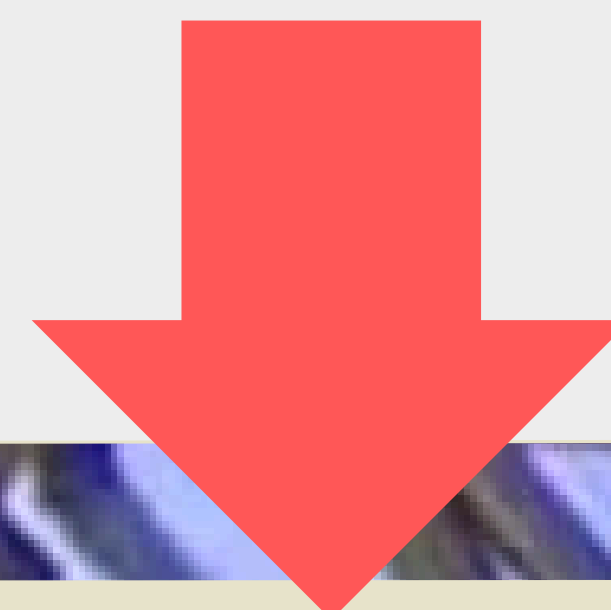


Introduction

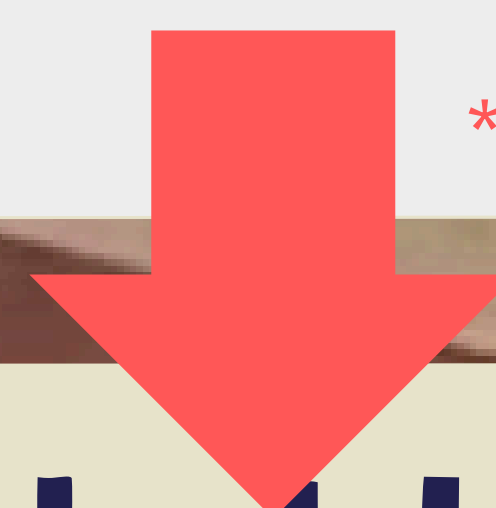
Following the widespread incorporation of laptops into university classrooms, public schools have followed to include digital devices like laptops into their own classrooms. As high schools incorporate digital devices into classroom environments, the concern of their effectiveness compared to traditional tools (i.e. longhand notetaking) needs to be addressed.



Research Question

What are the differences in note content and achievement between laptop and longhand lecture notes used by high school students*?

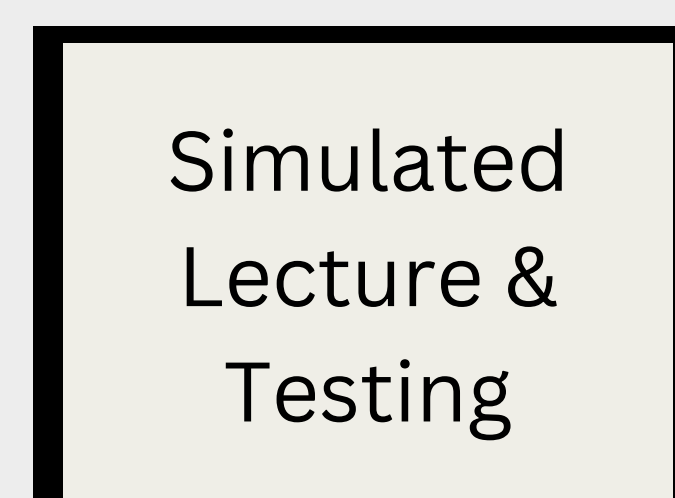
*APUSH & DCUSH 11th Graders



Methodology

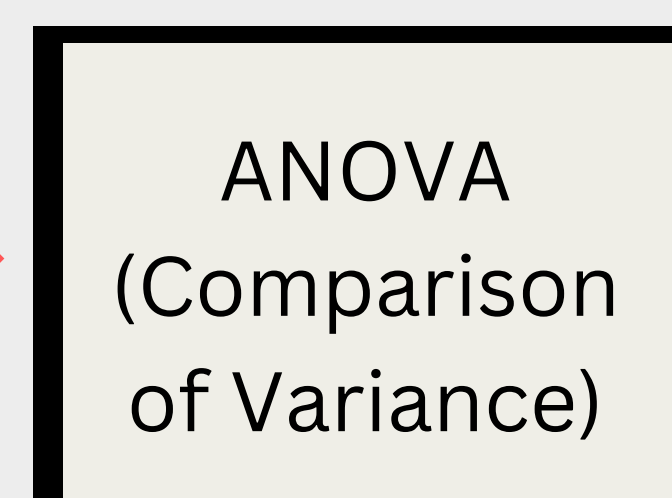
To address the research question, the study gathered data by simulating a lecture by having participants record lecture notes with a notetaking medium on a university course lecture and take a post-lecture test to generate achievement scores and content from their notes. After which, the means of each medium were compared to each other in a one-way analysis of variance (ANOVA) to find statistical difference between each groups.

Experimental Design



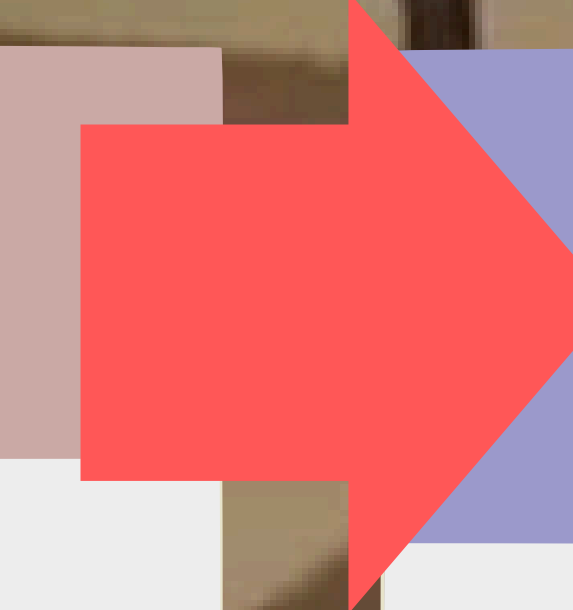
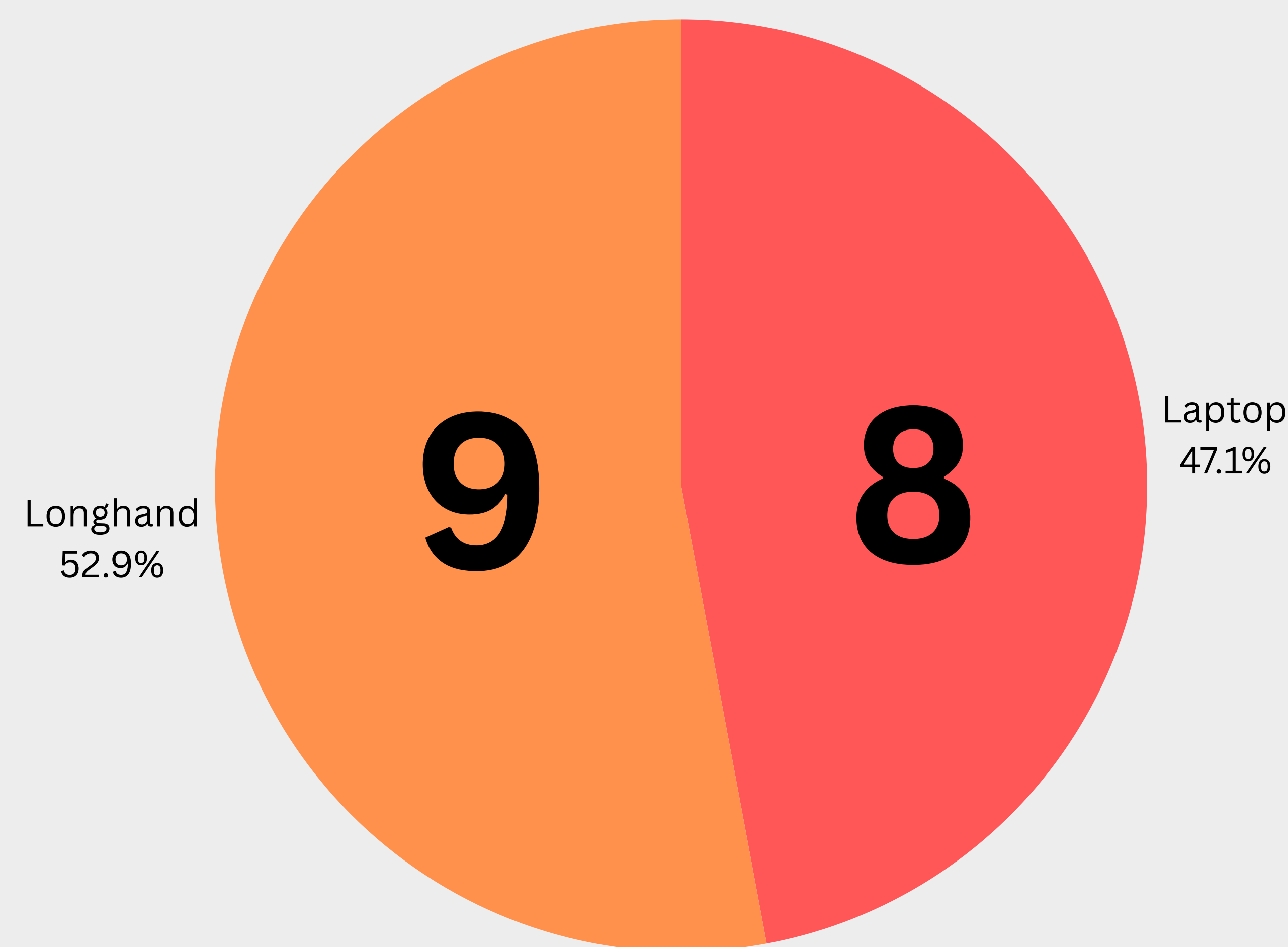
Generates Data for
Achievement
Note Content

Correlational Analysis



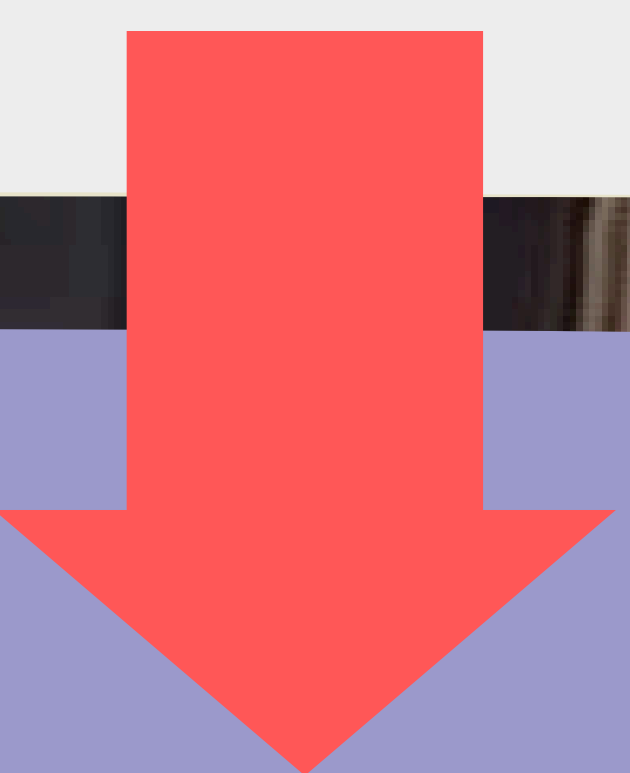
Data – Participants

Size of Experimental Groups



Discussion

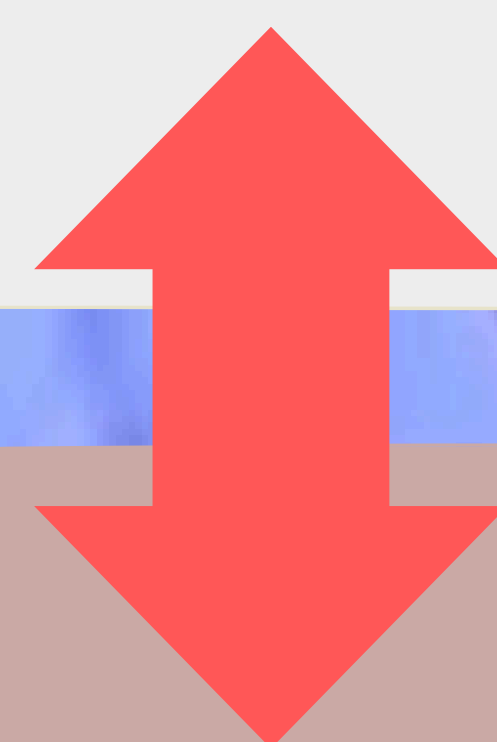
The study served to identify differences in either achievement or note content between mediums used by high school students. Based off analysis of their performance, a conclusion can be made there are no significant differences in achievement and content between longhand and laptop notetaking ($P > 0.05$). This has been extrapolated through the supported null hypothesis ANOVAs determined by a P-value greater than the Alpha (0.05), replicated throughout both content and achievement. The conclusion based off the analysis runs contrary with conclusions from previous studies and initial hypothesis based on those studies-- that simulated academic achievement were negatively affected when using laptop notetaking medium. Of course, the applicability of the study's conclusion is affected by multiple external factors: the number of participants and studied demographic (17 participants), and content density of both lecture and achievement assessment (11 items).



Conclusion

This conclusion has ramifications for incorporation of laptops into secondary school classrooms. In the case of main stakeholders like educators and school administrators, these results demonstrate equivalent or better overall performance in simulated academic achievement compared to longhand. While not decisively supportive evidence to shift from longhand to exclusively laptop notetaking, these findings support a partial integration of laptop as notetaking functions for less content intensive lecture into classroom would yield potentially improved performance or at least similar performance as current longhand notetaking.

Such conclusion lends credence for educators and school administrator to support a transition to laptop notetaking alongside longhand as a viable alternative medium, at least in content density (11 items) similar to the study.



Findings / Results

P-value = 0.05

> 0.05 = Null Hypothesis (No statistical difference)

≤ 0.05 = Alternative Hypothesis (Statistical difference)

Overall Achievement (0.09)

No statistical difference

Word Count (0.32)

No statistical difference

Idea Unit (0.64)

No statistical difference

Laptop

Achievement (Overall)
9/11 (81%)

Category	Count	Percentage
Conceptual	8	82%
Factual	8	82%

Longhand

Achievement (Overall)
8/11 (73%)

Category	Count	Percentage
Conceptual	6	68%
Factual	8	81%