

## Immediate feedback is critical for learning from your own productions

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While producing language is helpful for language learning (Hopman & MacDonald, in press), the role of feedback in learning from your own productions is unclear. Research on non-language materials suggests that feedback is particularly useful when provided immediately after participants produce their responses (Kang, McDermott & Roediger, 2007). To test the role of feedback in how people learn from their language productions, we ran an experiment in which participants ( $n = 88$ ) learned names for novel ‘alien’ creatures. Participants received passive exposure to the aliens and their names in three rounds of cross-situational word learning trials. They also completed one production learning trial for each alien, in which they had to type the name. Each production trial was followed by a feedback trial in which an alien and its name were presented together. For the 44 participants in the *immediate feedback condition*, this was the alien from the production trial immediately preceding it (Fig. 1). For the 44 participants in the *asynchronous feedback condition*, the feedback trials were randomly scrambled, meaning that the disambiguating feedback trial provided the name of a different alien than the one participants had just attempted to produce. After learning, participants were tested in a three-alternative forced choice task for each name. In a generalized linear mixed effects model predicting test accuracy, we found a significant interaction between the Levenshtein distance of the production attempt – a measure of how close the word produced was to the correct word - and feedback condition (Fig. 2). In the asynchronous feedback condition, the accuracy of the production attempt is predictive of performance at test, whereas in the immediate feedback condition, test accuracy is uniformly high, even for words participants struggled to produce. Our results suggest that receiving immediate feedback when attempting to produce novel language supports successful learning.

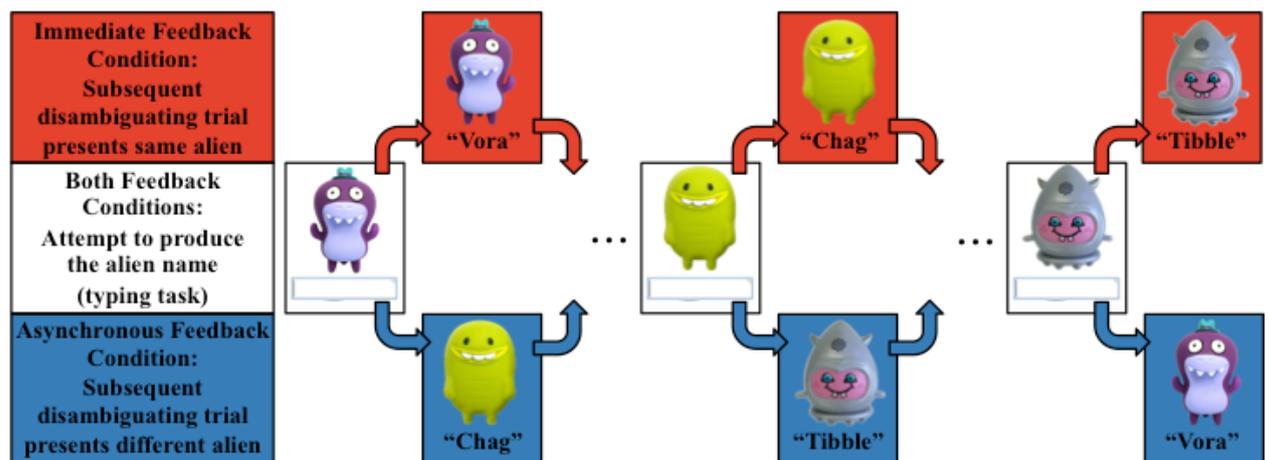


Fig. 1. Experimental design.

### References

- Hopman, E.W.M. & MacDonald, M.C., (in press). Producing during language learning improves comprehension. *Psychological Science*.
- Kang, S.H.K., McDermott, K.B., & Roediger III, H.L. (2007). Test format and corrective feedback modify the effect of testing on long-term retention. *European Journal of Cognitive Psychology*, 19 (4/5), 528-558.

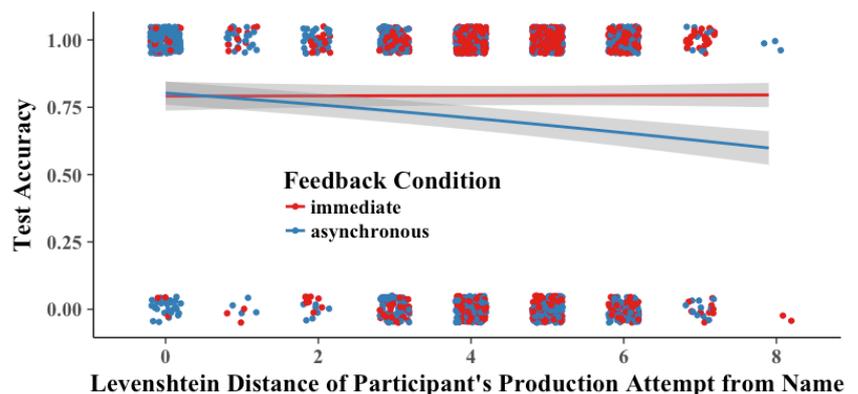


Fig. 2. Model predictions for accuracy on test item as a function of feedback condition and Levenshtein distance of production attempt on that item during training. Error margin represents standard error.

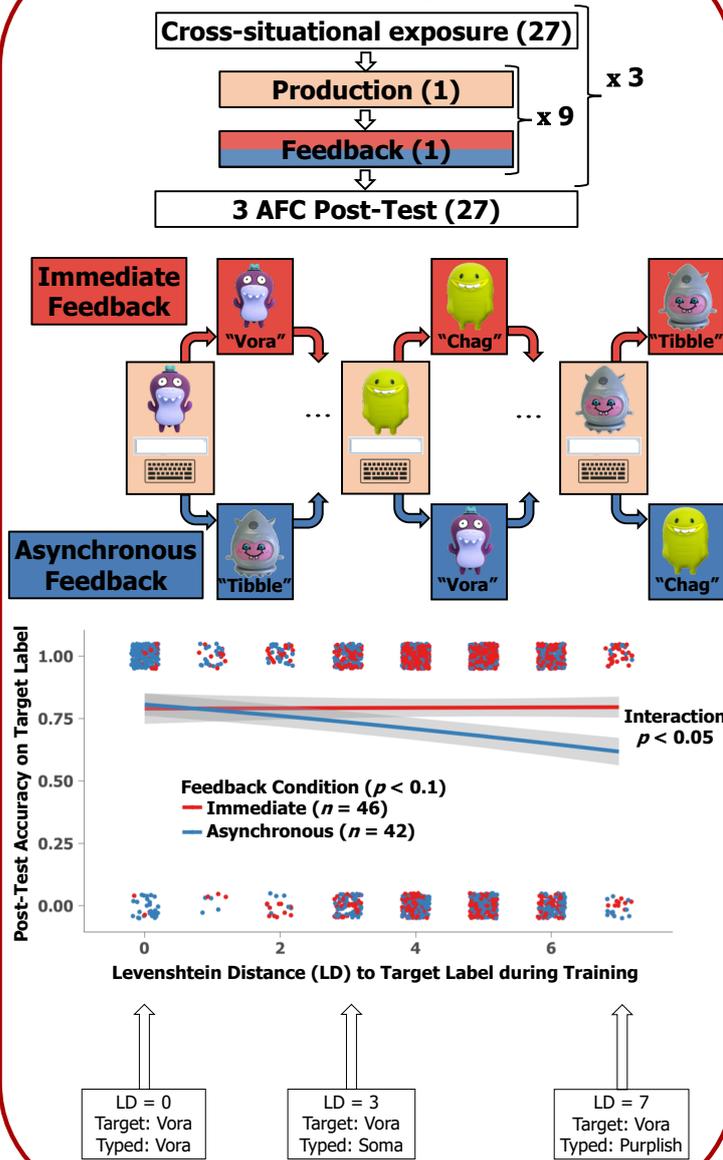
# Immediate feedback is critical for learning from your own productions

## What is the role of immediate feedback during language learning?

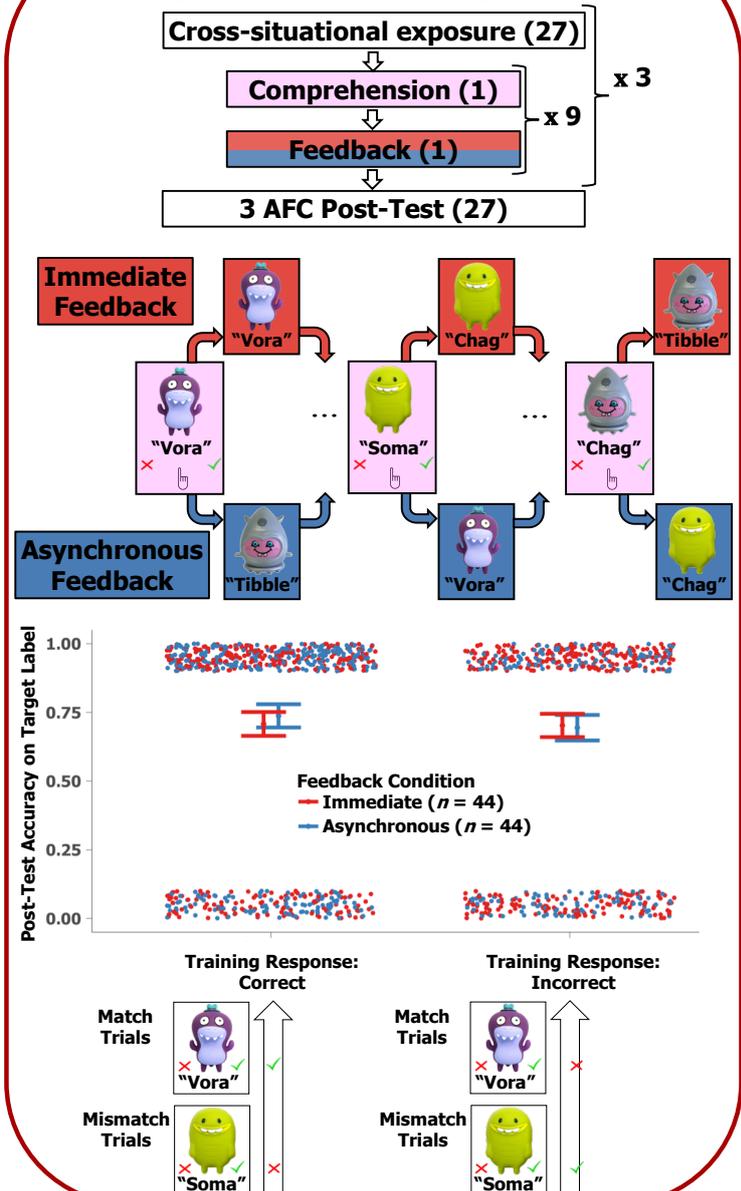
Production practice, compared to comprehension practice, has been shown to improve language learning<sup>1</sup>. Research on non-language materials suggests that immediate feedback could be critical for learning from your own production attempts<sup>2</sup>. In order to test the importance of immediate feedback in language learning, we taught participants novel words by means of either production or comprehension exercises, and provided them with either immediate or asynchronous feedback after each exercise.

**Hypothesis: Immediate feedback is important for successfully learning from your own productions**

### Production Experiment



### Comprehension Experiment



## Implications for language learning

- Immediate feedback protects learners from the errors they make during production attempts.
- Immediate feedback is not critical for learning from comprehension exercises.

### Experiment Demo



[tiny.cc/demoPIF](http://tiny.cc/demoPIF)

### References

<sup>1</sup>Hopman, E.W.M. & MacDonald, M.C. (2018). Production practice during language learning improves comprehension. *Psychological Science*.  
<sup>2</sup>Kang, S.H.K., McDermott, K.B., & Roediger III, H.L. (2007). Test format and corrective feedback modify the effect of testing on long-term retention. *European Journal of Cognitive Psychology*, 19 (4/5), 528-558.

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### Poster & Abstract



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