



# **Leslie Hendrix**

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### **Darla Moore School of Business**

### **University of South Carolina**



canvas



# Canvas and iClicker to Solve Problems

## Use iClicker




- To check retention from previous class
- To check for understanding during class
- To keep students focused and engaged
- Keep students from leaving lecture early
- For extra study questions before exams

# Canvas and iClicker to Solve Problems













## Use Canvas

- For easy communication with students
  - My students are only allowed to message me in Canvas – no emails!
- Easy grading using the speed grader app
  - Group or individual assignments
- For the “what-if” grade feature!!!
- For the analytics
- For the intuitive interface and ease of use

# Canvas and iClicker to Solve Problems



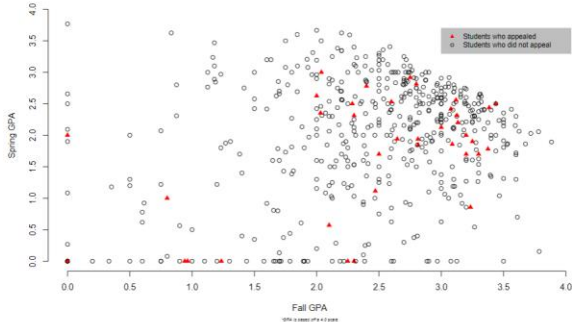
**Data Visualization Project**  
Due: Oct 3 at 11:59pm - F18 291 008 (MW 3:55)



**Data Visualization Project**  
MGSC 291 Fall 2018

**Q1:** Create a scatterplot of the Fall GPA (horizontal axis) and Spring GPA (vertical axis), highlighting those who appealed their lost scholarships. Use a different color/type of plotting symbol to clearly highlight those who appeal. Make sure your scatterplot is labeled clearly and appropriately and is free of spelling/ grammatical errors. Your graphic should be publication ready. **Paste your scatterplot here:**

**USC Suspended Scholarships 2018**  
n=530 students



**Q2:** Paste the R code that produced your graphic here: (Note, this should not be a screenshot, but a copy and paste so that I can copy and paste into my R console to check your work)

```
plot(FALL_GPA,SPRING_GPA,xlab="Fall GPA",ylab="Spring GPA",main="USC Suspended Scholarships 2018",mtext("n=530 students",3,5,font=3),sub="GPA is based off a 4.0")
```

Submission to view:  
Oct 3 at 6:38pm (grade: 10)

Submitted Files: (click to load)  
[data visualization project - 10.3.18-1.docx](#)

Grading

Data Vis Rubric

Criteria	Ratings					Pts
Created Scatterplot in R	6 pts Excellent scatterplot Used color coding and/or different plotting symbols and the students who appealed were highlighted clearly.	5 pts would have been 4, but improved x and/or y axis Improved x/y axis by making y axis go to 4, changed increments to count by halves, etc...	4 pts appeals were not clearly highlighted	3 pts major error	0 pts wrong plot	6
Fully Descriptive Title	2 pts Fully descriptive Needs to indicate these students are those who have suspended scholarships in 2018 and that these students are from USC. Would be nice to mention sample size.	1 pts Missing year and/or sample size and/or University and or not fully accurate	0 pts Missing tor minimally descriptive or incorrect			2
Re -named axis labels (correctly)	1 pts Re-named axis labels (correctly)		0 pts Used R default labels (or are missing labels)			1
Legend	1 pts Correct legend with good placement	0.5 pts poorly placed or does not clearly indicate how to interpret the scatterplot	0 pts No legend			1
Total						

Save

Cancel

# What is iClicker?

The image displays a chemistry question on multiple devices. The question is: "How many chiral carbons are in this molecule?" with options A. 5, B. 6, C. 7, D. 8, and E. 9. The molecule is a steroid derivative with a hydroxyl group and a branched alkyl chain. The devices shown are a laptop, two smartphones, and two iClicker handheld devices (iClicker 2 and iClicker+). The iClicker 2 device shows a "READY" status, while the iClicker+ shows a "LOW BATTERY" warning. On the laptop and smartphones, the answer "C" is selected, and the status "ANSWER RECEIVED" is shown.

Question 1

How many chiral carbons are in this molecule?

A. 5  
B. 6  
C. 7  
D. 8  
E. 9

ANSWER RECEIVED

A B C D E

Question 1

How many chiral carbons are in this molecule?

A. 5  
B. 6  
C. 7  
D. 8  
E. 9

ANSWER RECEIVED

A B C D E

Question 1

How many chiral carbons are in this molecule?

A. 5  
B. 6  
C. 7  
D. 8  
E. 9

ANSWER RECEIVED

A B C D E

iClicker 2

READY

POWER

LOW BATTERY

A B C D E

iClicker+

A B C D E



# What is iClicker?

An iClicker base collects votes from remotes



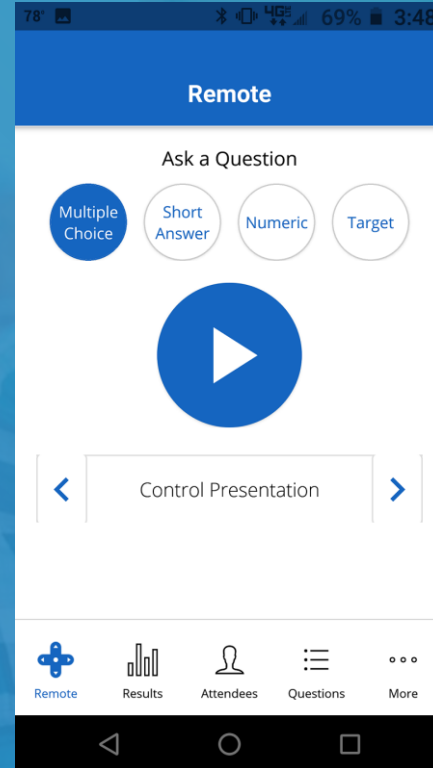
# What is iClicker?

Votes from students using a Web enabled device are collected in the cloud



# What is iClicker?

Control slides and polls with instructor remote or app





# Registration with Canvas



[F18 291 008 \(MW 3:55\)](#) > Modules

View Progress

+ Module

▸ Start Here



▸ R Guides and Quiz



▸ Exam 1 Material



▸ Exam 2 Material



▸ Exam 3 Material



# Registration with Canvas

## Instructions for iClicker REEF registration

Everyone must have a REEF account, regardless of the device you will use to vote in class (even if you decide to never vote)

**Do not share a computer with a classmate while completing this process** (you could associate their REEF account with your Canvas gradebook).

On the next page

1. Click "Reef registration Link"
2. On the page that pops up, either log into your existing REEF account or create a new one. Use your school email - this will be your log-in name for REEF polling. You can leave "Student ID blank". Make a note of your password!
3. If you have a remote, enter your clicker number into the REEF system for "remote ID". If you plan to vote in class using a smartphone/tablet/laptop there is no need to have a remote.

◀ Previous

Next ▶

# Registration with Canvas

## iClicker REEF Registration Link

Everyone must sign into iClicker/REEF from here one time. Click the link below and either create a new Reef student account or log into your existing account. Doing this from here will link your Canvas and Reef identities for this course and allow me to synchronize your scores.

This tool needs to be loaded in a new browser window

**Load iClicker REEF Registration Link in a new window**



# iClicker Reef

Email

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Password

---

Sign In

Don't have an account? [Sign Up!](#)

---

# Registration with Canvas



86° 4G+ 7:46

Profile

MY ACCOUNT

**Institution**  
Macmillan Learning

**First Name**  
Leslie

**Last Name**  
Hendrix

**Email**  
leslieahendrix@gmail.com

**Student ID** (recommended)  
Not Specified

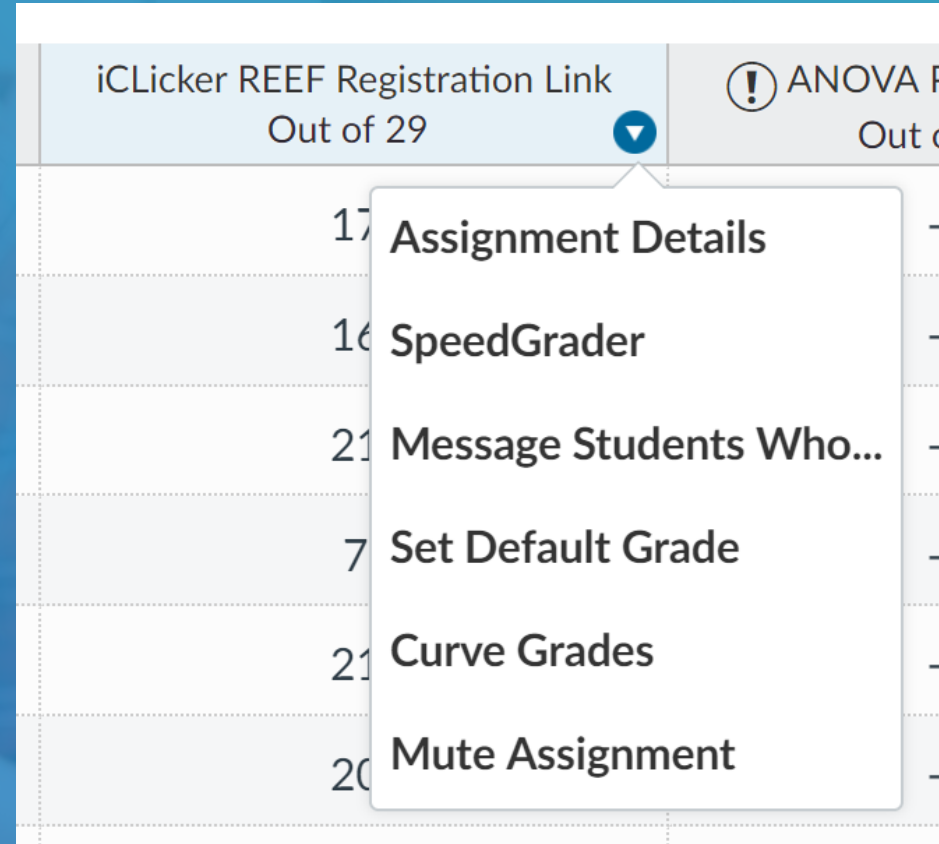
**Change Password**

**Register Remotes**



# Canvas “Message Students Who” Feature

Find students who have not completed the registration process.



Message non-compliers easily using Canvas

Message Students for iClicker REEF Registration Link ×

Message students who...  
for iClicker REEF Registration Link

Haven't submitted yet ▾

Haven't submitted yet

Haven't been graded

Scored less than

Scored more than

Registration Link

Message:

Cancel

Send Message

# Canvas “Message Students Who” Feature

Click REEF Registration ASAP



Leslie Hendrix,   
F18 MGSC 291 008 (MW 3:55)

September 28, 2018 at 1:41pm



Please do the following and email me when you have done it:

1. Navigate to the REEF registration link in the first module in Canvas.
2. Click the rectangular box that says "Loaf iClicker Cloud REEF Registration in a new window"
3. Log into your REEF account in that pop-up and register your remote if using one.
4. Reply to let me know you have done this.

# iClicker in Action





# My Daily Use of iClicker

**Open with 3 -5  
clicker questions  
pertaining to the  
previous lecture  
--ALSO--  
Run an attendance  
session**





# My Daily Use of iClicker

**Ask 5 – 8 clicker questions during a 1 hour lecture**



# My Daily Use of iClicker

**Draw 10 random  
names at the end of  
lecture**



# My Daily Use of iClicker

**My approach is strategic to solve problems.**

**Let's talk about that...**



# Strategic Solutions

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**Use iClicker cloud  
to take  
attendance**

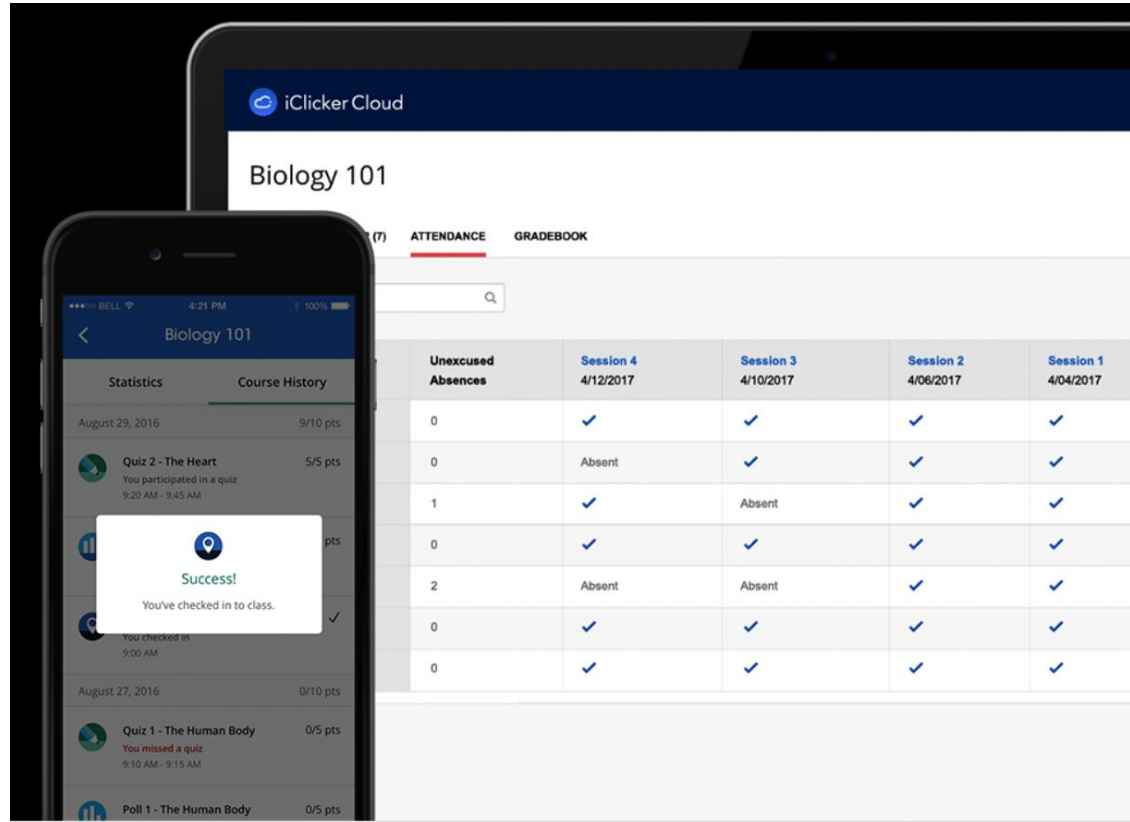


# Strategic Solutions

**Location based**

**Easy to edit**

- **Change status**
- **Add notes**

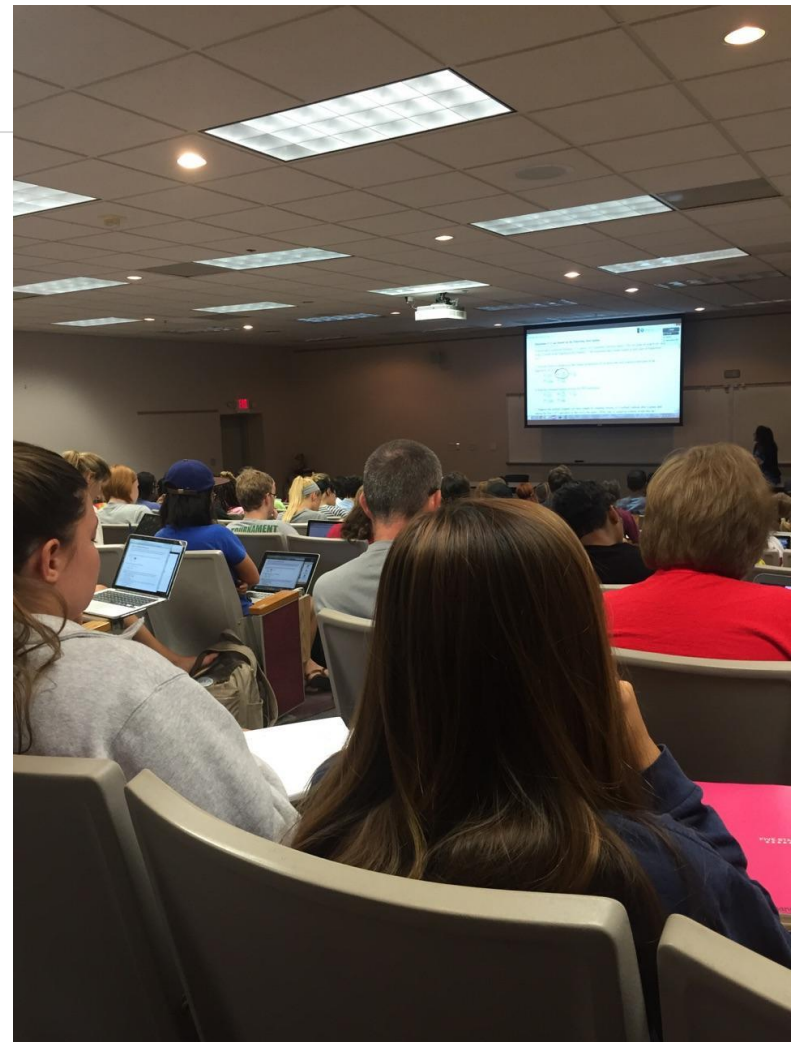




# Strategic Solutions

**Ask questions as soon as class starts**

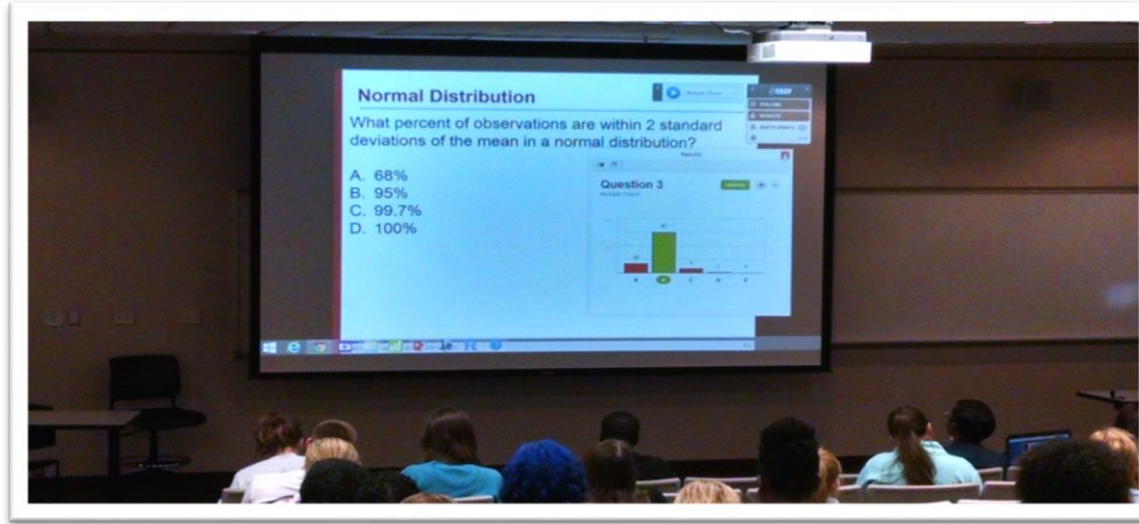
- **Gets students engaged right away**
- **No wasted time!**
- **I ask review questions from previous lecture**



# Strategic Solutions

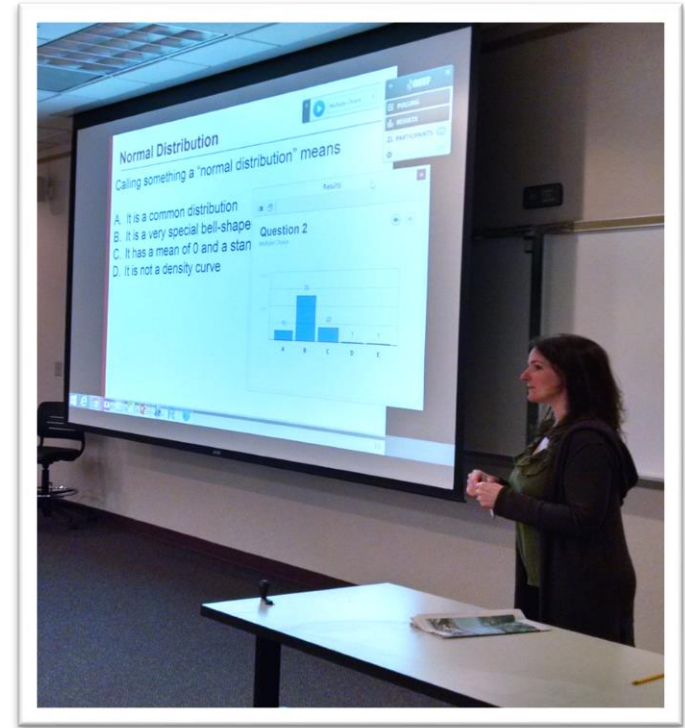
**Ask a question every 8 minutes or so**

- **Provides immediate feedback to student**
- **Provides immediate info for instructor**



# Strategic Solutions

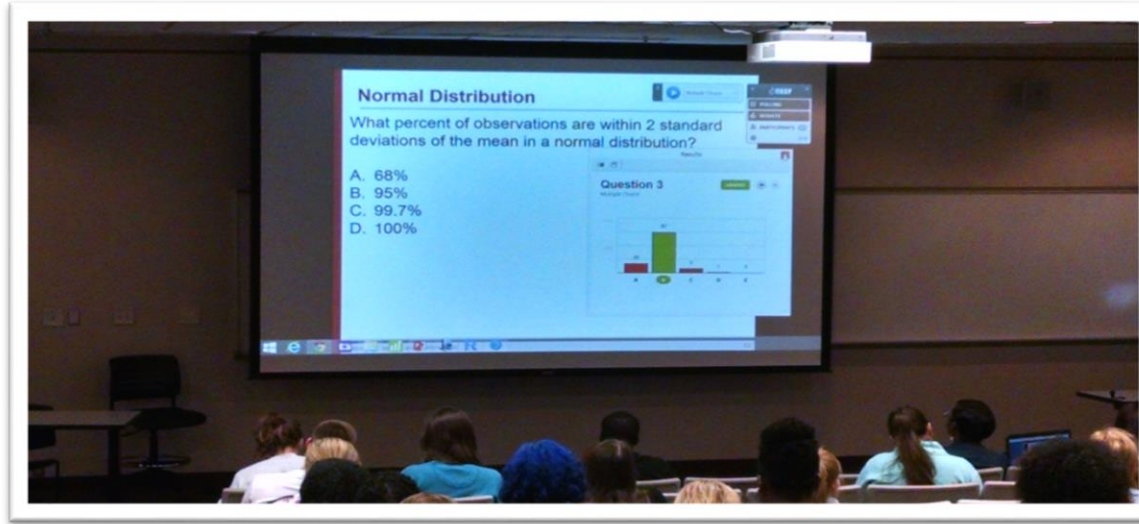
- **Show results before closing the question every now and then**
  - **For tougher questions, show the results in real time**
  - **Encourage your students to discuss with each other**
  - **My students get a kick out of this!**



# Strategic Solutions

## Close questions quickly

- **Students hesitate to leave app to visit other websites**
- **Keeps them on their toes**



# Strategic Solutions

**Give ahead of time notice on some questions and make others a surprise**





# Strategic Solutions

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## Example

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.

What is the null hypothesis?

What is the alternate hypothesis?

# Strategic Solutions

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)  $p > 0.76$

# Strategic Solutions

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- **Ask questions “on the fly”**
  - **The i>Clicker software takes a screenshot of whatever is on your screen**
  - **You can make an internet website into a question**
- **Pro Tip: If you have an interesting/controversial poll or article on the screen, ask an opinion question**
  - **Students love to give their opinions!**

## When I Asked Students about iClickers...

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**“I really love the iClicker system that we use in class. It keeps me engaged at all times and serves as a test to see how well I am comprehending the material being taught. I never know when an iClicker question will arise, so it also helps keep my attention and makes sure I stay fully focused! (:”**



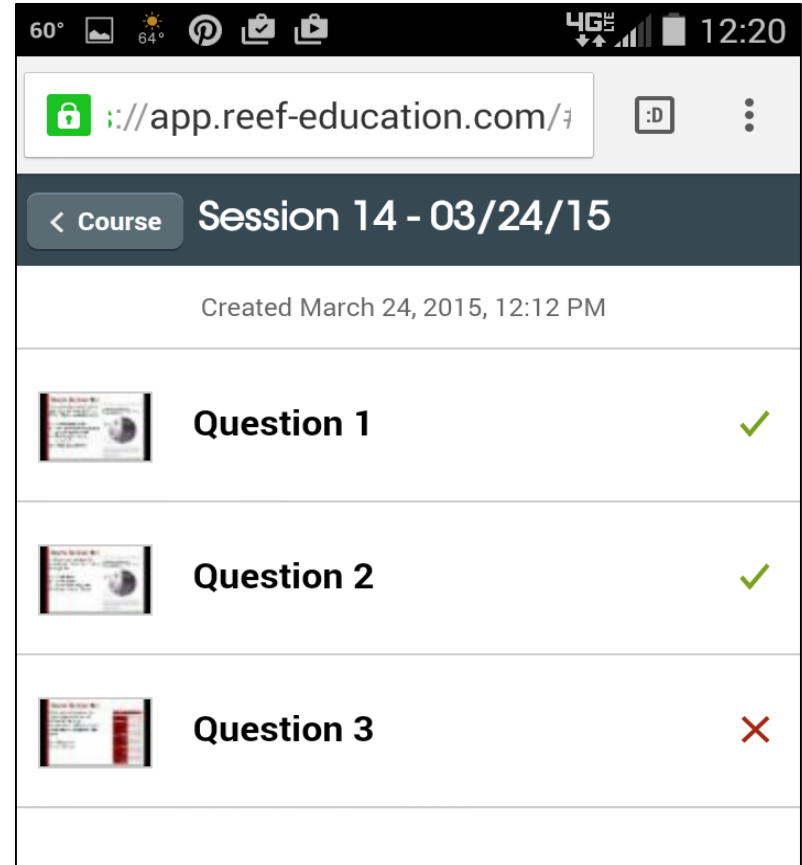




# Strategic Solutions

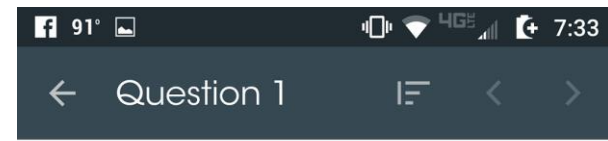
## Use iClicker cloud and encourage students to get a REEF subscription

- They may forget their i>clicker but will never forget their smartphone!
- Nobody says “I didn’t know I wasn’t accumulating i>clicker points.”



# Strategic Solutions

- **Students can study from the questions**
- **Absent students have this same information**
- **iClicker voters have this same information**



**Normal Distribution**

What percent of observations are within 2 standard deviations of the mean in a normal distribution?

- A. 68%
- B. 95%
- C. 99.7%
- D. 100%

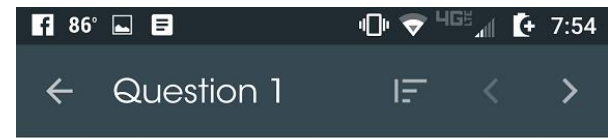
Statistics: Concepts and Controversies 12

YOUR ANSWER	CORRECT ANSWER
B	B
CORRECT	

# Strategic Solutions

**Never stop to let students write down clicker questions again!**

**They have a screenshot of every question with the correct answer**

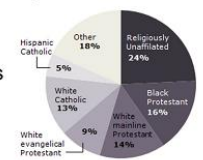


## Graphs, Good and Bad

You notice the values on the pie chart at the right add to 99%. This is probably due to

- A. A calculation error
- B. Not having all the religious groups represented
- C. Rounding to whole numbers
- D. Processing errors

Religious Composition of Democratic/Democratic-Leaning Registered Voters



Source: Aggregated data from surveys conducted by the Pew Research Center for the People & the Press, January-July 2012. Based on registered voters. Whites and Blacks include only those who are not Hispanic; Hispanics are of any race. "Other" includes Mormons and Catholics of a race or ethnic group not shown and those affiliated with other religions.

PEW RESEARCH CENTER

YOUR ANSWER

C

CORRECT

CORRECT ANSWER

C



# Strategic Solutions

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- **A Google search of “students leaving early from college lecture” returns about 59,500,000 results!**
- **Draw random sample of student names at the end of each lecture**
  - **Students on list show photo ID**
  - **Clicker points, but do not show with ID earns a referral to academic integrity**



# iClicker Cloud Gradebook

▶ Start Class

Session History

Students

Gradebook

Attendance

Settings

Overview

Details

Search

Q

View 

Pts

Last synced Oct 1, 2018, 9:36 PM

Sync Grades

Export

Student Name	Sync Status	Total	Performance	Participation	Session 9 - 10/03/18	Session 8 - 10/01/18
					<div>POLL</div> 10/3/2018	<div>POLL</div> 10/1/2018
Class Average		19.69 / 34.00	19.69 / 34.00	0.00 / 0.00	2.74 / 5.00	3.82 / 4.0
<div></div>	<div></div>	21.00	21.00	0.00	4.00	4.00
	<div></div>	20.00	20.00	0.00	4.00	4.00
	<div></div>	22.00	22.00	0.00	1.00	3.00
	<div></div>	8.00	8.00	0.00	1.00	No Response

# Canvas Notifications



≡ [Leslie Hendrix](#) > [Notification Preferences](#)

## Notifications

[Profile](#)

[Files](#)

[Settings](#)

[ePortfolios](#)

## Notification Preferences

✓ Notify me right away

🕒 Send daily summary

📅 Send weekly summary

✗ Do not send me anything

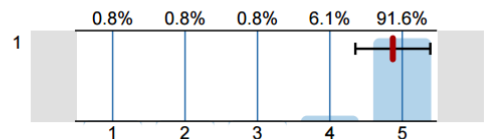
	Email Address leslieahendrix@gmail.com	Twitter leslieahendrix	Cell Number 8033610417@vtext.com	Push Notification For All Devices
<b>Course Activities</b>				
Due Date	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗
Grading Policies	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗
Course Content	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗
Files	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗
Announcement	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗
Announcement Created By You	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗
Grading <input type="checkbox"/> Include scores when alerting about grades. If your email is not an institution email this means sensitive content will be sent outside of the institution.	✓ 🕒 📅 ✗	✓ ✗	✓ ✗	✓ ✗

**What do students think?**

# Recent Course Evaluations

LESLIE A. HENDRIX, STAT 110

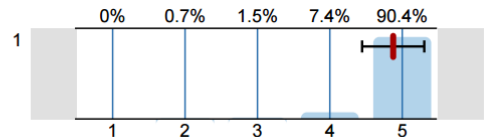
- 1.15) well-utilized class time, either by lecture, group work, student presentations or other activities.



n=131  
av.=4.87  
dev.=0.52

## 2. INSTRUCTOR OVERALL

- 2.1) OVERALL, considering all aspects, I rate the overall performance of my instructor as:



n=136  
av.=4.88  
dev.=0.43

## When I Asked Students about i>Clickers...

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**“My favorite part of STAT 110 is the I-Clickers, it makes class feel like a game show. It's a great way to see if I have learned anything or if I need to still work on certain problems from the lesson that day.”**



# Recent Course Evaluations

Positives: Helpful clicker questions and homework assignments

Negatives: none!

**Positives: Helpful clicker questions and homework assignments.**

**Negatives: None**

# Spring 2016 Course Evaluations

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Clicker questions helped for tests

**Clicker questions helped for tests**

# Spring 2016 Course Evaluations

LESLIE A. HENDRIX, STAT 110

Positive - clicker points to make up missed homework

Negative - none

**Positive - clicker points to make up missed homework**

**Negative - none 😊**

# Spring 2016 Course Evaluations

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- Powerpoints were good and clicker questions really helped

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**Powerpoints were good and clicker questions really helped**

## When I Asked Students about i>Clickers...

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**“PRACTICE QUESTIONS WITH REWARDS OF CLICKER POINTS... gives the class an opportunity to practice what we just covered which allows us to better understand the material. The clickers makes it possible to interact with you and get positive feedback without massive chaos since the class is close to 200 students. The questions make me feel like I am back at my community college with only 15-20 students per class. The points are a great incentive for attending class....”**



## When I Asked Students about i>Clickers...

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**“My favorite part of STAT 110 is the iClicker. I think it is a great way to not feel like I'm in such a large lecture because I am able to check and see if I actually know what is being taught. ”**



**Thank you!**