1. Background
- Memory research suggests that language production (i.e., retrieval) provides a stronger learning experience than language comprehension (i.e., recognition) (Karpicke & Roediger, 2008)
- Hopman and MacDonald (2018) showed that artificial language learners with production training were faster and more accurate on post-training comprehension tests targeting semantic and number agreement features than learners with comprehension training
- In natural L2 learning, the generalization of production skills to the domain of comprehension remains contested (DeKeyser, 2007; VanPatten, 2013)

The current study investigated whether benefits of production training over comprehension training would extend to comprehension as well as production of grammatical gender in a natural language, German.

2. Method
Participants: First semester L2 learners of German in week 4: Comprehension (N=26) and Production (N=22)
Materials: Words, phrases and sentences paired with pictures (as well as audio recordings during training)
- Ten blocks with 3-15 words, phrases, or sentences per block: masculine, feminine, and neuter definite and indefinite determiners, 4 cognate and 4 non-cognitive adjectives, and 15 non-cognate nouns (see 1)

Procedure: All participants completed training immediately followed by 4 testing measures

3. Results

4. Discussion
- The results largely replicate findings from Hopman & MacDonald (2018)
- With equal amount of input and both groups processing language for meaning, language production seems to benefit information retention more than language comprehension
- This suggests that, even in natural language learning, skills based on production training can be transferred to the domain of comprehension despite the greater complexity of agreement paradigms in natural compared to artificial languages
- Important implications for teaching of grammatical features in L2 classroom: complex grammatical markers should be taught early on using production exercises

5. Future directions
- The training is time-intensive; can it be adapted for implementation in a classroom?
- What are the long-term effects for comprehension and production of grammatical gender markers for L2 German learners? Can the advantages of production training be maintained over a longer period of time?