



Effectiveness of Long-Form vs. Short-Form Educational Videos



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Introduction

“Students self-report that they were more engaged, had enhanced focus, and had a perceived **higher retention of content following shorter videos.**” [1]

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“Students self-report that they were more engaged, had enhanced focus, and had a perceived **higher retention of content following shorter videos.**” [1]

Hypothesis:

1. The short-form educational videos have higher grades comparing to the same content and same total length long-form videos.
2. Participants prefer short-form videos than long-form videos.

Research Method



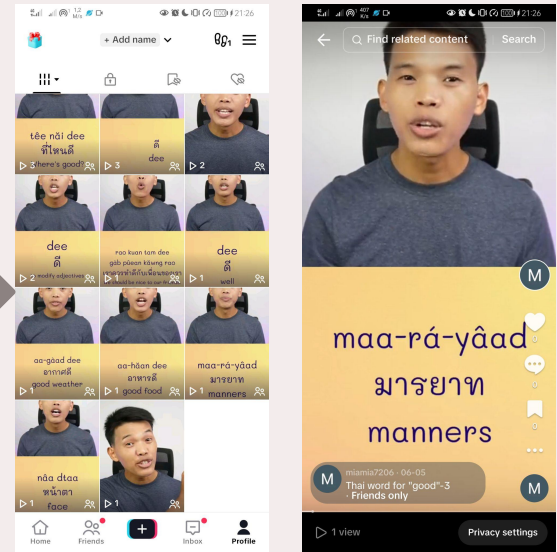
Long-form Video [2]
(19min 54s)

Research Method



Long-form Video [2]
(19min 54s)

Research Method



Long-form Video [2]
(19min 54s)

Short-form Video
(11 clips under 3min)

Research Method

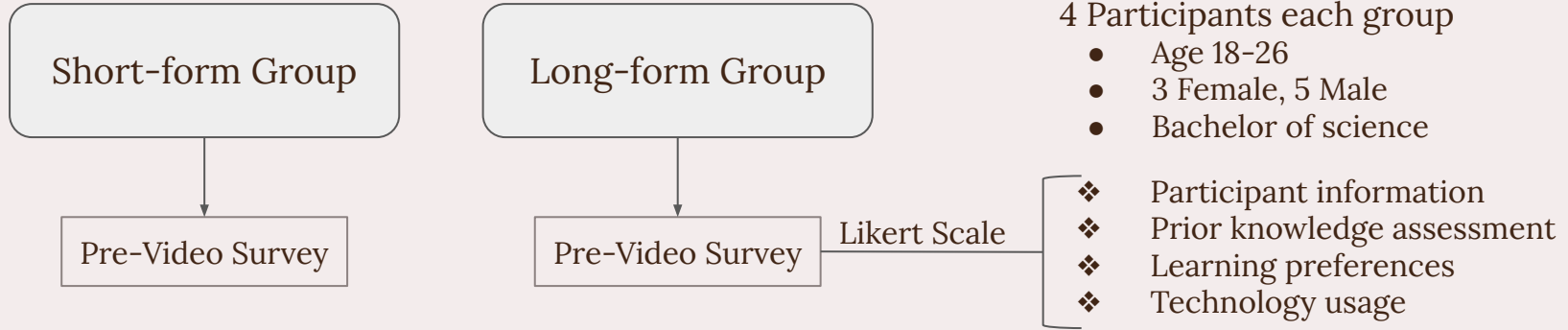
Short-form Group

Long-form Group

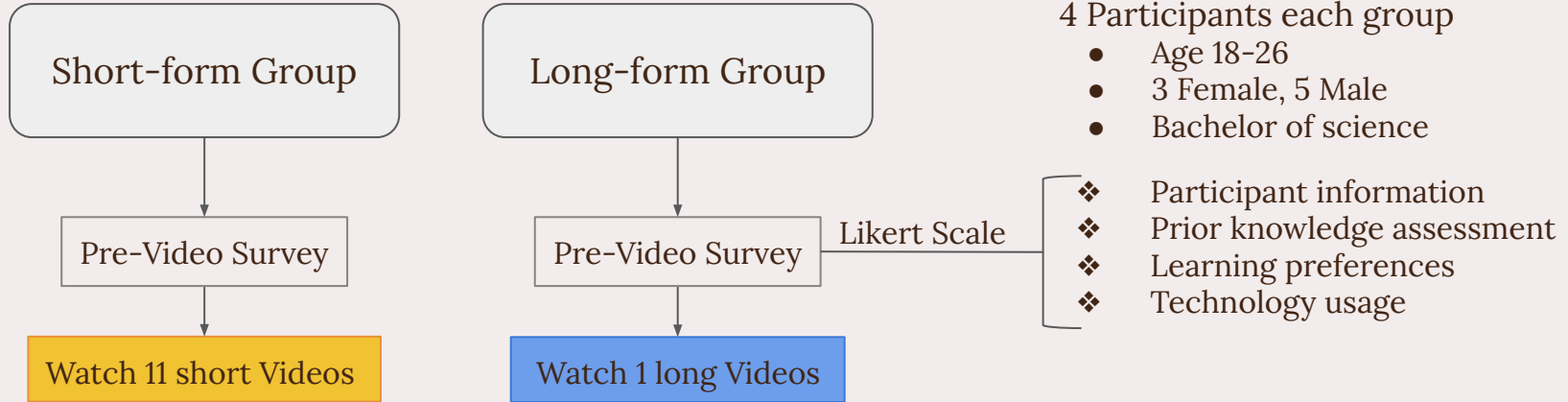
4 Participants each group

- Age 18-26
- 3 Female, 5 Male
- Bachelor of science

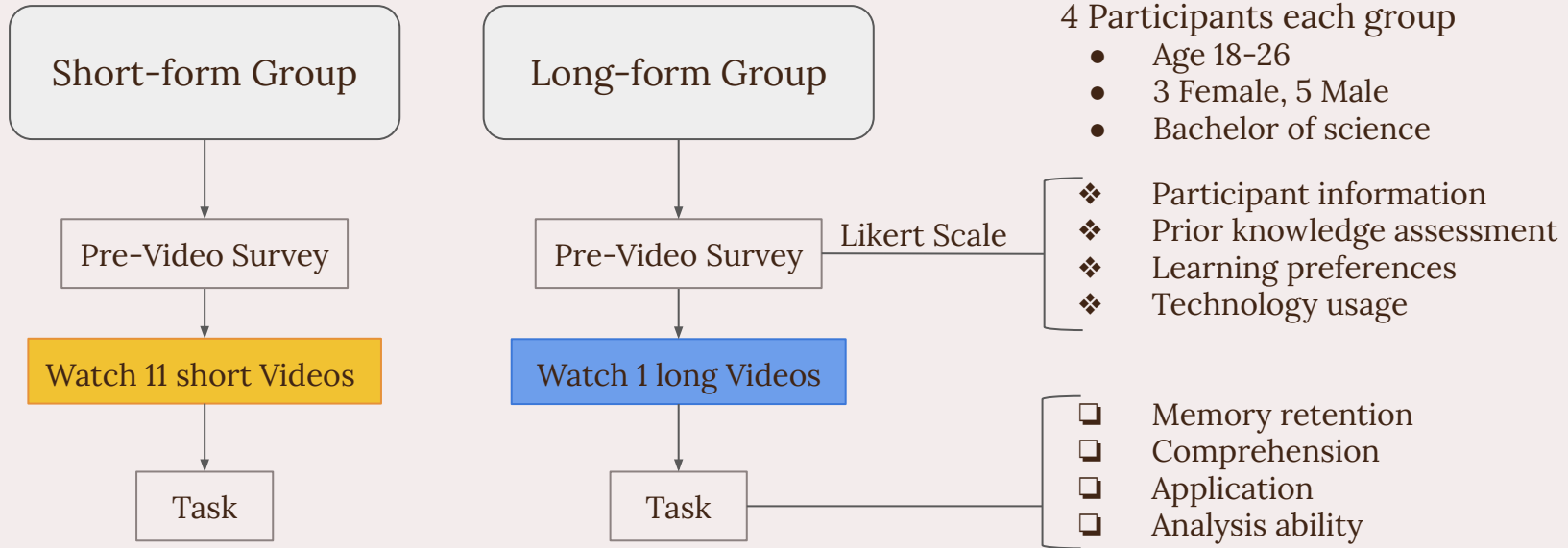
Research Method



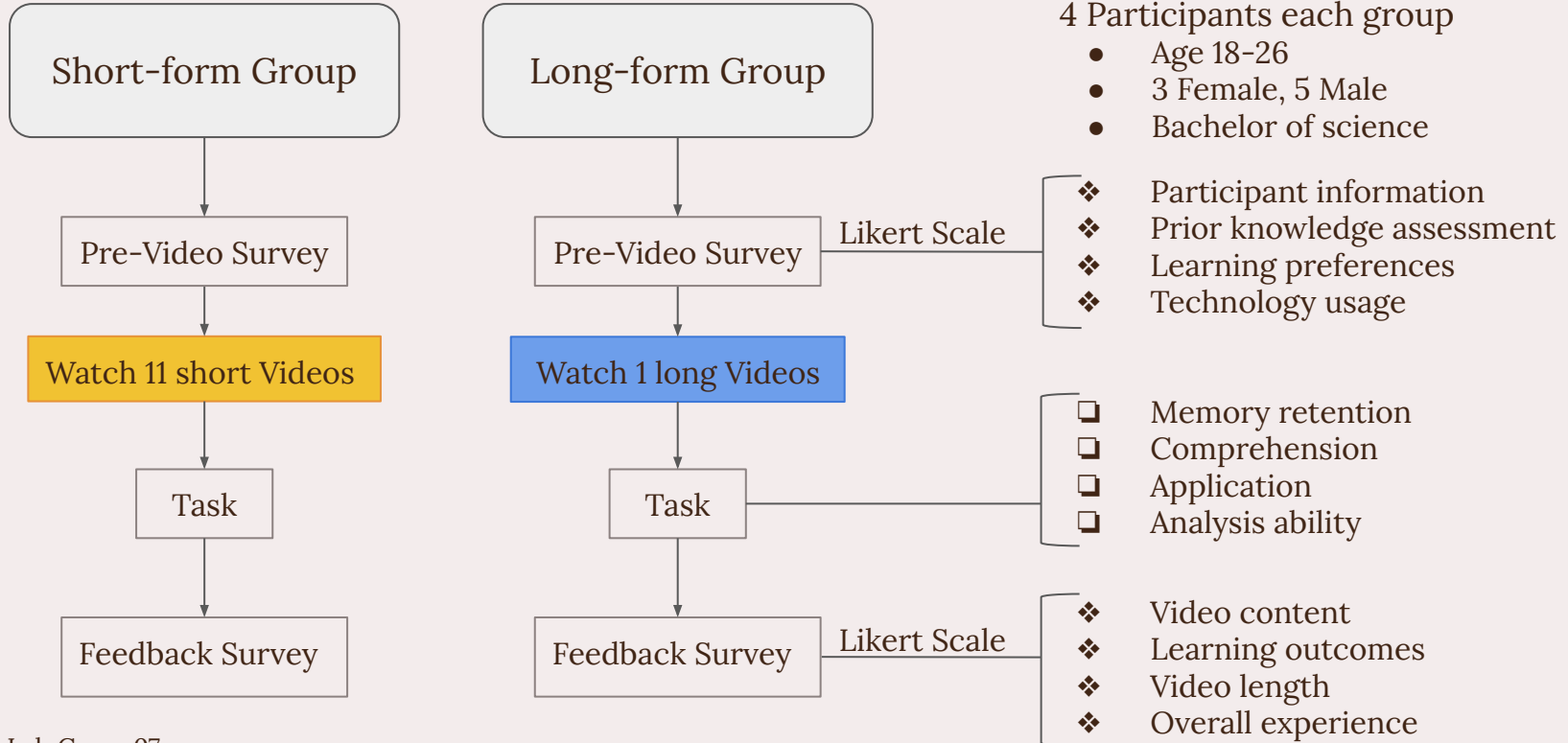
Research Method



Research Method



Research Method



Quantitative Analysis

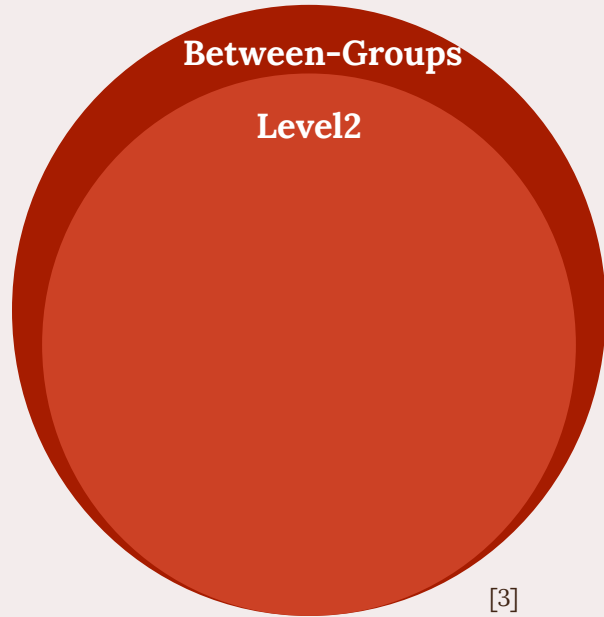
Quantitative Analysis



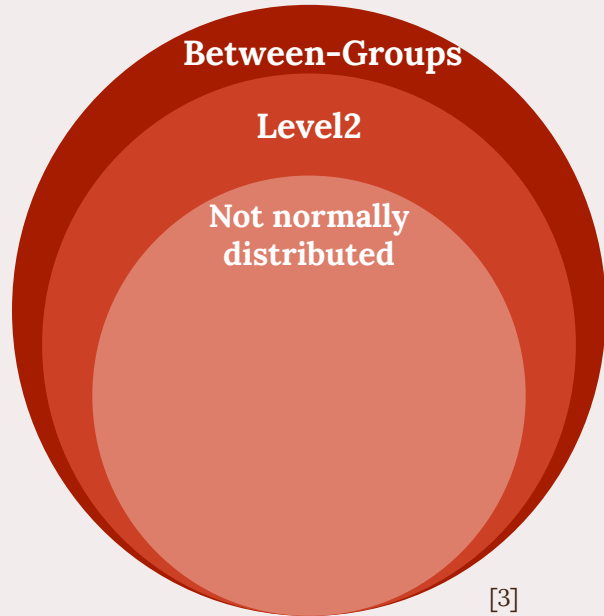
Between-Groups

[3]

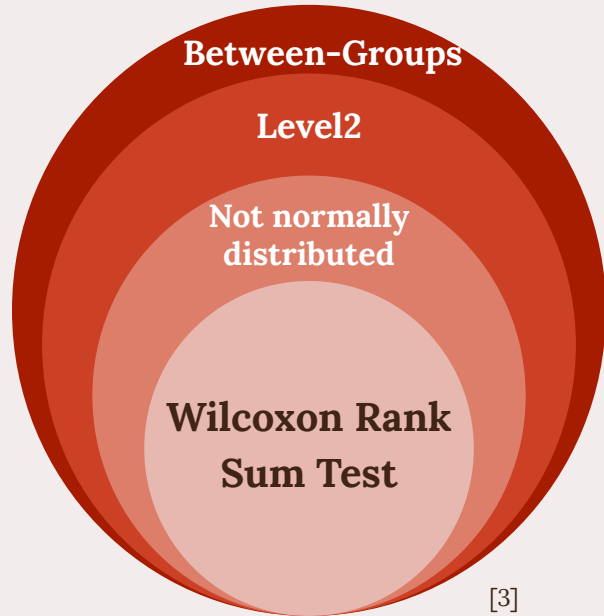
Quantitative Analysis



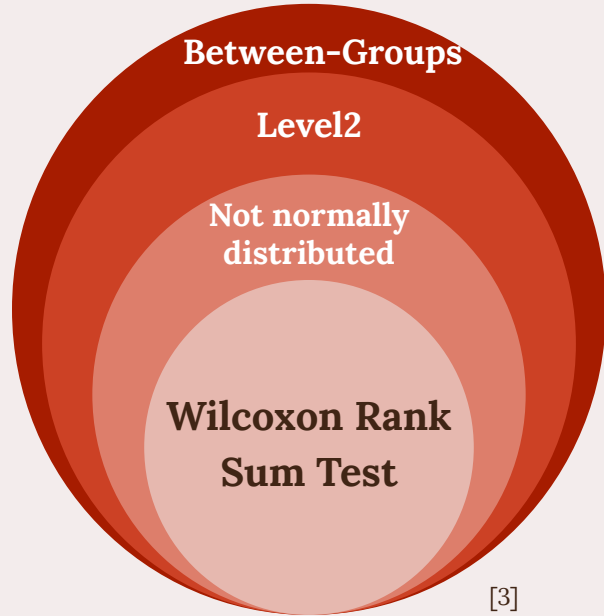
Quantitative Analysis



Quantitative Analysis

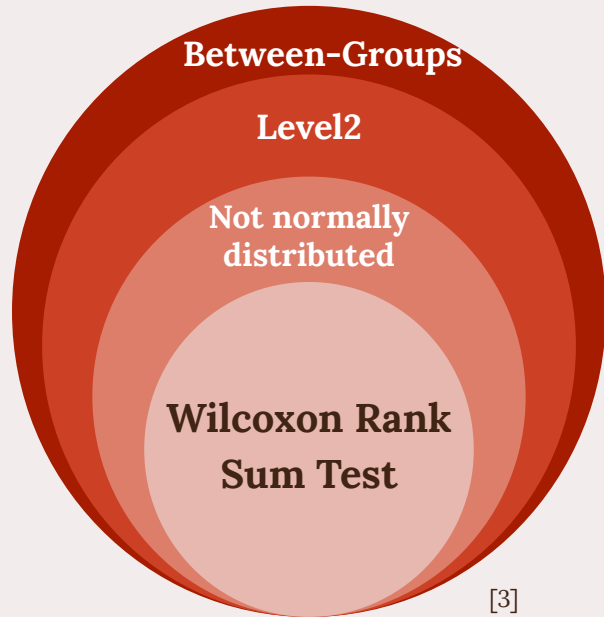


Quantitative Analysis



$$0.05 < p\text{-value} < 0.6433$$

Quantitative Analysis

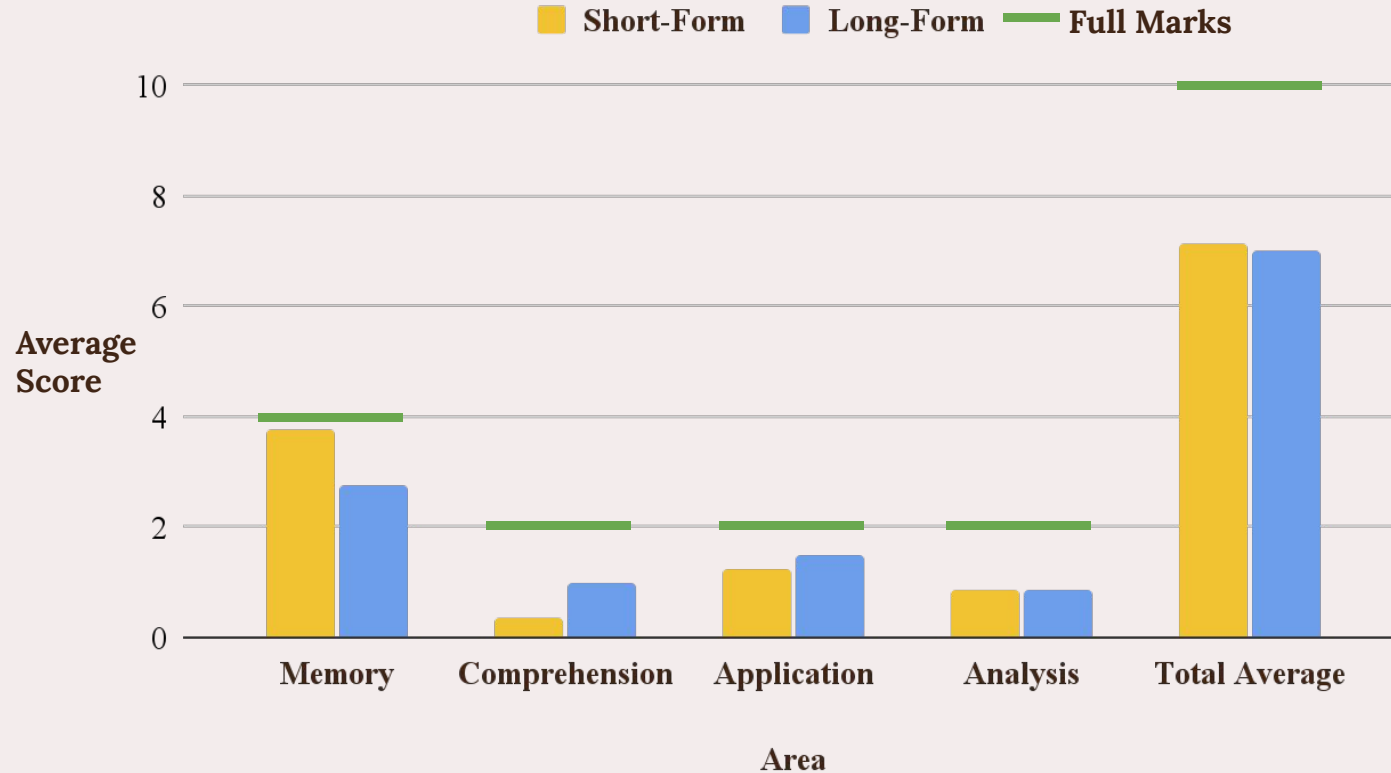


$$0.05 < \text{p-value} < 0.6433$$

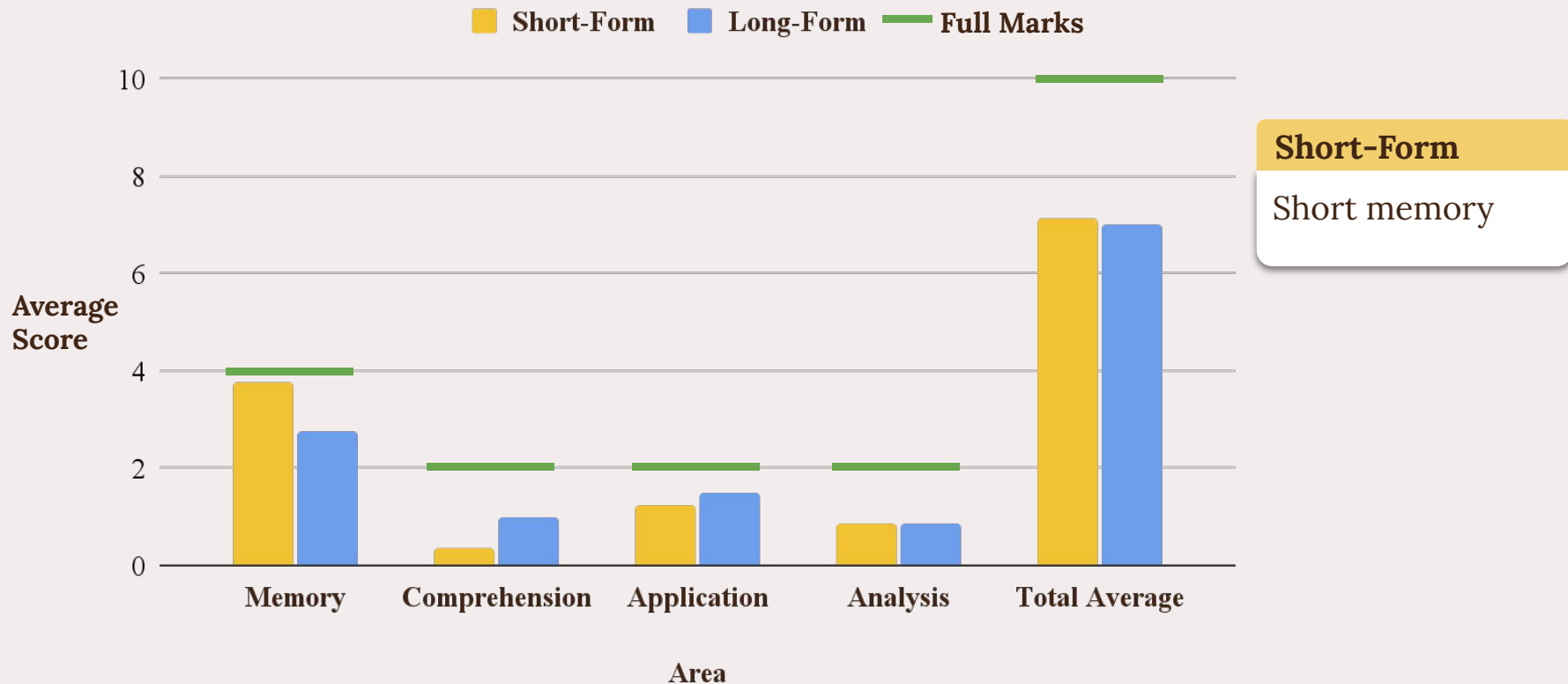
-> Can't reject H_0

There is no significant difference between the scores of the two groups

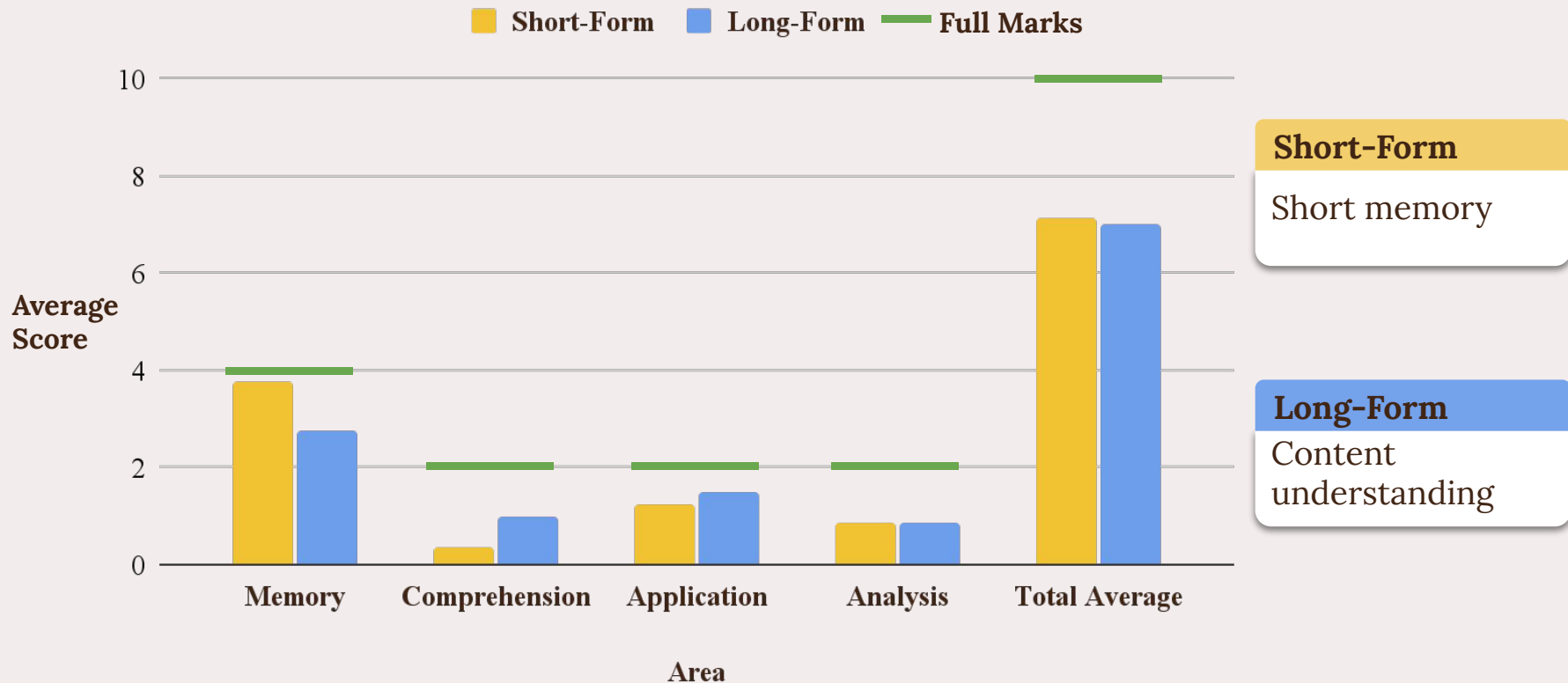
Quantitative Analysis



Quantitative Analysis

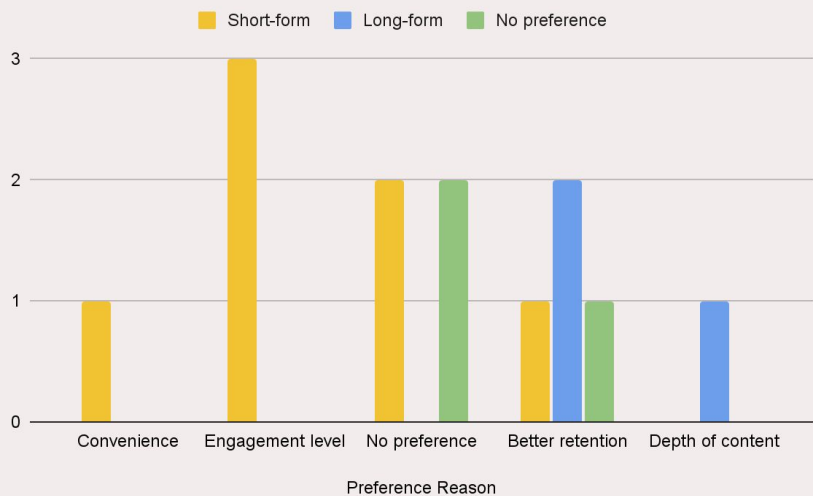


Quantitative Analysis



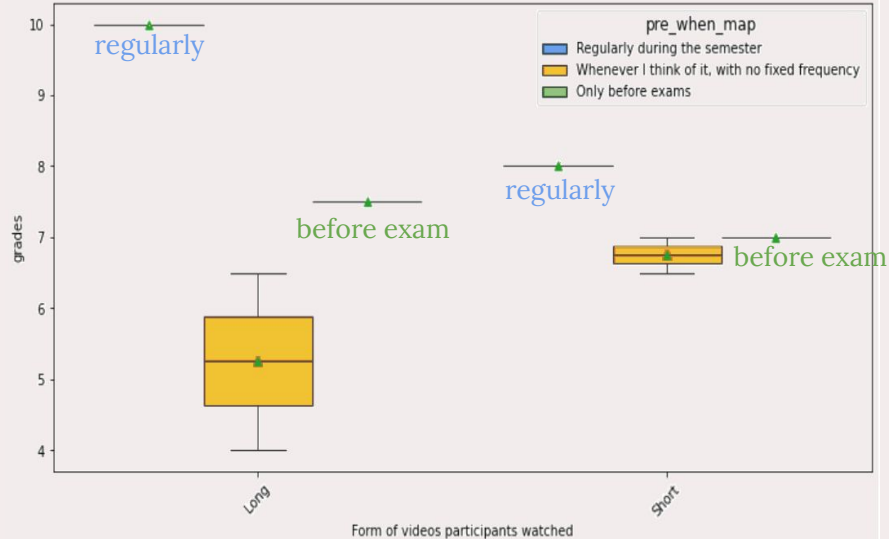
Qualitative Analysis

Video preference with reasons



Pre-Video Survey

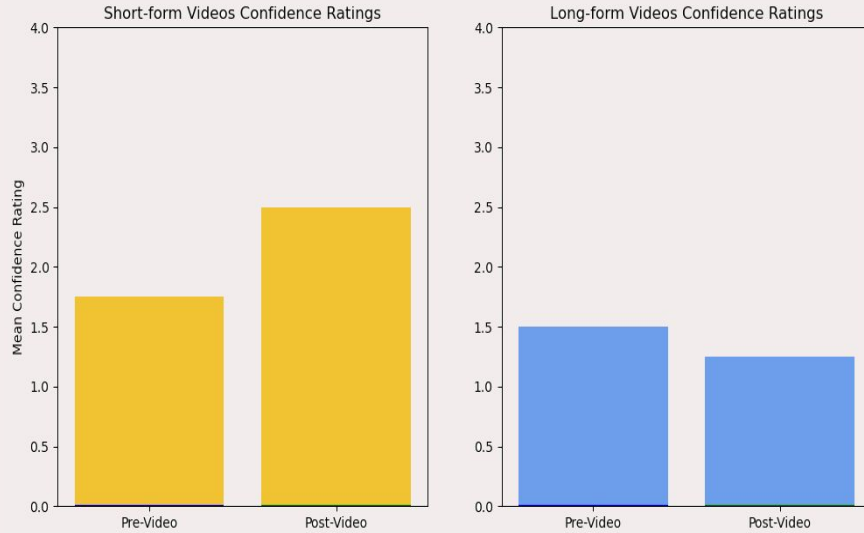
How often participants watch educational videos



$|\text{corr}| > 0.4$

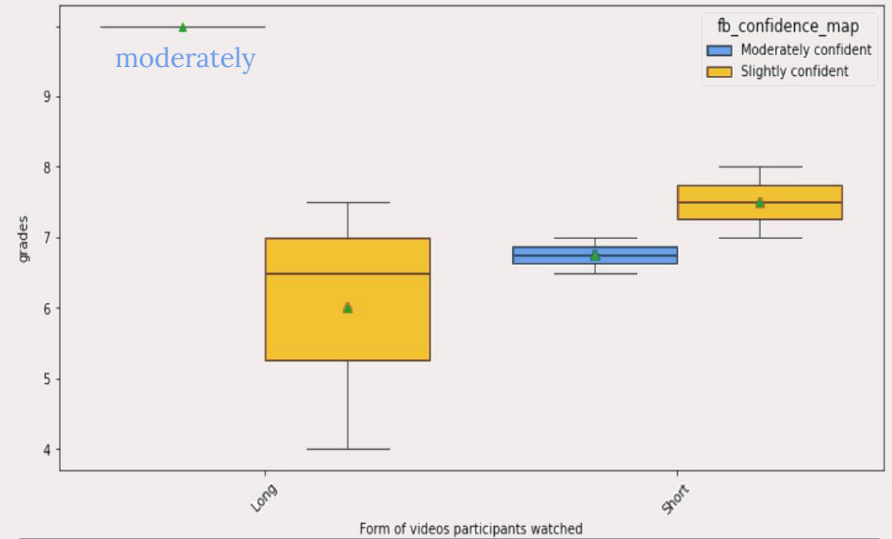
Qualitative Analysis

Confidence Rating



Comparison between two surveys

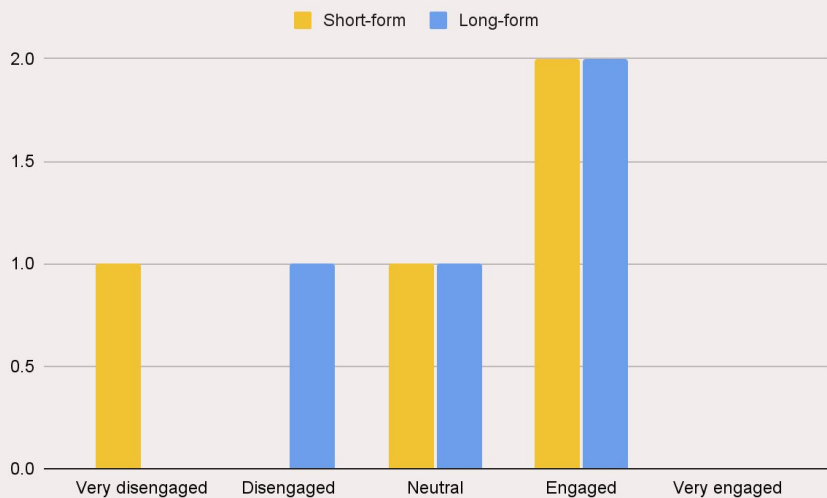
The confidence level after watching the video



$|\text{corr}| > 0.3$

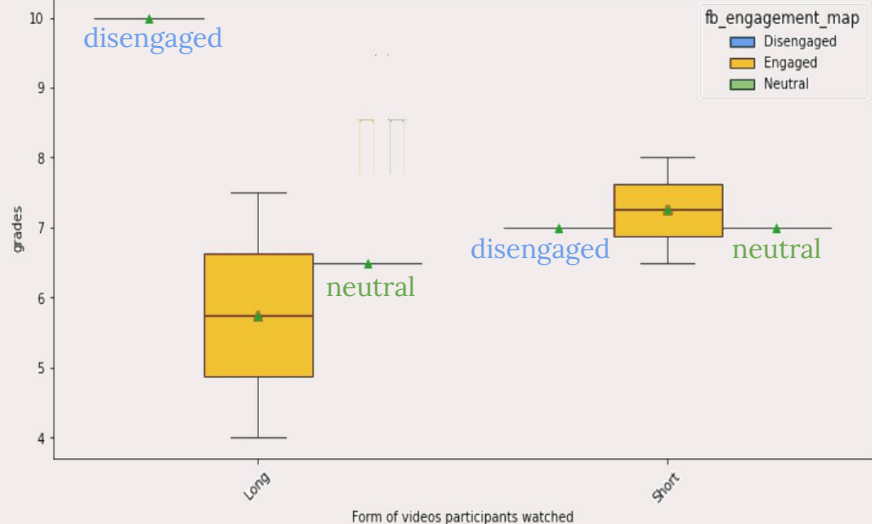
Qualitative Analysis

Engagement level by video length



Feedback Survey

The engagement level during the video



Form of videos participants watched

$|\text{corr}| > 0.4$

Limitation

Future work

Limitation

- The long duration of the experimental material
 - patience & engagement
 - can't simulate real situation
 - the real short videos have more refined content
- Sample size too small
 - outlier(s)

Future work

- Educational videos in more areas
- Increase sample size

Based on the feedback suggestions

- Apply some interactive parts
- Add more pictures
- Add subtitles in videos

Conclusion

Conclusion

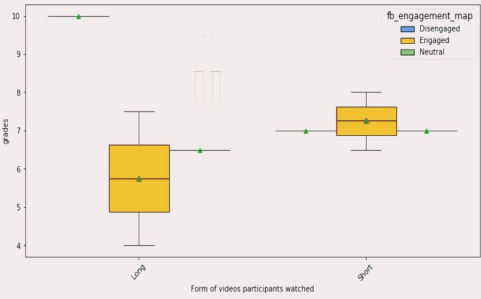
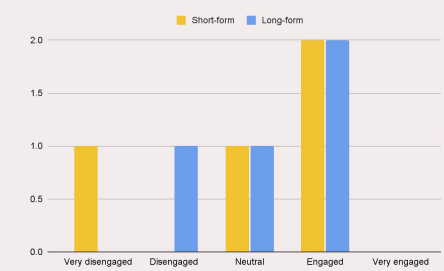
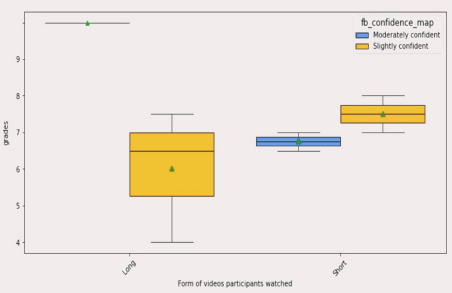
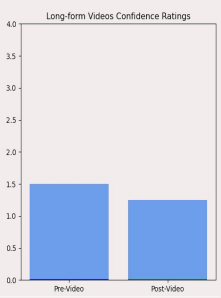
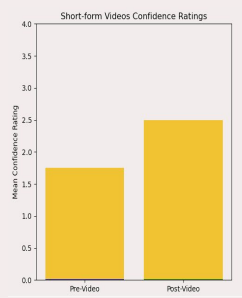
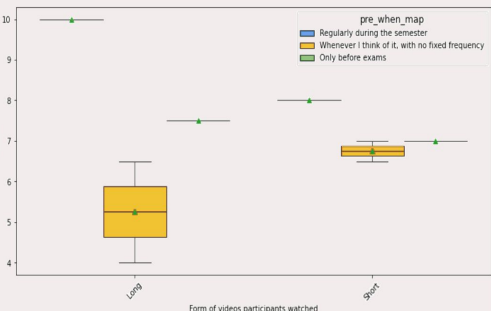
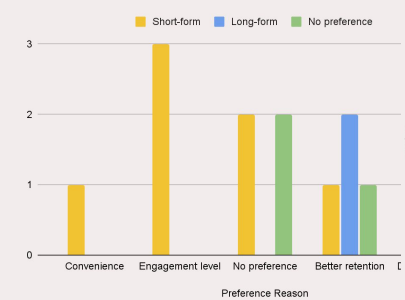
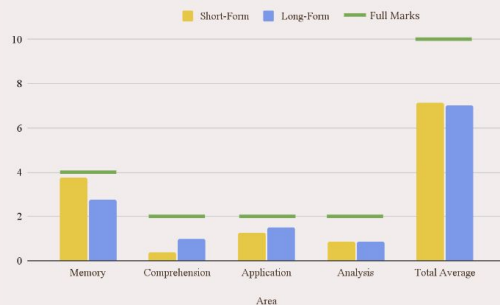
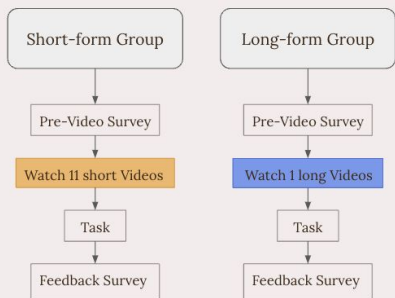
- H1 - The short-form educational videos have higher grades
 - P-value > 0.05, does not support this hypothesis
 - Average grade 7 [long] < 7.125 [shorts]
very slightly difference
- H2 - Short-form videos are preferred
 - Survey results show only 25% participants prefer long-form videos

Conclusion

- H1 - The short-form educational videos have higher grades
 - P-value > 0.05, does not support this hypothesis
 - Average grade 7 [long] < 7.125 [shorts]
very slightly difference
- H2 - Short-form videos are preferred
 - Survey results show only 25% participants prefer long-form videos

- Short-form videos
 - Enhanced memory retention
 - Higher confidence levels
- Long-form videos
 - Improved comprehension
 - Improved application

Summary



References

[1] Slemmons, Krista & Anyanwu, Kele & Hames, Josh & Grabski, Dave & Mlsna, Jeffery & Simkins, Eric & Cook, Perry. (2018). The Impact of Video Length on Learning in a Middle-Level Flipped Science Setting: Implications for Diversity Inclusion. Journal of Science Education and Technology. 27. 1-11. 10.1007/s10956-018-9736-2.

[2] I get Thais. Thai word for 'good' - 'DEE' (ดี) - in daily conversation.
<https://www.youtube.com/watch?v=xyfUjGYMmrQ&t=75s>

[3] Borchers, J., & Sahabi, S. (2024). *Current Topics in HCI* [Lec06 Quantitative and Qualitative Analyses Part 2]. Media Computing Group, RWTH Aachen University. Retrieved from <https://hci.rwth-aachen.de/cthci-ss24>