker Question

What, if any, are accurate examples of operant conditioning? Select ALL appropriate examples.

1. A rat in a Skinner Box
2. We continue to go to work each day because we receive a weekly or monthly paycheck.
3. The frequency in which an employee is late for work decreases as a result of losing the right to listen to music while he or she works.
4. Susan gives her daughter five dollars a week to help with chores around the house.
5. Because his older brother once locked him in the closet, Allen gets anxious in small, enclosed rooms.
6. After watching another three-year-old stick out her tongue at the daycare worker, Beth does the same thing.

Pedagogy Highlights

- Use peer interactions (per Eric Mazur) to emphasize lecture information
- Manipulate students to give wrong answer (lots of fun for me)
- Students quickly learn to study material BEFORE they come to class
- Allows frequent testing with immediate feedback to students
- Feedback from students: they learn what they don't know before they take an exam.

Mobile Devices in the Classroom

Allison Soult

University of Kentucky



Teaches CHE 103: Chemistry for Allied Health

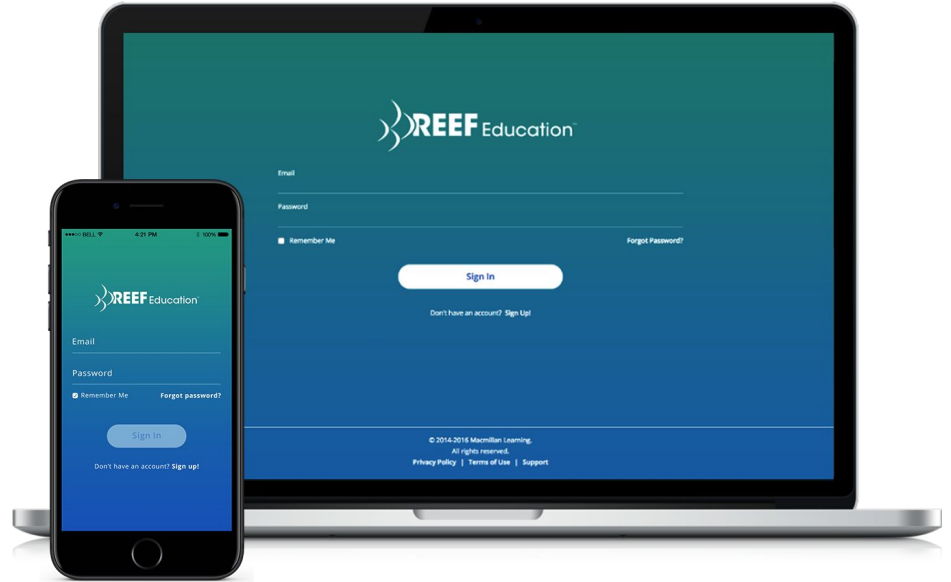
- 200-250 students per semester
- 99% Pre-Nursing Students
- Active learning classroom



The reality is that students will use devices regardless of what instructors say, especially in large classes.

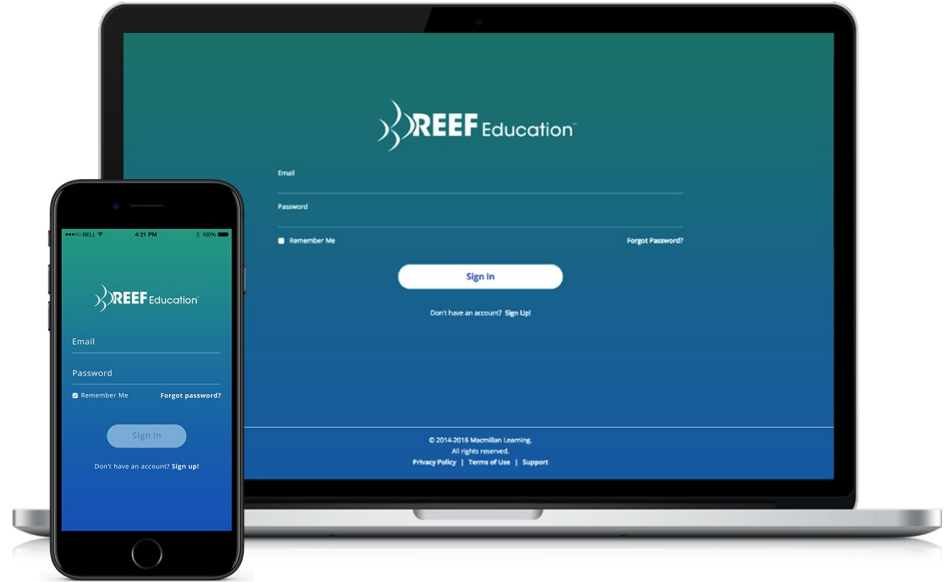
Advantages

- Use technology for classwork
- **No more forgotten clickers**
- Multiple answer types
- Reviewing answers
- Switch easily between phone/computer
- Monitor results on base station just like with iClicker
- Allows for repoll
- **Grade/access results anywhere**



Discouraging Remote Participants

- Hide question until polling closes
- Most questions are short answer (even if they are multiple choice)
- Unexpected questions: What is your favorite color?
- Look for nonsensical answers based on questions

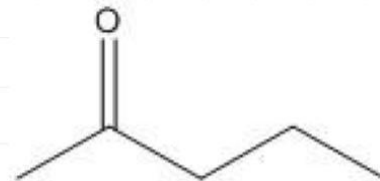


What have you done differently to prepare for Exam 4 than for previous exams?

9

Identify the functional group in the molecule.

2



Mobile & Hardware Classroom

Leslie Hendrix

University of South Carolina



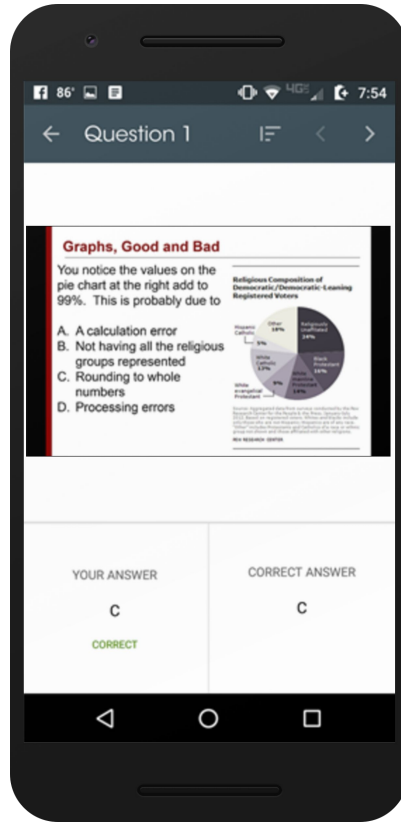
Teaches STAT 110

- Taught in large lecture format
- 200 students per section
- Mainly freshmen
- Getting through drop/add and navigating financial aid delays for 200 freshmen at a time can be extremely time consuming

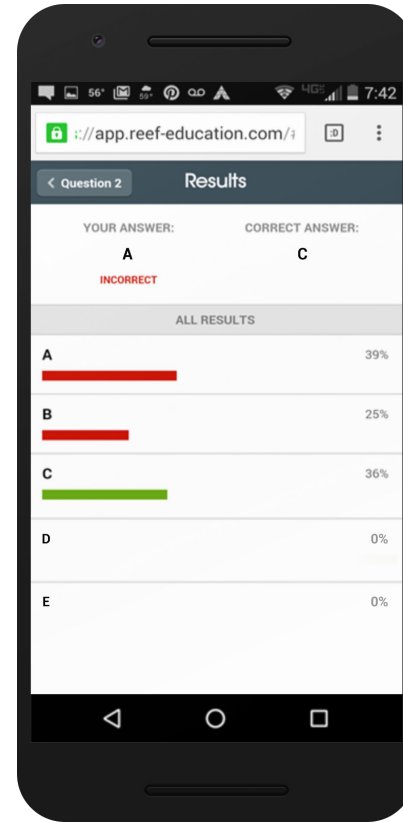
Problems This Solved

- Financial aid check late? No problem! Use the free 2 week trial
- Students might forget their iClicker, but they will not forget their phone
- Students who are afraid to rely on Wi-Fi or their cell phone data can still use a remote
- Registration used to be a nightmare. It's super easy now with the LTI integration. Plus, uploading grades to the LMS is a snap
- I can take location based attendance with the Reef attendance feature
- Data is stored in the cloud - easy to have someone teach for you, never lose data
- Students love being able to view the questions in their Reef account
- They use the questions to study for exams
- They love viewing the results of the class





Question



Class Results

My graduate teaching assistant has been closely monitoring computer use during class. She took pictures one day. Here's one...



n Sample to Population

observed proportion, \hat{p} , of those who will watch
last part of the Superbowl XLV is a

sample
statistic
population
parameter

Tips to keep students from surfing the web

- Ask frequent questions
- Close the poll quickly
- Use surprise questions

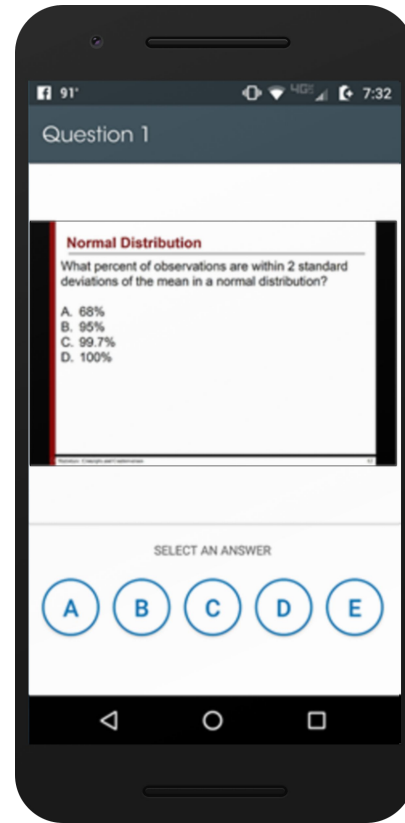
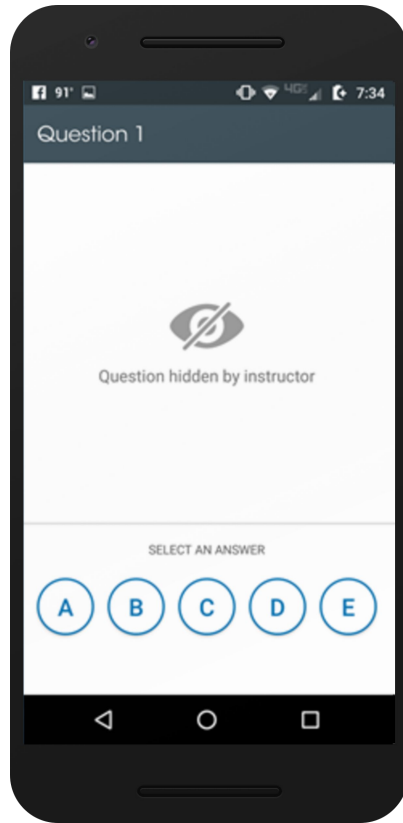
Historically, 76% of students in an introductory psychology course have correctly answered the professor's favorite test question on Freud. This semester the professor gave a randomly selected group of students an extra lecture on the subject and wants to see if it will help them do better on the question.

The null hypothesis (H_0) should be:

- | | |
|------------------|---------------|
| A) $p < 0.76$ | D) $p = 0.76$ |
| B) $p \neq 0.76$ | E) $p < 0.24$ |
| C) $p > 0.76$ | |

Tips to prevent students from voting from their dorm room

- Hide questions until the poll closes
- Draw 10 random names and ID those students
- Clicker points, but no ID earns a referral to academic integrity
- As a side effect, this completely stopped students from leaving early



Hide question until poll ends

Questions?