

Dear Dr. Ganea,

Thank you for another round of thoughtful comments on our manuscript, “Real-time lexical comprehension in young children learning American Sign Language.” In our resubmission, we have addressed the comments of the reviewers, as described in the point-by-point response below.

The remaining point of concern was that our usage of the term “lexical access” would confuse readers since our incremental gaze shift measure was not a pure index of competition between candidate lexical items. We appreciate this point, and we have updated the language throughout the text to use the term “incremental sign comprehension” which we think better reflects the behavior that we measured in our task.

Please let us know if you have any questions or concerns. We look forward to your consideration of this revision.

Sincerely,

(author name removed for blinded review)

## Reviewer 1

*The issue of lesser importance here is the variability in the language used-- for example, after talking about lexical processing in the title and abstract, the first and second sentences go on to discuss referential processing. Switches of this sort can be found elsewhere in the text as well.*

Thank you for pointing out that we could be more consistent with our language. We have updated the text throughout, removing references to “lexical access” in favor of the phrase “incremental ASL comprehension.” We think this makes it clearer what we are measuring in our task.

*But the bigger issue stems from added information in the new version that makes it quite clear that the measures are not tapping into lexical access in any standard way... So I think the authors will want to reconsider the extent to which the story is really about lexical access, and whether this is important to them. To my mind, the level of processing doesn't really matter for a lot of the authors' points, so my best suggestion would be to simply change the language throughout to talk about the "incremental interpretation" of signs, with little/no commitment as to the level of lexical access, etc.*

Thank you for making this point. We have changed the language throughout to use the term “incremental ASL comprehension.”

*Abstract: "channel competition". Is channel the right word here? (for me it evokes the notion of a sensory channel/modality but I think the point here is competition for attention within a single modality, namely vision).*

Thank you. We replaced the word “channel” with the phrase you suggested, “competition for attention within a single modality.”

*p.3 "...and prior to the offset of the spoken word". --> OFTEN prior? It's almost never the case that all target fixations occur before word offset.*

Fixed. Thank you.

*p.4. The sad thing with claims about being the first to do something is how quickly they can go out of date. Given the 2017 study by Lieberman et al. (in LC&N), I think it is no longer accurate for the authors to state "we address this question by developing the first measures of accuracy in real-time sign language comprehension..."*

Fixed. Thank you.

*p.9 Re: hearing children. "...we selected only native monolingual learners" Should this be "ASL-dominant" rather than "monolingual"? (Otherwise, what accounts for the 20% of time not spent using ASL on a daily basis?)*

Fixed. Thank you.

*p. 16. I can't figure out if I just haven't had enough coffee yet or if there is a problem with the proportion target sign measure. Shouldn't it be  $(RT-200) / (\text{Sign length})$  rather than  $(RT) / (\text{Sign Length} + 200)$ ?*

Thank you for raising this point. You are correct, the computation should be  $[RT - 200 \text{ ms}]$ . Using this new computation did not change the results or their interpretation. We have updated the analysis, the key figure, and the language we use in the text to reflect this change.

*Figure 2, panels B and D. Given the clarifications regarding how the measurement interval was defined, is "Proportion of target sign processed prior to gaze shift" a bit misleading? One possibility would be to convert these back into millisecond measures and restate them as "Target fixations relative to sign offset", using an x-axis with negative values leading up to zero at the offset point.*

We appreciate this point. However, we think that the way we operationalized proportion sign processed is not sufficiently misleading to lose the benefit of a measurement scale that communicates that our analysis normalizes across the different sign lengths. We did update the axis to read "Proportion of target sign length processed prior to gaze shift." This change makes it clearer that we are referring to our own operationalization of sign length as defined in the gating task. We also added text to the figure caption to link the axis label to the Methods section where we define this term.

*pp. 24-25 A large stretch of text is duplicated across these pages.*

Fixed. Thank you.