The cognitive skills predicting reading acquisition and development

A summary for teachers

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Background: There is considerable interest in identifying the influence of different types of reading instruction on children's initial reading acquisition and development. Comparisons between methods that place a strong emphasis on phonics (e.g., synthetic phonics instruction) and more eclectic approaches (e.g., phonics embedded within other strategies, such as sight word learning) are common. However, there is very little research that has examined how different types of reading instruction change children's strategies to read new words and therefore the cognitive skills they rely upon as they learn to read.

Aim: To examine the influence of method of reading instruction on the cognitive skills supporting reading.

Participants: 79 children (40 eclectic approach, 39 synthetic phonics approach) aged 4 – 5. Children were tested before any reading instruction (T1) and 18 weeks later (T2). Children completed reading related assessments of: letter sound knowledge, rhyme awareness, phoneme awareness and word reading, and cognitive assessments of: vocabulary knowledge, visual discrimination skills and short term memory.

	Eclectic method (7hrs a week)	**Synthetic phonics (5 hrs 15 mins a week)**
Description of reading method	3hrs 30 mins: big book/storytime & whole word learning 2hrs 30 mins: writing activities 50 mins: analytic phonics 5-10 mins individual reading	3hrs 20 mins: synthetic phonics (sound and blend letter sequences, e.g., c-a-p; c-a-m-p) 1hr 30 mins big book/story time 25 mins group reading
Cognitive skills predicting word reading at T2	**Language:** As the majority of children's word learning took place during big book/story time activities, it was found that children with better language skills were better at reading at T2.	**Short term memory:** As the majority of children's word learning was with synthetic phonics instruction, children had to sound and blend sequences of letter-sounds to read new words, relying on their short term memory to sound and blend words of increasing length.

Results: After 18 weeks of instruction, children taught by synthetic phonics had significantly better letter sound knowledge, phoneme awareness and word reading. The eclectic method group (letter sound knowledge, rhyme & language skills) and synthetic phonics group (letter sound knowledge, phoneme & short term memory) were relying upon different reading related and cognitive skills to support their early word reading. These skills were consistent with their method of instruction.

Discussion and implications for education: The skills supporting children's early reading differ based on the type of instruction children receive. The present study was small in scale; however if future research corroborates this result, this suggests that children starting school with weak language skills (e.g., those from economically disadvantaged backgrounds) may benefit in particular from synthetic phonics instruction. In addition, children's abilities prior to starting school (i.e., reading related and cognitive abilities) predicted less variance in later reading in the synthetic phonics group, suggesting that this approach may be more effective for children starting school with weak reading-readiness skills.

Academic paper: McGeown, S. Johnston, R., & Medford, E. (2011). Reading instruction affects the cognitive skills supporting early reading development. *Learning and Individual Differences*, 22, 360-364.