

# Teaching Toolbox Series: Using "Plickers" to Increase Engagement and Learning

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With Many Thanks to Plicker predecessors:  
Christina Beatty, Erik Johnson, & Kristy Jeans

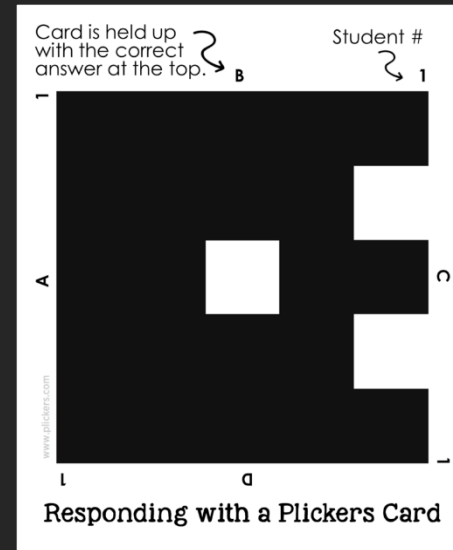
# What are our goals today?

- What are Plickers?
- Why are Plickers helpful?
- How can you use Plickers?

Let's get picking to  
warm up!



# What's Your Experience?



What do you know about Plickers?

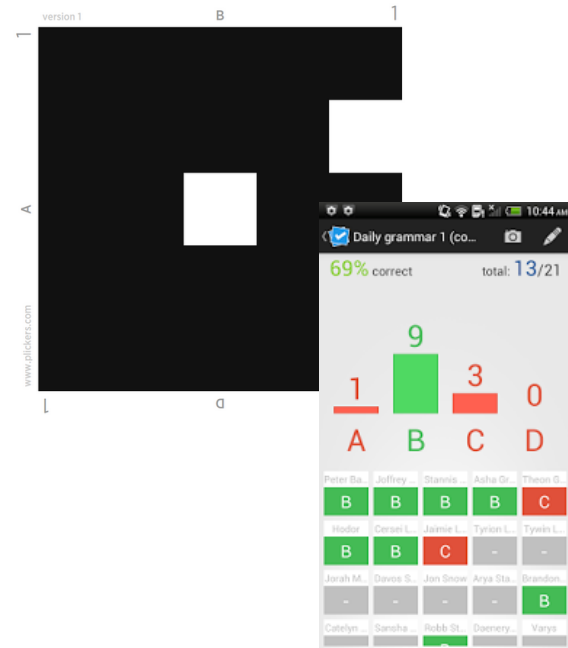
- A. I've used them!
- B. I've heard of them!
- C. I know practically nothing!
- D. I decline to answer! : )

Please write down a question about plickers that you want answered!



# What are Plickers?

- Polling system that uses QR codes and a phone app
  - ✓ Nothing for people to buy
  - ✓ Cards are very cheap to print
  - ✓ No computer software to install
  - ✓ No need to type questions
  - ✓ Can display responses graphically
  - ✓ Responses are saved for downloading
  - ✓ Anonymous to responders & facilitator
  - ✓ Use for many types of questions



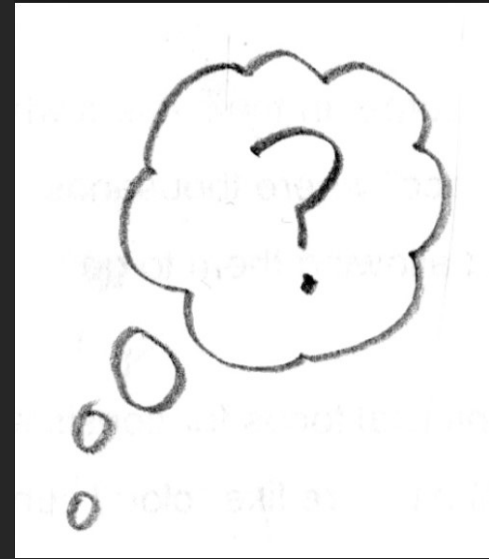
Plickers are just one polling method!

# What are our goals today?

- What are Plickers?
- Why are Plickers helpful?
- How can you use Plickers?



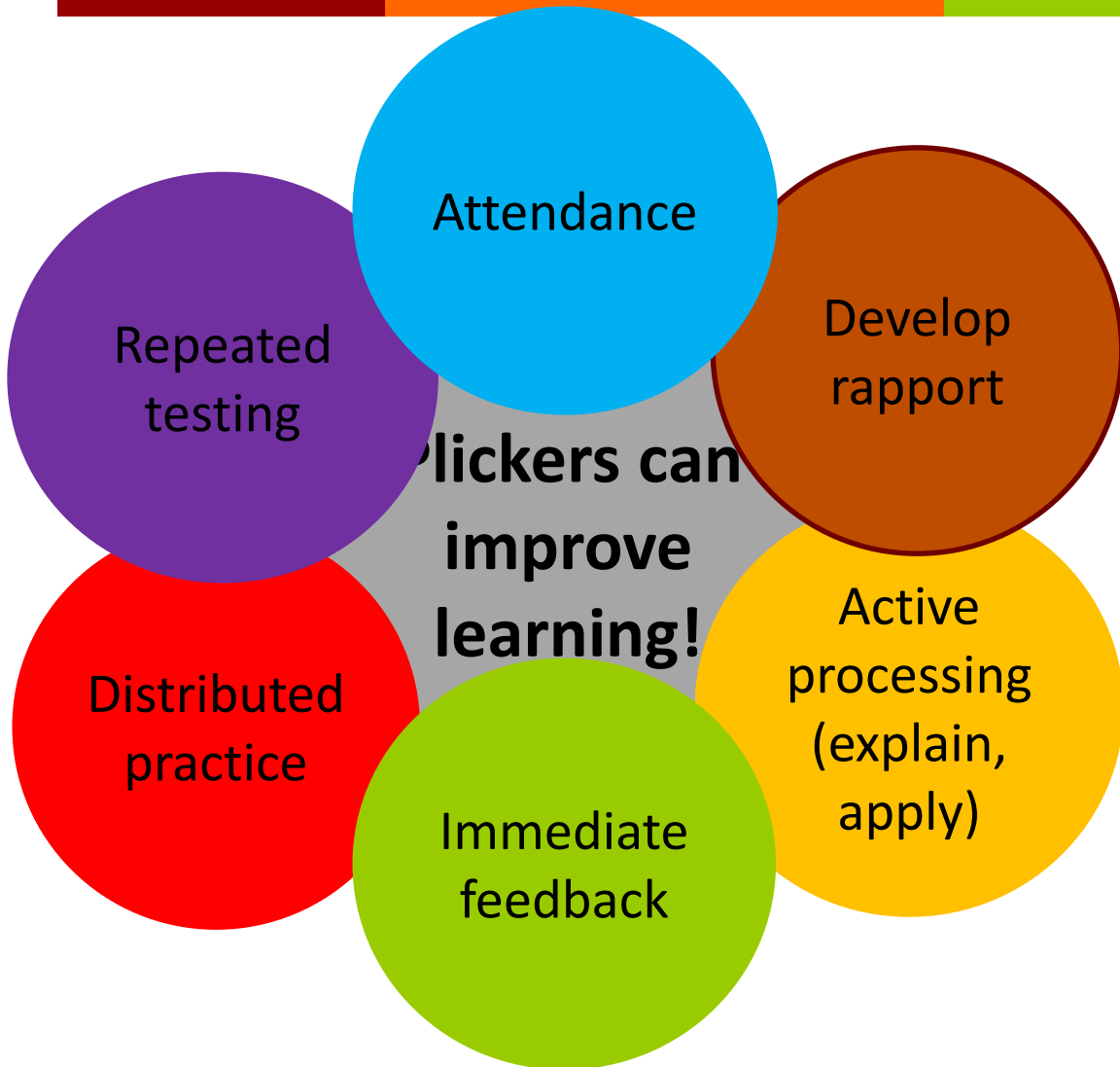
# What's Your Opinion?



Can you tell if people are paying attention, engaging, and/or learning in your class, training, or meeting?

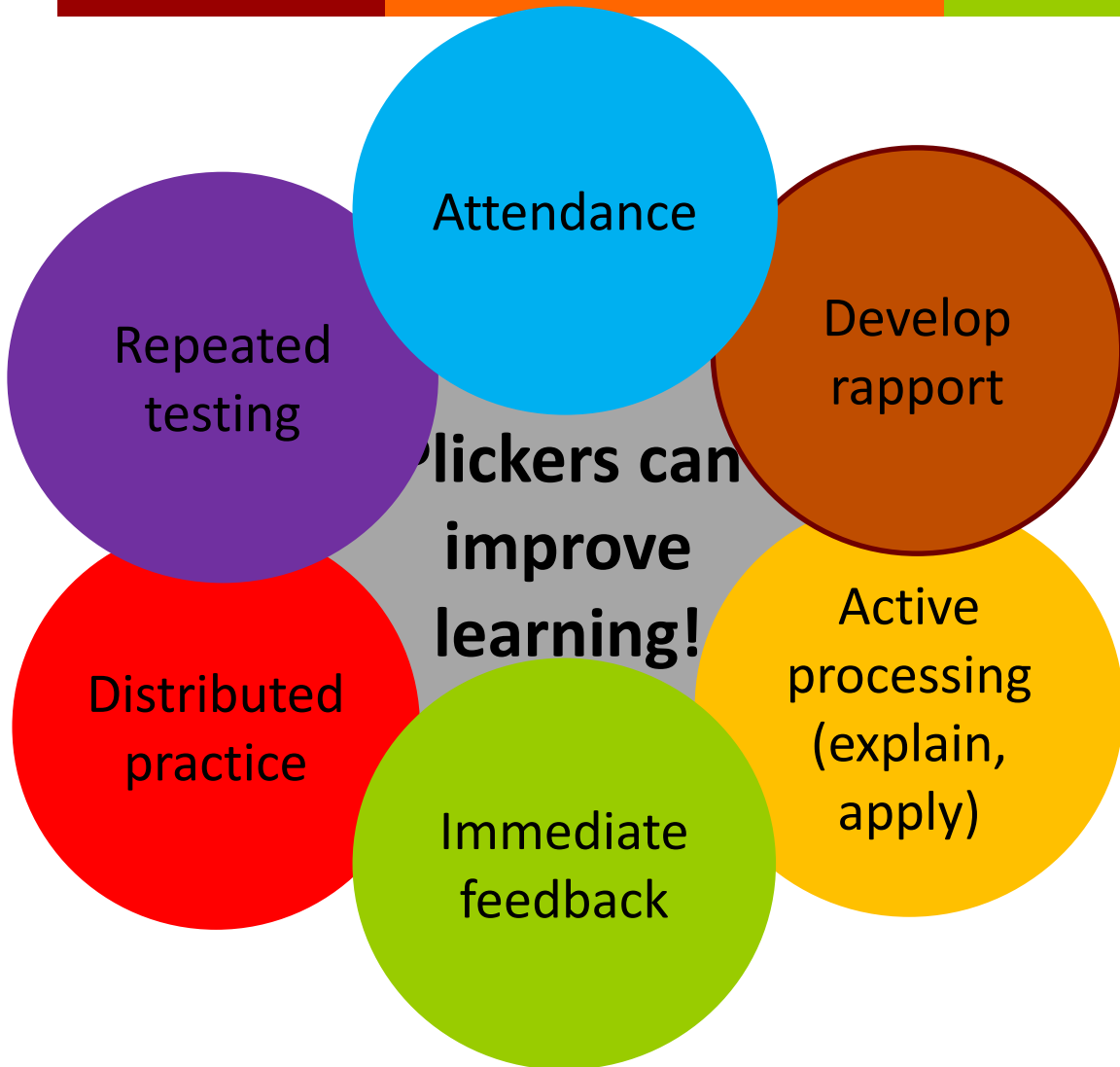
- A. Always
- B. Sometimes
- C. Rarely
- D. Never

# Why Are Plickers Helpful?



- Attendance increases success (Lukkarinen et al., 2016)
- Uncommonly attentive behaviors increase rapport (Webb & Barrett, 2014)
- Active processing improves learning (Dunlosky et al., 2014)

# Why Are Plickers Helpful?



- Immediate feedback (Hattie & Yates, 2013; Hattie, 2013)
- Distributed practice (Clark & Bjork, 2013)
- Repeated testing improves memory (Adesope et al., 2017; Roediger & Karpicke, 2006)



# Exploring MBE tools that improve learning

- Most effective learning techniques:
  - ✓ Elaborative interrogation
  - ✓ Self-explanation
  - ✓ Distributed practice
  - ✓ Practice testing



Table 4.1 of  
Dunlosky et al.,  
2013

## Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology

*Improving Student Achievement*

45

**Table 4.** Utility Assessment and Ratings of Generalizability for Each of the Learning Techniques

Technique	Utility	Learners	Materials	Criterion tasks	Issues for implementation	Educational contexts
Elaborative interrogation	Moderate	P-I	P	I	P	I
Self-explanation	Moderate	P-I	P	P-I	Q	I
Summarization	Low	Q	P-I	Q	Q	I
Highlighting	Low	Q	Q	N	P	N
The keyword mnemonic	Low	Q	Q	Q-I	Q	Q-I
Imagery use for text learning	Low	Q	Q	Q-I	P	I
Rehearsal	Low	I	P	Q-I	P	I
Practice testing	High	P-I	P	P	P	P
Distributed practice	High	P-I	P	P-I	P	P-I
Interleaved practice	Moderate	I	Q	P-I	P	P-I

Note: A positive (P) rating indicates that available evidence demonstrates efficacy of a learning technique with respect to a given variable or issue. A negative (N) rating indicates that a technique is largely ineffective for a given variable. A qualified (Q) rating indicates that the technique yielded positive effects under some conditions (or in some groups) but not others. An insufficient (I) rating indicates that there is insufficient evidence to support a definitive assessment for one or more factors for a given variable or issue.

Dunlosky et al., 2013

# Comprehension Check!



**study**

*(verb)*

The act of texting, eating and watching TV with an open textbook nearby.

- Plickers are likely to help improve learning because they
- A. encourage distributed practice
  - B. allow application of concepts
  - C. create opportunities for repeated testing
  - D. all of the above



# Think- Pair- Share



**study**

*(verb)*

The act of texting, eating and watching TV with an open textbook nearby.

- Plickers are likely to help improve learning because they
- A. encourage distributed practice
  - B. allow application of concepts
  - C. create opportunities for repeated testing
  - D. all of the above**

# What are our goals today?

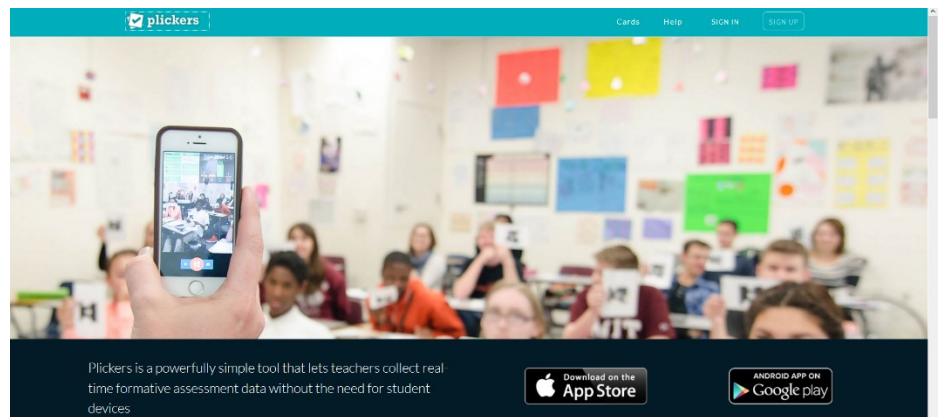
- What are Plickers?
- Why are Plickers helpful?
- How can you use Plickers?



# How Can You Use Plickers?

- Get started on Plickers website on a computer
  - ✓ Download and print cards
  - ✓ Make a folder for a class, training, or meeting
  - ✓ Upload a roster if you wish
- Also download Plickers app to your phone
  - ✓ Think of what questions you want to ask

<https://www.plickers.com/>



# How Can You Use Plickers?



## Click on Cards

- ✓ Choose cards to download and print
- ✓ I suggest getting them laminated
- ✓ Ask PrintShop not to trim them much (because thumbs obscure the QR codes)

Plickers Cards

Standard Plickers Card Set free!

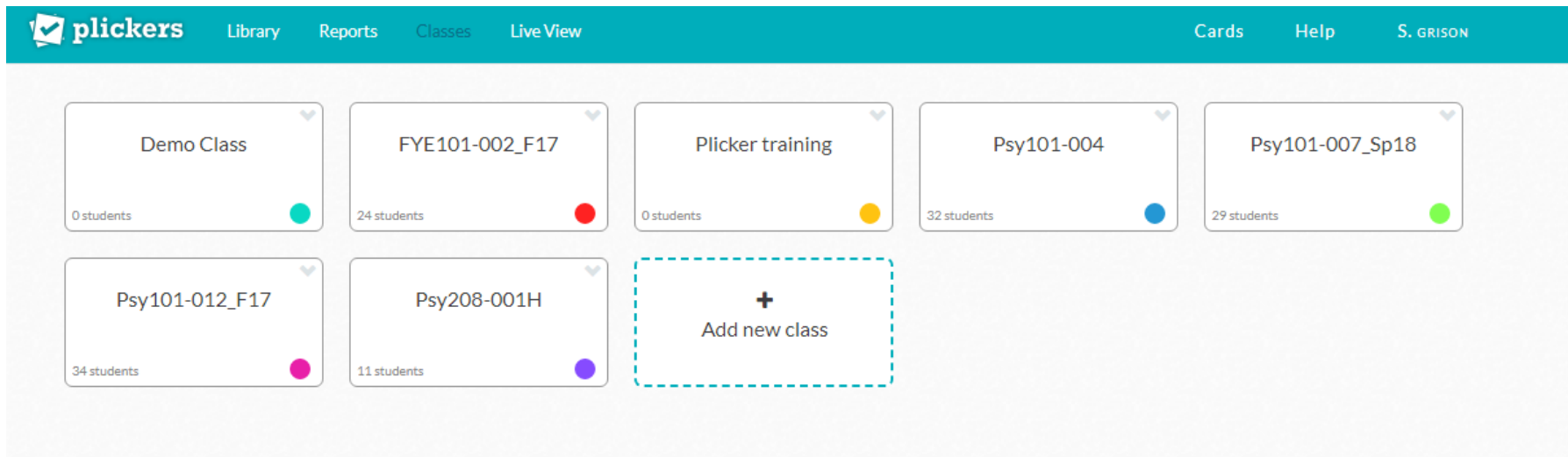
A durable, matte-laminated version of our standard set is also available for sale on [Amazon.com](#)

Plickers Set	# of cards	Cards per sheet	Font size	Ideal for...
<a href="#">Standard</a>	40	2	normal	Most classrooms of average size
<a href="#">Expanded</a>	63	2	normal	Large student groups in a standard classroom setting
<a href="#">Large Font</a>	40	2	large	Younger students or anyone who may have trouble reading the letter answers
<a href="#">Large Cards</a>	40	1	normal	Deeper or especially large classrooms or auditoriums Note: Larger cards may block other students' cards
<a href="#">Large Cards Expanded</a>	63	1	normal	Large student groups in especially large, non-standard classrooms Note: Larger cards may block other students' cards

Not seeing cards you need? Add your idea to our [ideas forum!](#)

# How Can You Use Plickers?

- On the computer, click on Classes
  - ✓ Name a new class, meeting, or training session



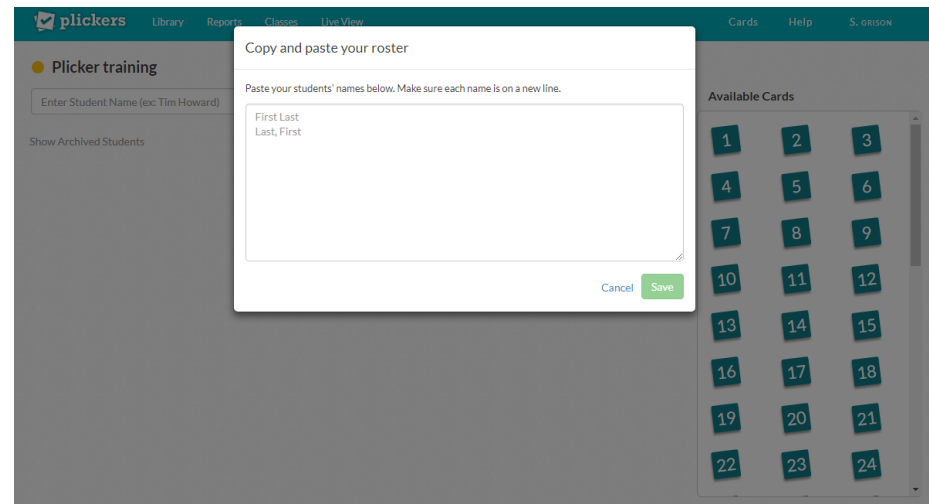
The screenshot displays the Plickers web interface. At the top, there is a teal navigation bar with the Plickers logo and menu items: Library, Reports, Classes, Live View, Cards, Help, and S. GRISON. Below the navigation bar, there is a grid of class cards. Each card shows the class name, the number of students, and a colored dot. The classes listed are: Demo Class (0 students, teal dot), FYE101-002\_F17 (24 students, red dot), Plicker training (0 students, yellow dot), Psy101-004 (32 students, blue dot), Psy101-007\_Sp18 (29 students, green dot), Psy101-012\_F17 (34 students, pink dot), and Psy208-001H (11 students, purple dot). A dashed blue box highlights a button with a plus sign and the text 'Add new class'.

Class Name	Number of Students	Color
Demo Class	0 students	Teal
FYE101-002_F17	24 students	Red
Plicker training	0 students	Yellow
Psy101-004	32 students	Blue
Psy101-007_Sp18	29 students	Green
Psy101-012_F17	34 students	Pink
Psy208-001H	11 students	Purple

# How Can You Use Plickers?

● On the computer, click on the new “class” name

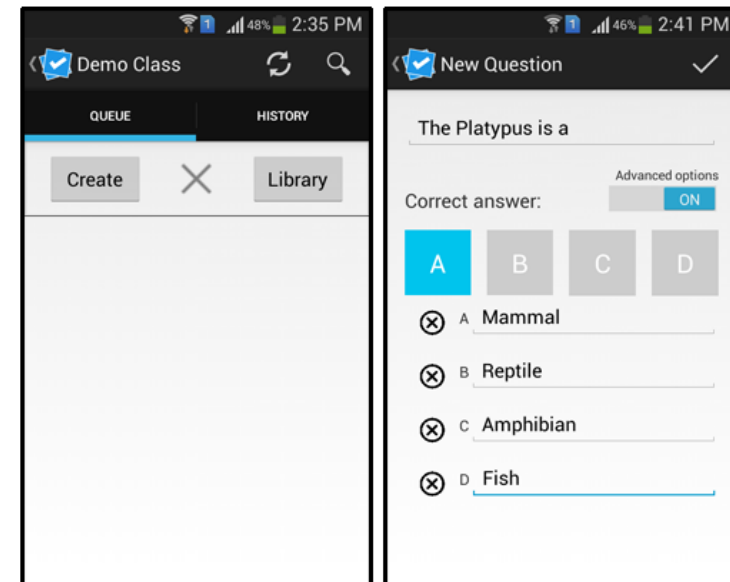
- ✓ Click on roster and add names of attendees
- ✓ Can be copied from a Word or Excel file
- ✓ This assigns each person a numbered card to use
- ✓ Or leave this blank to keep attendees’ responses anonymous





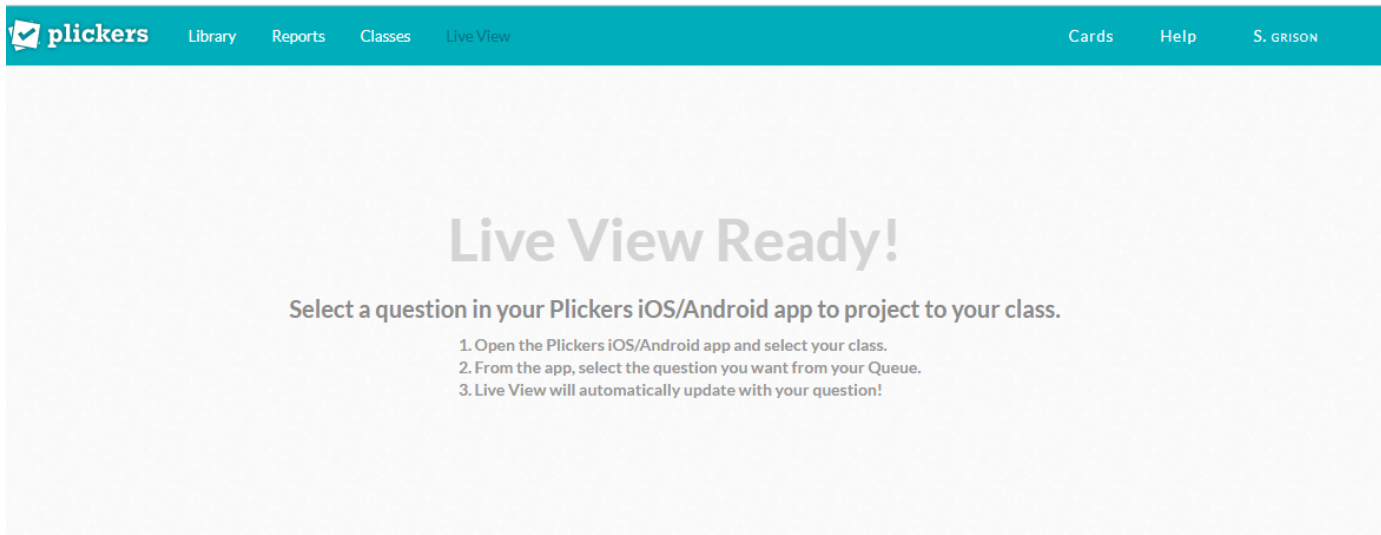
# How Can You Use Plickers?

- On phone, open Plickers app
  - ✓ Click on the “class name”
  - ✓ Click on Create to give an “on the fly” question
  - ✓ Enter a keyword to remember the name of the question
  - ✓ Click on the letter of the right response (if there is one)
  - ✓ Click create
  - ✓ Click Scan and scan the phone around the room



# How Can You Use Plickers?

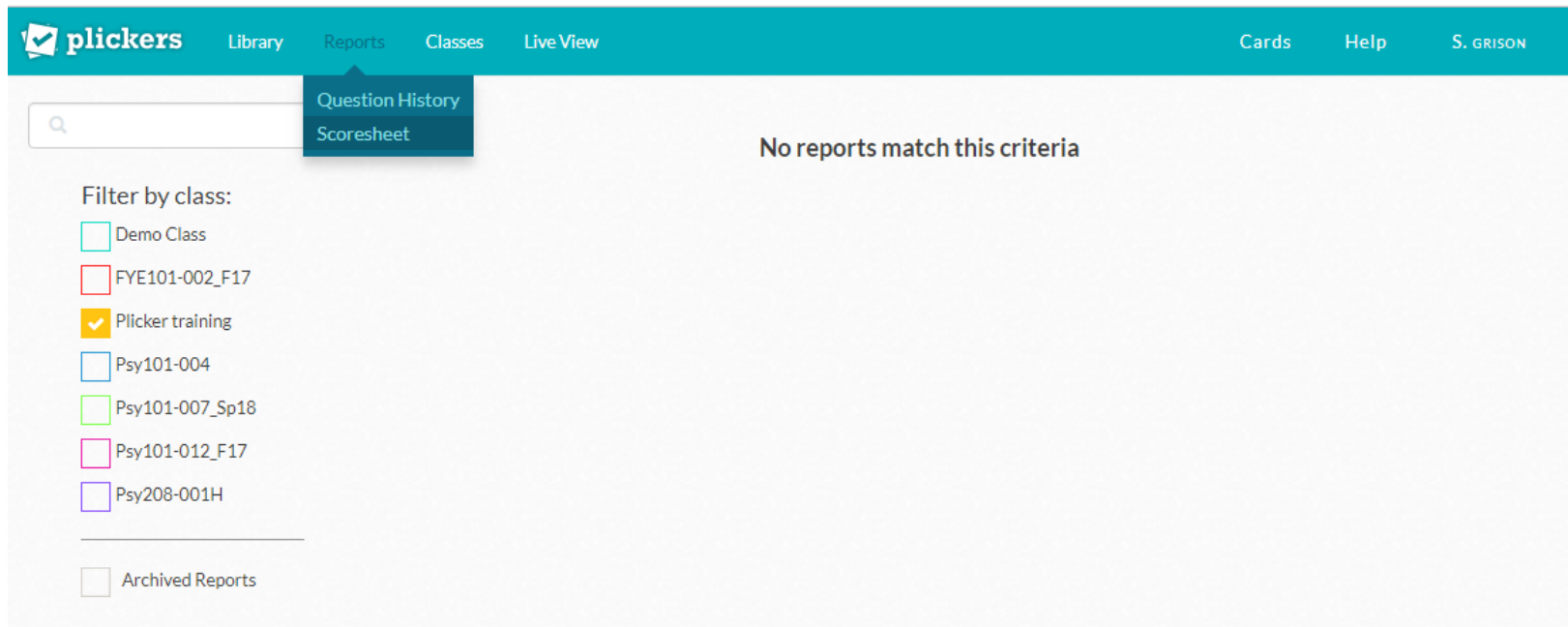
- On the computer, click on LiveView to show peoples' responses
  - ✓ The left tab shows individual responses by number (and name!) so be careful!
  - ✓ Click tab on the right to see the histogram of responses



The screenshot shows the Plickers web interface. At the top, there is a teal navigation bar with the Plickers logo on the left and links for Library, Reports, Classes, Live View, Cards, Help, and S. GRISON on the right. Below the navigation bar, the main content area is white and features the heading "Live View Ready!" in a large, bold, grey font. Underneath the heading, there is a sub-heading "Select a question in your Plickers iOS/Android app to project to your class." followed by a numbered list of three instructions: 1. Open the Plickers iOS/Android app and select your class. 2. From the app, select the question you want from your Queue. 3. Live View will automatically update with your question!

# How Can You Use Plickers?

- On the computer, click on Reports to see data from a session
  - ✓ Click Scoresheet to download the scores for a session
  - ✓ Can choose Excel or CSV formats



The screenshot shows the Plickers web interface. The top navigation bar is teal and contains the Plickers logo, "Library", "Reports", "Classes", and "Live View". On the right side of the bar are "Cards", "Help", and the user name "S. GRISON". A search bar is located on the left side of the main content area. The "Reports" menu is open, showing "Question History" and "Scoresheet" options. Below the search bar, there is a "Filter by class:" section with a list of classes, each with a colored checkbox. The "Plicker training" class is selected with a yellow checkmark. Below the class list is a horizontal line and an "Archived Reports" checkbox.

Library Reports Classes Live View Cards Help S. GRISON

Question History Scoresheet

No reports match this criteria

Filter by class:

- Demo Class
- FYE101-002\_F17
- Plicker training
- Psy101-004
- Psy101-007\_Sp18
- Psy101-012\_F17
- Psy208-001H

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Archived Reports

# How Can You Use Plickers?

- Alter the file if needed and then enter into Cobra if you take attendance or do participation for a course
- ✓ Should be about 10% of students' grades

Card #	Total %	Correct	Answered	Notetakin	Terri 1	Dhara	Priming	Probably	Exp learn	Andrea	Sleep deb	Mcat	Ct	Alcohol
1	91%	-	-	--%	--%	92%	--%	--%	--%	75%	--%	100%	--%	96%
2	100%	1	1	B	B	C	C	-	-	-	-	-	-	-
3	100%	3	3	C	A	C	-	A	B	C	C	A	C	-
4	75%	3	4	D	A	C	-	A	C	A	A	A	C	C
5	--%	--	--	-	-	-	-	-	-	-	-	-	-	-
6	100%	4	4	B	A	C	C	-	B	C	C	A	A	C
7	75%	3	4	C	B	C	-	A	B	C	B	A	A	B
8	100%	4	4	-	A	C	-	A	C	C	-	A	A	C
9	0%	0	1	B	A	B	C	-	C	-	-	-	-	-
10	75%	3	4	C	A	C	-	-	B	B	B	A	A	C
11	100%	4	4	B	A	C	C	-	B	C	C	A	A	C

# How Can You Use Plickers?

- Alter the file if needed and then enter into Cobra if you take attendance or do participation for a course
- ✓ Should be about 10% of students' grades

Psy101-007\_Sp18\_20180204-20180210\_Week 4 - Excel

	A	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	<a href="https://www.plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10">https://www.plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10</a>															
2	Card #	Total %	Correct	Answered	Poss Corre	Actual Con	Total possibl	Total answe	% answered	Answered x	Grade 1	Notetakir	Terri 1	Dhara	Priming	Probably
3										x 1 for each correct		<a href="https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10">https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10</a>	<a href="https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10">https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10</a>	<a href="https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10">https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10</a>	<a href="https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10">https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10</a>	<a href="https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10">https://plickers.com/scoresheet?section=5a5ded8a114211000445c9e4&amp;start=2018-02-04&amp;end=2018-02-10</a>
4																
5		91%	-	-								--%	--%	92%	--%	--%
6	1	100%	1	1	1	1	4	4	1	3.25	3.0	B	B	C	C	-
7	2	100%	3	3	1	1	4	4	1	3.25	3.0	C	A	C	-	A
8	3	75%	3	4	1	1	4	4	1	3.25	3.0	D	A	C	-	A
9	4	--%	--	--	0	0	4	0	0	0	0.0	-	-	-	-	-
10	5	100%	4	4	1	1	4	4	1	3.25	3.0	B	A	C	C	-
11	6	75%	3	4	1	1	4	4	1	3.25	3.0	C	B	C	-	A
12	7	100%	4	4	1	1	4	3	0.75	2.6875	2.7	-	A	C	-	A
13	8	0%	0	1	1	0	4	4	1	2.25	2.3	B	A	B	C	-
14	9	75%	3	4	1	1	4	3	0.75	2.6875	2.7	C	A	C	-	-
15	10	100%	4	4	1	1	4	4	1	3.25	3.0	B	A	C	C	-

# How Can You Use Plickers?



Classes



Meetings

Trainings



How might you use Plickers?

# How Can You Use Plickers?

You can use them to get to know students, build rapport, learn their experiences, create a democratic class, etc.

## 0.1 Who are we?

What is your educational goal? Are you...



Look at the letters on the back of your plicker. The letter of

- A. Just taking some fun classes!
- B. Getting a certificate
- C. Working towards an Associate's degree
- D. Planning on transferring for a Bachelor's degree

## What's your opinion?

Will you pledge to NOT drop without seeing me first?

- A. Yes
- B. No



## Warm Up – Ch 14 – Psych Disorders

Have you, a family member, or friend ever had a psychological disorder?

- A. yes
- B. no
- C. not sure



Psychological disorders are so common that half of all people will experience a psychological disorder in their lifetime.

## Pre-Spring Break Psycho Lunch!

- And a belated birthday celebration for Kylie, Nick, and anyone else?!

What shall we have for lunch?

- A. Pizza
- B. Subs
- C. Straight up sugary, fattening carbs!
- D. Something else?



Wear your fave spirit gear for bonus points!



# How Can You Use Plickers?

You can use them for warm-up activities, in class demonstrations, class activities, debates, case studies, etc.

## Introduction to Ch 7-Memory

How many digits in the number  $n$  ( $\pi$ ) did Akira Haraguchi memorize in 2006?

- A. 67,890
- B. 100,000
- C. 83,141
- D. 217,851



[Click here to read about Akira Haraguchi's efforts to memorize  \$n\$  \( \$\pi\$ \), a number with an unknown limit of unrepeating digits—3.14159265358979323846264338327950288419716939937510...](#)



## Class Activity

How to Interpret Your Results for [Eysenck's test](#)

What do the results from Eysenck's biological trait theory test indicate that you are highest on? What about lowest on?

- A. extraversion
- B. neuroticism (emotional instability)
- C. psychoticism (rebelliousness)



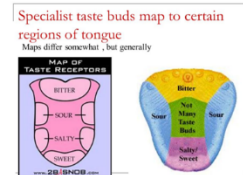
Are the results consistent with your view of your personality?

Is Eysenck's theory a good way to understand personality or not?

## Fact or Not?

Now that you have engaged in critical thinking, is this statement:

- A. Fact
- B. Not



[Click here to see the graphic:](#)

<http://slideplayer.com/slide/7888621/25/images/29/Specialist+taste+bu+ds+map+to+certain+regions+of+tongue.jpg>

## Activity on How We Acquire Memories!

How many objects did you get correct for the **Remember 1 task** (where you just wrote down the names of objects you remembered)?

- A. 0-3
- B. 4-7
- C. 8-11
- D. 12+

Now, how many objects did you get correct for the **Remember 2 task** (where you saw the objects again and wrote the numbers of the ones you remembered)?

- A. 0-3
- B. 4-7
- C. 8-11
- D. 12+

Why did you remember more?

## Case Study #1 Answers

Which of the following disorders is Sam most likely to be diagnosed with?

- A. Panic disorder
- B. Generalized anxiety disorder
- C. Specific phobia
- D. Obsessive compulsive disorder



Sam's parents believe that he shows symptoms of a psychological disorder. Can you figure out the symptoms and the disorder?



# How Can You Use Plickers?

You can use them for comprehension checks, syllabus quiz, just in time teaching, feedback, think-pair-share, etc.

## Did You Get It?

What information is processed in the circled region?



- A. Language
- B. Object recognition
- C. Vision
- D. Attention

## Did you get it?

A candidate for governor of New York State once mailed trash-scented campaign flyers to discourage people from backing Democrats. He was most likely trying to use \_\_\_\_\_ to influence voting.

- A. operant conditioning
- B. habituation
- C. classical conditioning
- D. sensitization



## Did You Get It?

It is talent show time in the dorm. Rachel is nervous about singing. She sounds good when she practices alone in her dorm room but when she gets up to perform in front of the whole dorm she does an amazing job. Rachel's performance is best explained by

- A. groupthink.
- B. social facilitation. ✓
- C. social loafing.
- D. deindividuation.

Why is this the correct answer?

## Did you get it?



When does the quiz for each chapter end each week?

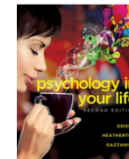
- A. Saturdays at 11:59 pm
- B. Fridays at 11:59 pm
- C. Tuesdays by class time
- D. They never end!



p.s. The answer is on the syllabus!

## Psy 101 - Week 7 Announcements

1. Please...
  - Get your Plicker card
  - Turn in the Ch 11 Activity sheet
  - Get the Ch 5 Activity Sheet!
  - Get your updated syllabus schedule!
2. Test 1 Feedback!
  - Test 1 MCQs = 81% - Great job!
  - 1 person missed Test 1 MCQs : (
  - 8 people missed the short answers! : (
  - Short Answers will be graded soon!
  - Do Test 1 reflection sheet for bonus points!!!
3. Do Advising Meeting in next week to get all points!!!



4. Homework:
  - Ch 5 InQ due by 11:59 pm TODAY!
  - Ch 5 Class Activity sheet due Thurs!
  - Ch 5 Quiz due Sat, 11:59 pm!
  - This opens Ch 6! : )

How was Test 1?  
A. Super fantastic!  
B. It was pretty good.  
C. It was just ok.  
D. The pits! : (

# Did we meet our goals today?

- What are Plickers?
- Why are Plickers helpful?
- How can you use Plickers?



Please fill in the green evaluation sheet about the presentation!

# Additional Feedback on Back of Green Form

Please feel free to give comments.

A. Would you like more workshops about how to engage people and improve learning?

B.

C.

# Thank you for the chance to work with you!

● Please let me know any thoughts or questions you have!

● [sgrison@parkland.edu](mailto:sgrison@parkland.edu)

● Or visit us in CETL!

The screenshot shows the SPARK Scholarship at Parkland website. The header includes the Parkland College Library logo and the SPARK Scholarship at Parkland logo. The navigation menu includes Home, About, FAQ, and My Account. The main content area is titled "CENTER FOR EXCELLENCE IN TEACHING AND LEARNING WORKSHOPS" and includes a description of the center's mission. A "Jump to:" section lists "Assessing Our Cou" with a dropdown arrow. Below this, there are three sections of articles, each with a PDF icon and a title: "Educating our Parkland Students in the 21st Century", "Better Student Success through Better Accessibility", and "Faculty & Staff Supporting Students thru Study Abroad". The right sidebar contains a search box, a "Browse" section with links to Collections, Disciplines, and Authors, an "Author Corner" section with a photo of Sarah Grison and an "Author FAQ" link, and a "Links" section with a link to "Professional Development & Instructional Technology at Parkland College". At the bottom of the sidebar is a "Faculty Profile Gallery" section with a photo of Sarah Grison.

Please look for this presentation on SPARK in the section:  
Center for Excellence in Teaching and Learning

# References

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