Talking head videos do not enhance learning, but might promote engagement depending on individual preference.

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Background

COVID-19 greatly increased the online delivery of higher education.

A practical question is whether instructors should include faces in video lectures.[1-3]

We investigated the effect of instructor presence and playback speed on learning and engagement.

We also examined whether individual's preference toward instructor presence affected engagement and learning.

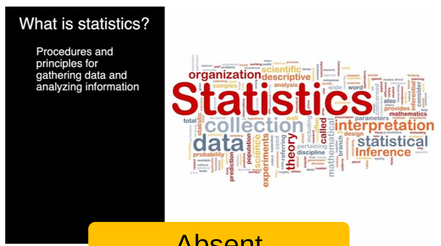
Method

Participants (N = 423) – undergraduate students at Iowa State University

Participants watched two 8-min STEM lecture videos (i.e., statistics, computer science, ecology, physics).

IV: instructor presence (present vs. absent)
→ within-subjects
playback speed (1.0x vs. 1.5x vs. 2.0x)
→ between-subjects
DV: engagement, test performance

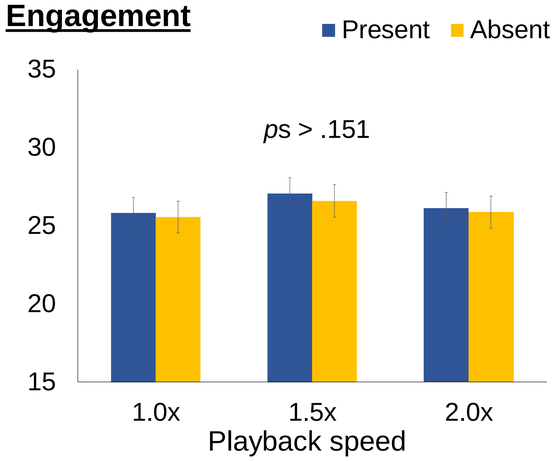
Present



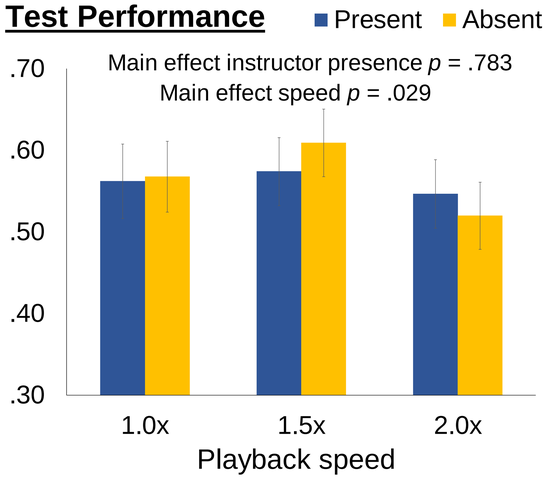
Absent

Results

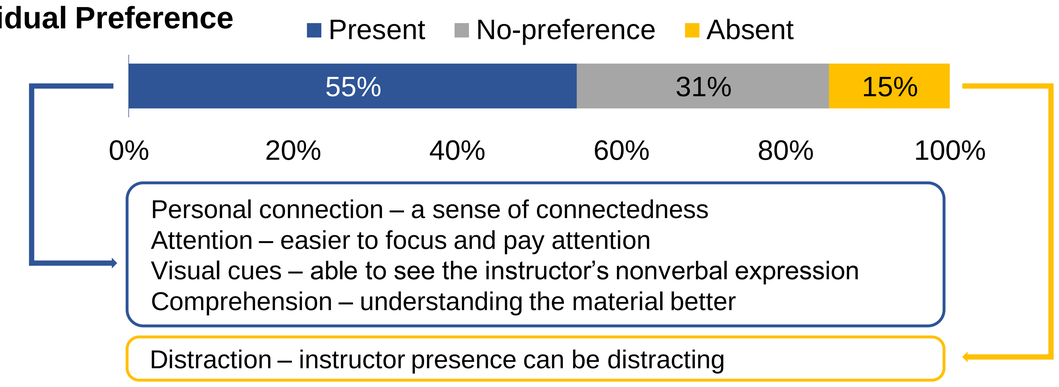
Engagement



Test Performance

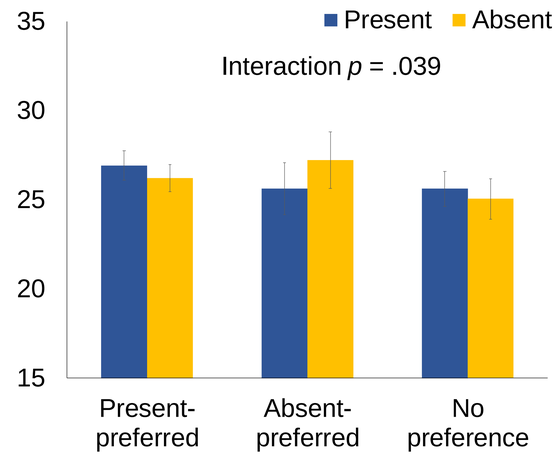


Individual Preference

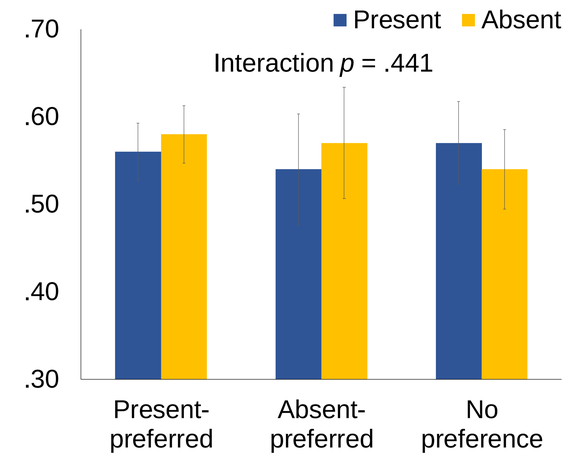


Individual Preference Drives Engagement

Engagement



Test Performance



Procedure

When watching online video lectures, do you prefer to have the speaker **appear** in the video or do you prefer **not to see** the speaker?

Eight items, 5-point Likert Scale[2]
✓ I stayed focused
✓ I think that the topic covered in this lecture is boring*

Preference Survey → Lecture 1 (Engagement, Test) → Lecture 2 (Engagement, Test)

Lecture 1: Present or Absent
10 multiple-choice questions
Lecture 2: Absent or Present

Conclusions

Instructor presence itself did not enhance overall engagement or learning.

But depending on individual preference, participants reported higher engagement when the video was aligned with their preference.

Watching lecture videos at 1.5x speed might be more efficient for learning.

References

1) Guo, P. J., Kim, J., & Rubin, R. (2014, March). How video production affects student engagement: An empirical study of MOOC videos. In Proceedings of the first ACM conference on Learning@ scale conference (pp. 41-50).
2) Kizilcec, R. F., Bailenson, J. N., & Gomez, C. J. (2015). The instructor's face in video instruction: Evidence from two large-scale field studies. Journal of Educational Psychology, 107(3), 724–739
3) Wilson, K. E., Martinez, M., Mills, C., D'Mello, S., Smilek, D., & Risko, E. F. (2018). Instructor presence effect: Liking does not always lead to learning. Computers and Education, 122(March), 205–220.
4) Wang, M. T., Fredricks, J. A., Ye, F., Hofkens, T. L., & Linn, J. S. (2016). The math and science engagement scales: Scale development, validation, and psychometric properties. Learning and Instruction, 43, 16-26.

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