

Eastern Kentucky University

## Encompass

---

Pedagogicon Poster Gallery

---

2021

### Design of Online Lecture Videos by Non-Native English Speaking (NNES) Instructors to Promote Critical Learning

Hung-Tao Chen

*Eastern Kentucky University*, [hung-tao.chen@eku.edu](mailto:hung-tao.chen@eku.edu)

Megan Thomas

*Eastern Kentucky University*, [megan\\_thomas136@mymail.eku.edu](mailto:megan_thomas136@mymail.eku.edu)

Thomas W. Morris

*Eastern Kentucky University*, [thomas\\_morris47@mymail.eku.edu](mailto:thomas_morris47@mymail.eku.edu)

Jatana Boggs

*Eastern Kentucky University*, [jatana\\_boggs15@mymail.eku.edu](mailto:jatana_boggs15@mymail.eku.edu)

Katelyn McClure

*Eastern Kentucky University*

Follow this and additional works at: [https://encompass.eku.edu/pedagogicon\\_postergallery](https://encompass.eku.edu/pedagogicon_postergallery)

---

#### Recommended Citation

Chen, Hung-Tao; Thomas, Megan; Morris, Thomas W.; Boggs, Jatana; and McClure, Katelyn, "Design of Online Lecture Videos by Non-Native English Speaking (NNES) Instructors to Promote Critical Learning" (2021). *Pedagogicon Poster Gallery*. 5.

[https://encompass.eku.edu/pedagogicon\\_postergallery/5](https://encompass.eku.edu/pedagogicon_postergallery/5)

This Book is brought to you for free and open access by Encompass. It has been accepted for inclusion in Pedagogicon Poster Gallery by an authorized administrator of Encompass. For more information, please contact [Linda.Sizemore@eku.edu](mailto:Linda.Sizemore@eku.edu).

## INTRODUCTION

- NNES instructors receive lower course evaluations and are often criticized for their accents (Rubin, 1992; Subtirelu, 2015).
- Questions:
  - Could the criticisms of NNES be explained by Cognitive Load Theory (Mayer et al., 2003; Sweller, 2019)?
  - Could the problem be addressed by reducing cognitive load in an online lecture video setting?

## METHOD

### Design & Materials (n=56)

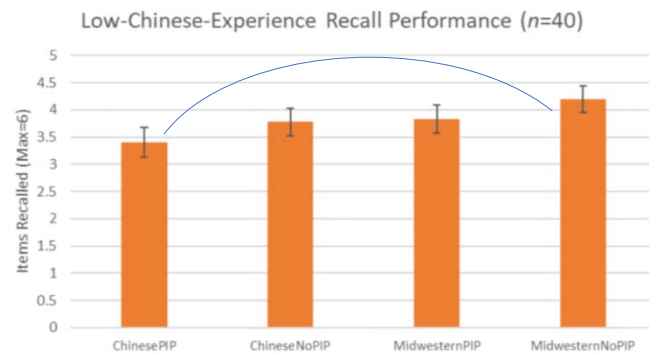
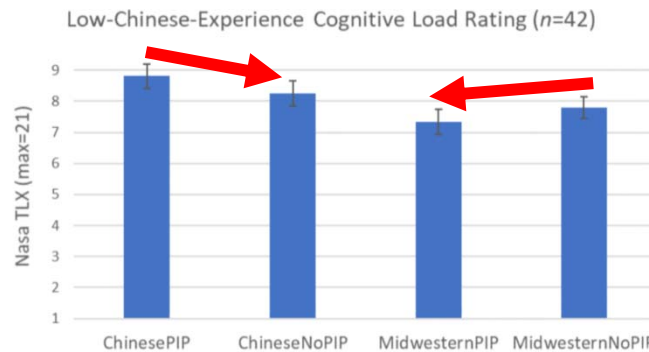
A 2X2 within-group design: Accent (Foreign Chinese Accent vs. Midwest American Accent); Face (Showing Picture-in-picture face or Not showing face). Data were analyzed separately for high vs. low Chinese-language experience participants (HCL vs LCL).

### Procedure

- 1.) Participants watch four segments of lecture videos on airplane engineering (counter-balanced)
- 2.) Participants completed three free-recall and three cued-recall questions after each video
- 3.) Participants completed a NASA-TLX questionnaire to gauge cognitive load after each video
- 4.) Participants completed Chinese language bias survey and demographics information at the end.

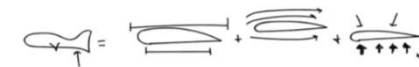
## RESULTS

1. HCL learners had higher cognitive load with a Chinese accent, but this did not affect recall performance. No effect of instructor presence was found.
2. An interaction effect was observed with LCL learners' cognitive load.
3. Instructor presence had a significant effect on LCL learners' recall performance.



## DISCUSSION

1. Facial cues trigger increased effort in comprehension with unfamiliar-accented speech but not familiar-accented speech (Grey et al., 2020).
2. The increased effort could have caused increased cognitive load and worse recall performance.
3. The increased effort and worse learning outcome could have contributed to the negative attitude toward NNES instructors.
4. **Recommendation 1:** NNES instructors might want to refrain from using PIP video lecturing style.
5. **Recommendation 2:** PIP video lecturing design is inconsequential to NES instructors.
6. **Recommendation 3:** Being sensitive to the cognitive demand placed on students is key to the design of online course materials. Sometimes more effort causes better learning (Morris & Chen, 2020)



## REFERENCES

- Grey, S., Cosgrove, A. L., & van Hell, J. G. (2020). Faces with foreign accents: An event-related potential study of accented sentence comprehension. *Neuropsychologia*, 147, 107575.
- Mayer, R. E., Sobko, K., & Mautone, P. D. (2003). Social Cues in Multimedia Learning: Role of Speaker's Voice. *Journal of Educational Psychology*, 95(2), 419-425.
- Morris, T. W., & Chen, H-T. (2020). The influence of voice on pedagogical agent's persona and recall performance. Proceedings of the 2020 International Annual Meeting of the Human Factors and Ergonomics Society, Chicago, IL: The Human Factors and Ergonomics Society.