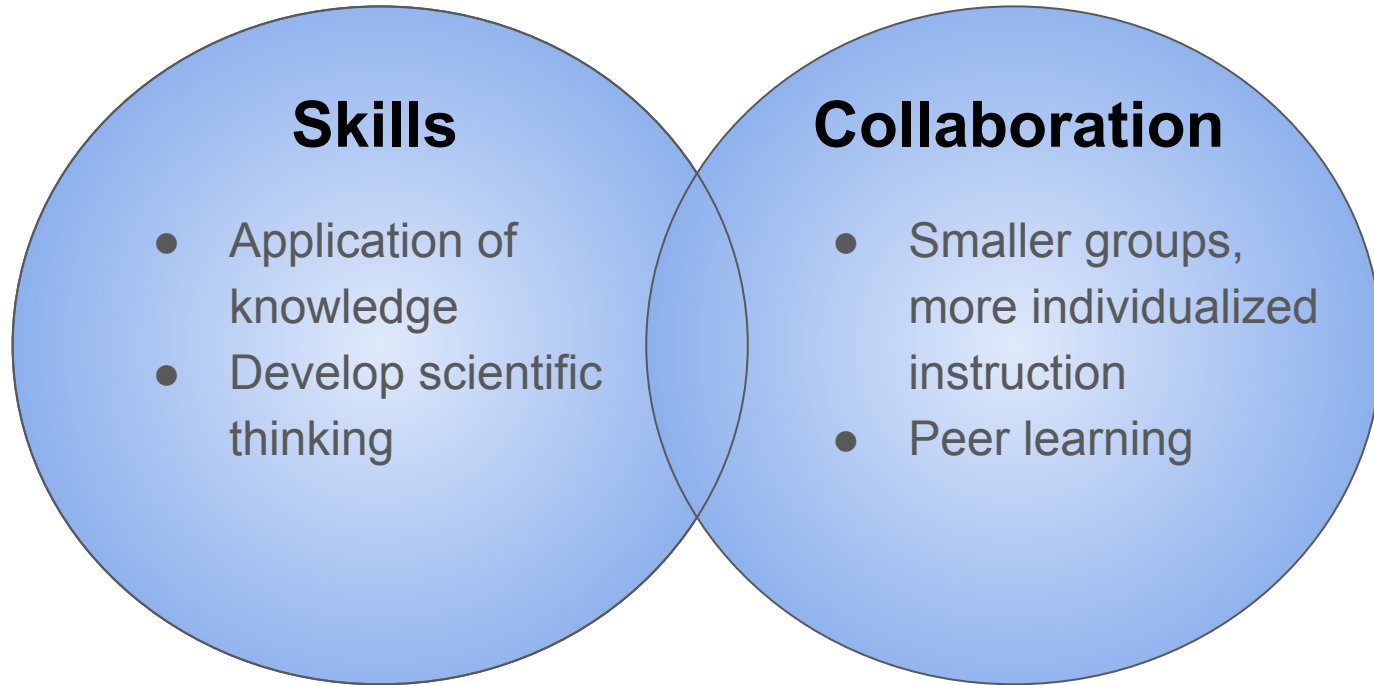


Reimagining Lab & Discussion Sections

Melissa Paquette-Smith, UCLA
Emma Geller, UC San Diego



What is the purpose of lab or discussion sections?



Outline

How can we preserve the “active ingredients” for learning in a context where we might not be interacting in real time?

- **Part 1: Lab activities**
 - **Developing research skills**
- **Part 2: Discussion Section**
 - **Fostering student discussion and collaboration**



Common Lab Activities

Working with data

Replicating studies

Designing a new study

Psychology
UNIVERSITY OF TORONTO

The following survey is about yourself and your 15- to 30-month-old child. If you have more than one child in this age range please select one child to complete the survey about.

Children understand many more words than they say. We are particularly interested in the words your 15- to 30-month-old child says. Please select all the words you have heard your child say. If your children pronounce the word differently, mark it anyways. If your child says that word in another language please check off the word in the "SAYS in another language" column.

	SAYS in English	SAYS in another language
baa baa	<input type="checkbox"/>	<input type="checkbox"/>
meow	<input type="checkbox"/>	<input type="checkbox"/>
oath	<input type="checkbox"/>	<input type="checkbox"/>
uh oh	<input type="checkbox"/>	<input type="checkbox"/>
woof woof	<input type="checkbox"/>	<input type="checkbox"/>
beer	<input type="checkbox"/>	<input type="checkbox"/>
bird	<input type="checkbox"/>	<input type="checkbox"/>
cat	<input type="checkbox"/>	<input type="checkbox"/>
dog	<input type="checkbox"/>	<input type="checkbox"/>
duck	<input type="checkbox"/>	<input type="checkbox"/>
	SAYS in English	SAYS in another language
horse	<input type="checkbox"/>	<input type="checkbox"/>
airplane	<input type="checkbox"/>	<input type="checkbox"/>
boat	<input type="checkbox"/>	<input type="checkbox"/>
car	<input type="checkbox"/>	<input type="checkbox"/>



<https://www.apa.org/research/responsible/data-links>

PsyToolkit

About PsyToolkit <https://www.psychtoolkit.org/>



PsyToolkit is a free-to-use toolkit for demonstrating, programming, and running cognitive-psychological experiments and surveys, including personality tests. **PsyToolkit is frequently used for academic studies, for student projects, and for teaching cognitive and personality psychology.**



Introductory Psychology Labs

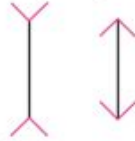
F2F model: 1 hour lab each week

Instructions

In this perceptual task you will see a series of lines. Your job is to indicate whether the black line on the RIGHT appears longer or shorter than the Reference line on the LEFT. Please ignore the pink finstails in your judgement, you are comparing the 2 black lines.

PRESS THE "L" KEY IF YOU THINK THE LINE ON THE RIGHT LOOKS LONGER
PRESS THE "S" KEY IF YOU THINK THE LINE ON THE RIGHT LOOKS SHORTER

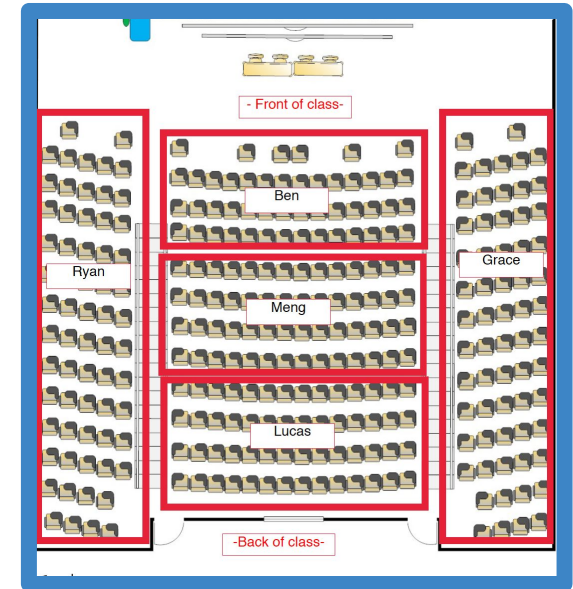
You will only have a couple seconds to make each decision, please decide quickly without actually measuring the lines.



Reference Line

PRESS THE SPACE BAR TO BEGIN.

- 2) Create a graph to calculate the size of your illusion (you can do this by hand or by using the excel/google spreadsheets template). Please paste your graph below.
- 3) Provide a definition of the Point of Subjective Equality (PSE) and the Point of Objective Equality (POE).
- 4) What was your Point of Subjective Equality (PSE)? Write the number below.
- 5) Compute the size of your illusion. (Hint: remember the reference line was always 160 pixels in length).
- 6) Imagine that the size of your friend's illusion was 30 pixels. How would you explain to your friend what that means? (Explain this conceptually, do not just indicate which numbers are used in the calculation)



Henrich, et al., 2010; Segall et al., 1966



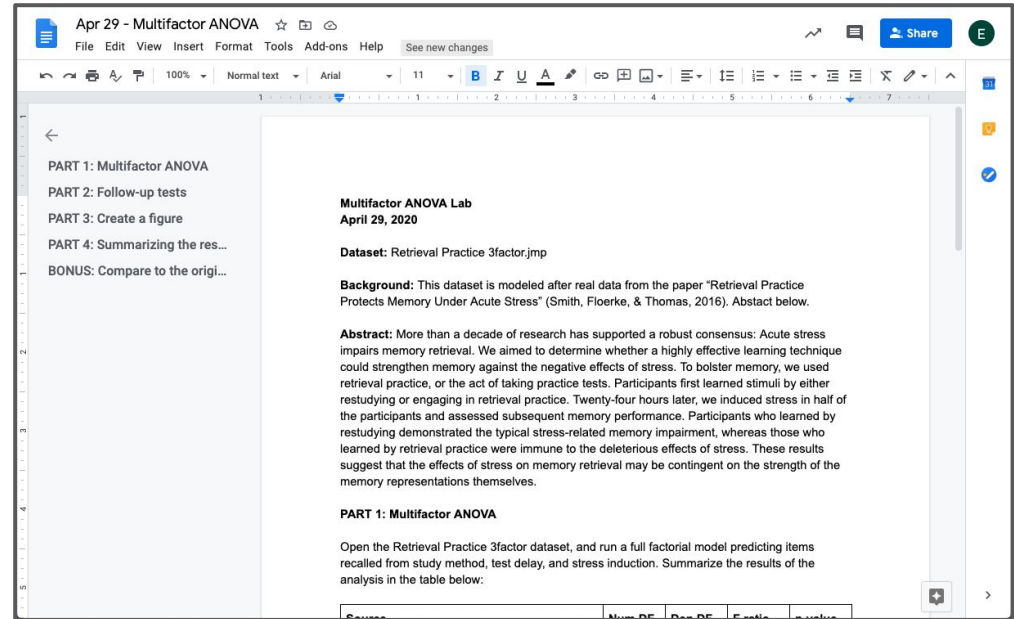
Data Analysis “Challenge” Activity

Weekly 2-hour lab, lead by TAs

F2F: students worked in small groups to complete the assignment, with periodic help from TAs (either whole-class demonstrations or one-on-one help)

Online: tried to maintain format using breakout rooms, with mixed success

- Harder to get and give help
- Students wanted more consistent group members



Apr 29 - Multifactor ANOVA

File Edit View Insert Format Tools Add-ons Help See new changes

100% Normal text Arial 11

←

PART 1: Multifactor ANOVA
PART 2: Follow-up tests
PART 3: Create a figure
PART 4: Summarizing the res...
BONUS: Compare to the origi...

Multifactor ANOVA Lab
April 29, 2020

Dataset: Retrieval Practice 3factor.jmp

Background: This dataset is modeled after real data from the paper "Retrieval Practice Protects Memory Under Acute Stress" (Smith, Floerke, & Thomas, 2016). Abstract below.

Abstract: More than a decade of research has supported a robust consensus: Acute stress impairs memory retrieval. We aimed to determine whether a highly effective learning technique could strengthen memory against the negative effects of stress. To bolster memory, we used retrieval practice, or the act of taking practice tests. Participants first learned stimuli by either restudying or engaging in retrieval practice. Twenty-four hours later, we induced stress in half of the participants and assessed subsequent memory performance. Participants who learned by restudying demonstrated the typical stress-related memory impairment, whereas those who learned by retrieval practice were immune to the deleterious effects of stress. These results suggest that the effects of stress on memory retrieval may be contingent on the strength of the memory representations themselves.

PART 1: Multifactor ANOVA

Open the Retrieval Practice 3factor dataset, and run a full factorial model predicting items recalled from study method, test delay, and stress induction. Summarize the results of the analysis in the table below:

Source	Num DE	Den DE	F-value	p-value
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Questions so far?



Outline

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- Part 1: Lab activities
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- **Part 2: Discussion Section**
 - **Fostering student discussion and collaboration**



Common Discussion Activities

Content review

Open-ended discussion

Group work

Peer review of writing



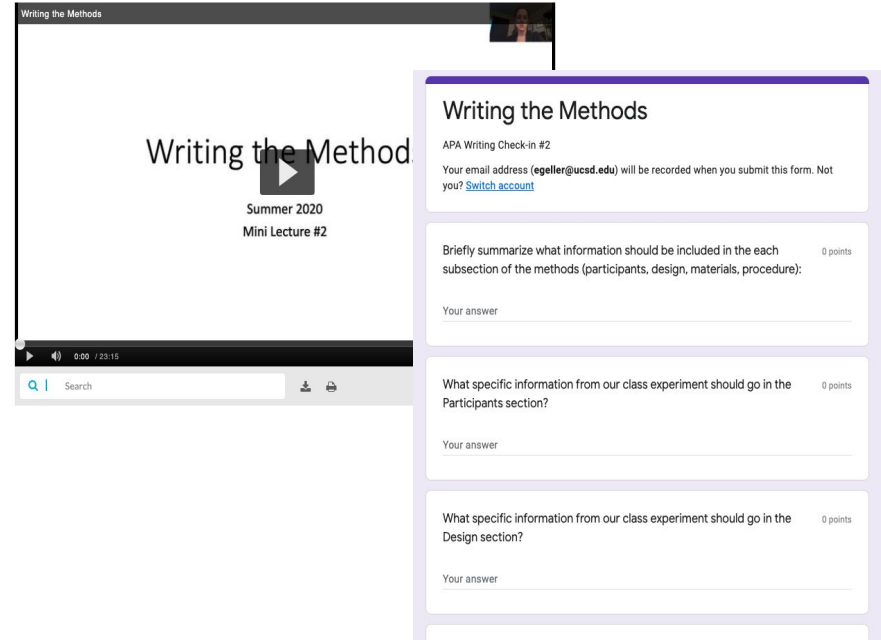
Research Methods Discussion section

F2F: 50 minutes per week, lead by TA

- How to write an APA paper
- Mix of presentation & group activity (e.g. reviewing example papers)
- Credit for attendance (7% w/ 1 drop)

Online: pre-recorded mini lectures
paired with participation activity in
Google forms quiz

- Credit for completion (7% w/ 1 drop)
- Used scheduled time for TA OH



The image shows a video player on the left and a Google Forms quiz on the right. The video player is titled "Writing the Methods" and shows a play button in the center. Below the play button, it says "Summer 2020" and "Mini Lecture #2". The video player has a progress bar at the bottom showing 0:00 / 23:16. The Google Forms quiz is titled "Writing the Methods" and has a subtitle "APA Writing Check-in #2". It contains three questions, each worth 0 points. The first question asks for a brief summary of information to include in each subsection of the methods (participants, design, materials, procedure). The second question asks for specific information from the class experiment to go in the Participants section. The third question asks for specific information from the class experiment to go in the Design section. Each question has a text input field labeled "Your answer".

Writing the Methods

APA Writing Check-in #2

Your email address (egeller@ucsd.edu) will be recorded when you submit this form. Not you? [Switch account](#)

Briefly summarize what information should be included in the each subsection of the methods (participants, design, materials, procedure): 0 points

Your answer

What specific information from our class experiment should go in the Participants section? 0 points

Your answer

What specific information from our class experiment should go in the Design section? 0 points

Your answer



Research Methods Discussion section (continued)

Did students like the online version? YES.

- APA mini lectures were overwhelmingly rated “very useful”
 - 94% of online students vs. 64% of F2F students
- Students felt they learned a lot from the assignments
 - Reported learning “a lot”: 49% online vs. 29% F2F
 - Reported learning “nothing”: 3% online vs. 8% F2F
- Students *liked* the assignments
 - Reported they “liked” or “loved” section: 62% online vs. 44% F2F
 - Reported they “didn’t like” or “hated” section: 5% online vs. 26% F2F



Possibilities for Offline

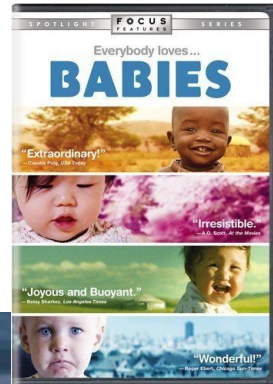
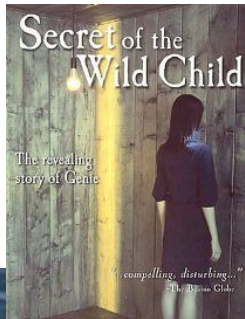
Three peer review assignments designed to help students grapple with challenging paper writing concepts

Writing —→ **Peer Review** —→ **Revision in Final Paper**



TA Led Discussion Section for Developmental Psych

- Mechanisms to increase engagement
 - Individual submission of worksheet
 - Multiple modes to engage (respond in chat, raise hand, polls)



PSY130 Section: Week 4

1) What evidence from Genie's case could be used to support a nativist perspective of language development? What evidence could be used to support an empiricist perspective?

Support for Nativist	Support for Empiricist

2) Compare and contrast Genie's language development to the language development (and abilities) of young children.

3) In what ways could the actions of the researchers involved in Genie's case be deemed unethical?

4) Overall, do you think that research on Genie was ethical or unethical? Why?

Conclusions and Reflections

STRUCTURE YOUR ACTIVITIES!

Think carefully about what *needs* to be synchronous and what can be done asynchronously

Build in mechanisms to support students and help answer their questions

Tips for using Zoom effectively was covered in the Synchronous Storytelling session



Questions?



Tools/Resources

PsyToolkit: <https://www.psychtoolkit.org/>

APA Data sets: <https://www.apa.org/research/responsible/data-links>

ELI Review: <https://elireview.com/>



References

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