

# TEACHERS NEED TO HELP DEVELOP EXECUTIVE FUNCTION SKILLS IN THEIR STUDENTS

## ARTICLE

Barnes, Z. T., Boedeker, P., Cartwright, K. B., & Zhang, B. (2022). Socioeconomic status and early reading achievement: How working memory and cognitive flexibility mediate the relation in low-achieving and typically developing K to first grade students. *Journal of Research in Reading*, 45(2), 204-223.

### WHAT DID THEY DO?

Researchers expanded on studies that show the correlation between executive function and reading abilities. In this study, researchers specifically looked at the indirect effect working memory and cognitive flexibility have on reading achievement, comparing assessment data from a specific subset of first grade students, focusing on those from low socioeconomic households, as well as low-achieving (775 students) and typically developing (1,924 students) readers. Data from students of low socioeconomic status, working memory and cognitive flexibility scores, and reading achievement scores were compared by analyzing spring kindergarten and first grade scores.

### WHAT DID THEY FIND?

Working memory and cognitive flexibility data produced statistically significant results showing a correlation between these two executive function skills and reading achievement, with working memory having a more significant correlation. It is important to note that cognitive flexibility is later in development, which could contribute to the lower correlation. The results of this research lead to further knowledge that socioeconomic status does not necessarily cause students to be low-achieving in reading, rather, executive function skills may be partially responsible.

### WHAT COULD IT MEAN FOR TEACHERS?

When working with low-achieving students of low socioeconomic status, it is important to consider the following -

- What executive function skills do my students have and which need support? (e.g., focus, task initiation, flexibility, time management, self-control)
- How can I build in more opportunities for my students to develop these skills?
- How will cognitive overload play a role in this work?

Literacy structures that support the development of executive function skills include -

- Student goal setting
- Explicit decoding and word meaning instruction
- Graphic organizer to support planning and organization of text reading
- Explicit instruction around language structures

