Response and Non-response to Intervention for Reading Difficulties: What Role do Cognitive Correlates Play?

Malikka Begum Binte Habib Mohamed[1*], Dr. Beth O'Brien[2]

[1,2]National Institute of Education/ Nanyang Technological University

Abstract

Grade 1 responders and non-responders to an iPad-based reading intervention were evaluated on their cognitive attributes. Cognitive measures included phonological awareness, rapid automatized naming, verbal memory and statistical learning, which were correlated with a lack of response to reading interventions in previous studies (Al Otaiba & Fuchs, 2006). The overall research question was whether and which of the cognitive variables could differentiate treatment responders versus non-responders, since this would provide valuable information in predicting which children may be better served by different types of intervention. The intervention study was conducted as a randomized controlled design, wherein 147 children (Mage = 6.75) who were identified as at risk for reading difficulties at primary school entry were allocated to either phonics or word reading based interventions. Responders included children who attained criterion-referenced word reading and fluency and decoding accuracy and fluency scores (e.g., above grade equivalent scores or above a mean of typically developing peers), whereas nonresponders did not attain age-based scores at post-intervention compared with their preintervention scores. Four separate MANCOVA analyses were conducted to determine if nonresponders differed from their peers on any of the cognitive measures. The two groups differed only on the fluency outcomes. On the reading fluency task, non-responders varied from the other groups on their phonological awareness and verbal memory scores. For decoding fluency outcomes, responders and non-responders differed only on rapid automatized naming. Altogether, these findings do suggest differences between the groups, suggesting implications of building on cognitive skills together with language skills for children with reading difficulties.

Keywords: intervention, reading, education, cognition, memory