False Semantic and Phonological Recall within the DRM Paradigm: Cognitive Development or Language Processing Ability?

Cecilia F. Montano & Jacquelyn N. Giem
Behavioral Sciences Department, Andrews University
Karl G.D. Bailey, Faculty Sponsor

PREVIOUS RESEARCH

Previous research has shown that participants can falsely recall events that never happened.

DRM PARADIGM (ROEDIGER & MCDERMOTT, 1995).

Research by Deese, Roediger & McDermott (DRM) has shown that when participants are given a list of associated words they tend to later falsely recall hearing or seeing another highly semantically related word that was not present in the original list.

Research has also shown age related cognitive ability effects in false recall, in which older children exhibit semantic associations (words that have similar meaning) while younger children exhibit phonological associations (words that rhyme or have a similar beginning or ending sound) (Dewhurst & Robinson, 2004). These studies hypothesized that these differences are related to developmental differences.

Research show that the DRM Paradigm is also present in other languages such as Spanish (Alonso, Fernández, Díez, and Beato, 2005).

OBJECTIVES

Replicate the study by Dewhurst & Robinson (2004) while controlling for developmental differences by using second-language learners.

• Using native, intermediate, and beginning Spanish speakers to represent older, middle, and younger children.

This would allow us to determine whether these differences are due to developmental differences or language processing ability.

EXPERIMENT

HYPOTHESIS

Advanced speakers will exhibit greater semantic false recall, beginning speakers will exhibit greater phonological false recall, and intermediate speakers will exhibit both.

METHODS

17 beginning, 10 intermediate, and 11 native Spanish speakers were presented with 15 lists of 15 words each.

Target Lists:

Five lists of associated words; taken from Deese & Roediger’s original study (1994) and presented in Spanish

Filler Lists:

Ten lists of random Spanish words used to disguise the purpose of the study; developed using a random word generator on the internet.

Word list order was randomly generated by the program SuperLab Pro.

RESULTS

Words were presented orally at a rate of 1 word per 2 seconds, after which participants were asked to either write down or type into a computer as many words as they could recall.

CONCLUSIONS

These results indicate that language expertise affects correct recall and semantic associations, as well as phonological associations to some extent.

This suggests that differences in false memory, both by participants in this study as well as children, could be due to language expertise, rather than cognitive development.

These results contradict Dewhurst & Robinson’s conclusion, as similar results to those found in children are also found in fully developed adult subjects, suggesting a link to language processing ability rather than developmental differences.

LIMITATIONS AND FUTURE RESEARCH

A larger replication of this study is needed before a definitive judgment can be made.

Future research should continue to address this area to more fully understand false recall.

REFERENCES


