

The Role of Multi-scripturalism on Novel Orthography Learning

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Introduction

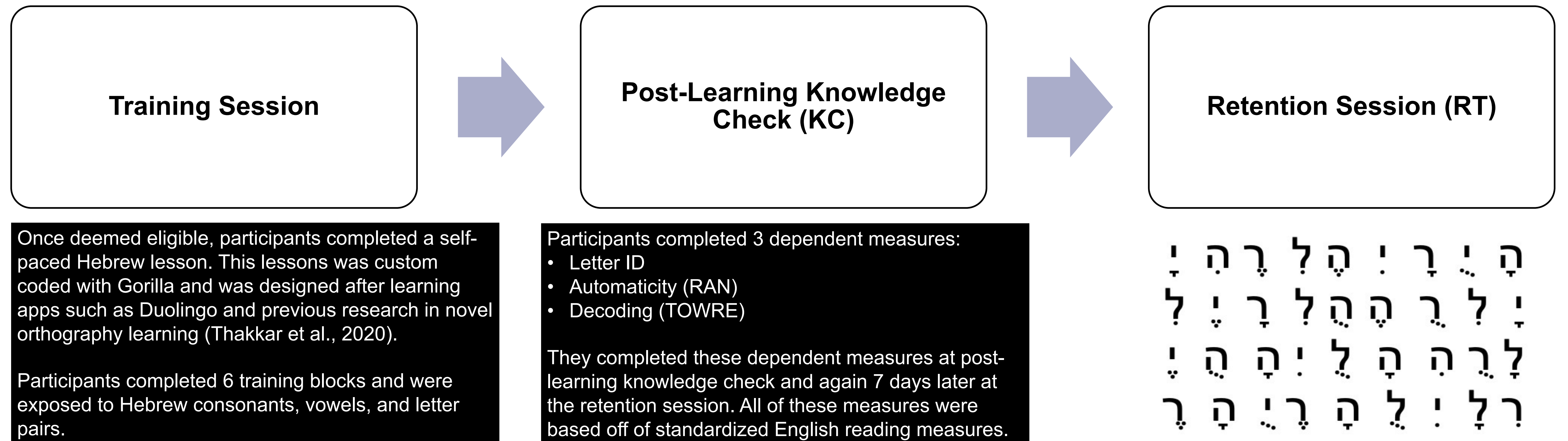
- Lingual diversity is predicted to increase in the coming years (Shin & Ortman, 2011).
- Acquiring new orthographies is beneficial to adults.
 - An **orthography** is the written symbolic system of a language.
- However, the optimal reading acquisition period closes in the late teens and it becomes more difficult for adults to acquire a novel orthography (Abadzi, 2012).
- Bilinguals have an advantage in novel language learning (Kaushanskaya & Marian, 2009).
- There are connections between reading and language networks (Horowitz-Kraus & Hutton, 2015).
- Does the bilingual language learning advantage carry over to orthography learning?
 - Mono-scripturalism** is fluency in reading one orthography
 - Multi-scripturalism** is fluency in reading more than one orthographies
- The goal of the present work was to investigate the effect of multi-scripturalism on reading acquisition.

Participants

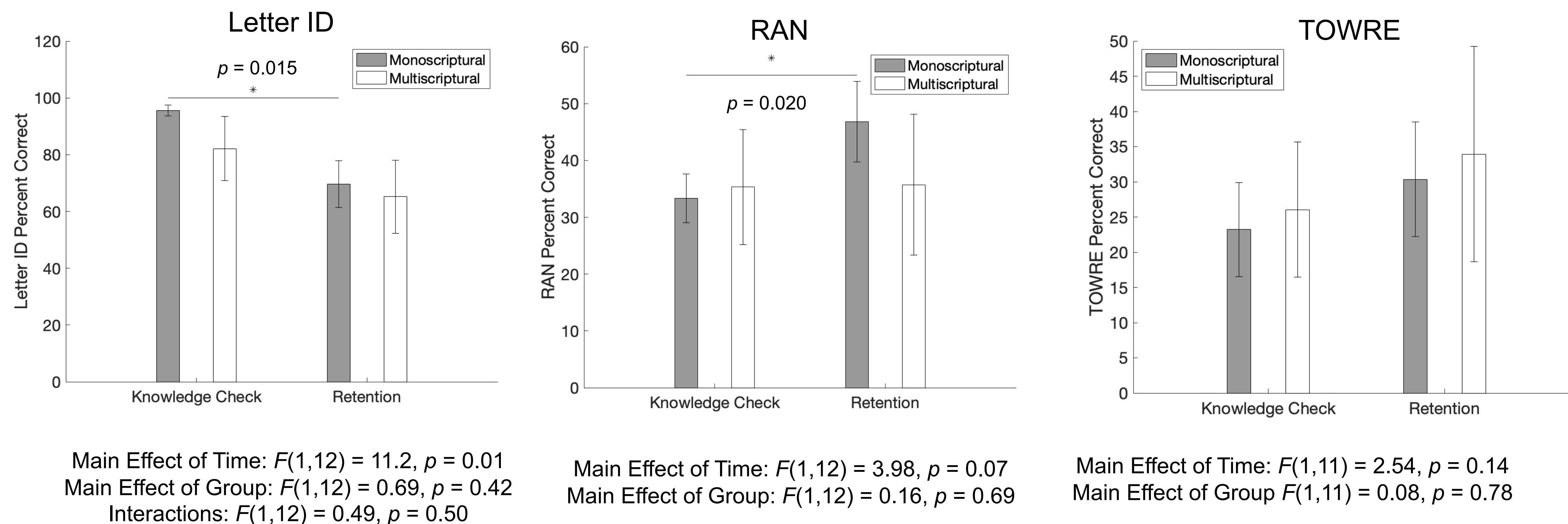
Assessment	Mono-scriptural	Multi-scriptural	T-Statistic
Sample (# Females)	7 (6)	7 (5)	
Age	20.56 ± 0.42	20.13 ± 0.54	0.63
Kaufman Brief Intelligence Test II: Matrices	102.50 ± 4.96	114.17 ± 5.07	-1.52
Sight Word Efficiency	105.33 ± 4.33	107.17 ± 4.33	-0.27
Phonemic Word Efficiency	112.83 ± 2.91	111.67 ± 2.88	0.26
Word Identification	103.33 ± 2.97	107.83 ± 3.74	-0.87
Word Attack	108.33 ± 4.00	110.40 ± 4.18	-0.32
*Oral Fluency English	224.20 ± 2.93	247.80 ± 7.97	-2.57

* = $p < 0.05$
Standardized scores reported as $M \pm SD$. Control group is mono-scriptural.

Methods



Results



Conclusions

- There was no difference between mono and multi-scriptural participants within time points.
- Mono-scriptural participants decreased Hebrew Performance from KC to RT on Letter ID and increased Hebrew Performance from KC to RT on Automaticity task.
- Results may be explained by Grain Size Hypothesis (Lallier and Carreira, 2018).
- The current results cannot be attributed to age, IQ, or reading because there were no significant differences between mono and multi-scriptural groups, however oral fluency in English could account for differences between groups.

Future Directions

- Continue data collection and recruit at least 40 participants to increase sample size.
- Remove participants who did not follow specific instructions.
- Recruit multi-scriptural participants with a varying range of orthographies to examine the effects of grain size on orthography learning.
- Assess the influence of multi-scripturalism, orthography depth, and fluency on acquiring a new alphabets.