Introduction & Questions

- Words from a second language (L2) can be primed by their first language (L1) translations. This cross-language translation priming is observed as an attenuated N400.
  - The N400 translation priming effect is seen in new L2 learners (Alvarez et al., 2003)
  - N400 translation priming is also seen across-scripts when L1 and L2 do not share an alphabet (Hoshino et al., 2010)
  - Do cross-modal translation effects occur in new learners of a sign language?
- New learners of sign language translate iconic signs faster and more accurately than non-iconic signs, but proficient signers do not show this effect of iconicity (Baus et al., 2013)
  - Iconic signs "look like" their meaning
  - Does a sign’s iconicity affect cross-modal translation priming in new learners of a sign language? In proficient signers?

Methods

Participants
- 20 Deaf, native-signers
- 24 Hearing, new learners of American Sign Language

Stimuli
- Primes: 80 printed English words
- 40 translations of ASL targets
- 40 unrelated words

Targets: Video clips of a deaf native-signer producing 80 ASL signs (mean clip duration: 1875 ms)
- 40 iconic signs
- 40 non-iconic signs

Procedure
- Task: Decide if the ASL sign is an acceptable translation of the preceding English word (forced-choice)
- Translation Condition
- Unrelated Condition

Behavioral Results (RTs)

Conclusions & Future Directions

- Cross-modal translation priming effects are seen during the earliest stages of learning a sign language. For new learners:
  - ERP: Priming effects occur earlier and the N400 is more widespread for iconic signs than non-iconic signs
  - RTs: No main effect of translation priming, but priming interacted with iconicity
    - Translation priming effects were only observed for iconic signs
    - Overall, RTs to iconic signs were significantly shorter than for non-iconic signs
- Proficient signers also show cross-modal translation priming effects.
  - ERPs: Translation priming effects occurred earlier in the ERP compared to new learners
    - Iconicity had no impact on the ERP priming effect
  - RTs: Shorter reaction times to translations than unrelated targets, and RTs were unaffected by iconicity
  - How does the effect of iconicity change as proficiency is acquired?
    - Does reliance on iconicity strengthen lexico-semantic connections and facilitate learning?
    - Does attention to iconicity prevent native-like processing and obstruct learning?

References


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