Long Lasting Connections: The Powerful Difference Between Teaching Vocabulary Lists and Vocabulary Networks

MORE (Model of Reading Engagement) is THE elementary science and social studies program that builds schemas and improves academic achievement – including literacy and math.

The MORE curriculum consists of knowledge building units that focus on a single topic over multiple weeks, leveraging **schemas** - mental frameworks - to help students connect new content and vocabulary to more general concepts that they already know.

Rather than vocabulary lists, words are organized into **vocabulary networks** connected by key ideas. Students are taught to master the meaning and parts of words as well as the "company that they keep."[1]

This study found that this approach not only helps students master the vocabulary they are taught in class, but that students are able to transfer what they learn to understand words they were only exposed to as opposed to explicitly taught.

How does MORE impact students' vocabulary learning over time?

Our study randomly assigned 30 1st and 2nd grade classrooms to either receive MORE (the "treatment" group) or the school's typical instruction (the "control" group). Both groups received MORE in 3rd grade.

We followed the students through 3rd grade to see if there was a difference in vocabulary scores at the end of the program. We developed a novel statistical approach that allowed us to determine on which individual vocabulary words students showed the most improvement.

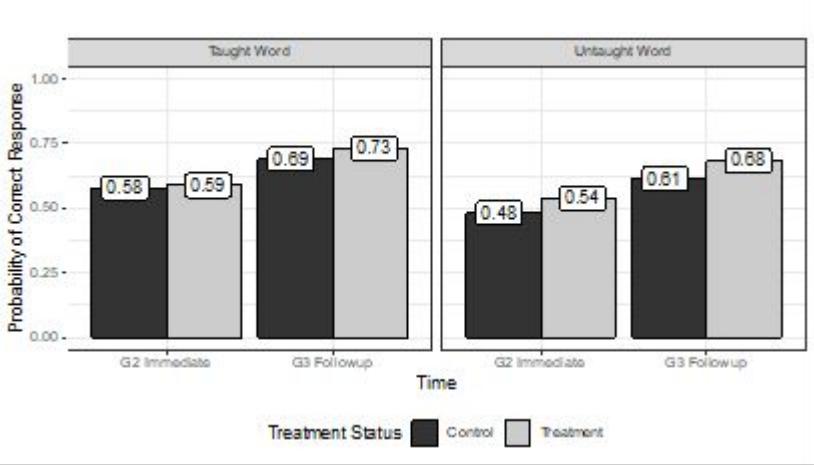
Using the novel statistical method developed in this study and question-level data, we were able to look at not just how individual students grow across grades, but also how their understanding of different types of vocabulary words develops over time.

[1] Firth, J.R. (1957). Papers in linguistics. 1934-1951. London: Oxford University Press

Students were tested on 12 vocabulary words, including words explicitly taught in the MORE lessons (i.e., **taught words**) and conceptually related words that were not taught (i.e., **untaught words**), but that were included in lesson materials and activities (such as read-alouds). These untaught words required students to transfer their knowledge to similar, but not explicitly taught words.

Students who did MORE had higher vocabulary scores, including on words not explicitly taught.

Treatment students who received the full MORE intervention outperformed the **control** students on the 12 vocabulary words tested in Grade 2 and again in Grade 3.



The graph shows the chance that a student knows the meaning of an average vocabulary word. MORE improved students' knowledge of words that were taught *and* words that were not explicitly taught, suggesting that the results are not driven by "teaching to the test".

The difference is largest for the untaught words, indicating that MORE helps students *transfer* what they are learning beyond what is explicitly taught in class.

In 3rd grade when all students received the MORE lessons, the difference between the group's chance of knowing an untaught word improved. Thus, MORE's method of teaching vocabulary lays a strong foundation for long-term student success in vocabulary learning.

A deep and simple approach to teaching vocabulary is more effective than rote memory approaches.

One way teachers can set their students up for long-term success is by teaching words in networks - organizing them around specific schemas or topics and highlighting how they are interconnected - rather than focusing on rote memorization. This study's novel approach also illustrates the importance of looking at how student mastery of vocabulary words develops over time for a more nuanced measure of student learning.

Gilbert, Kim, and Miratrix. (2024). Leveraging Item Parameter Drift to Assess Transfer Effects in Vocabulary Learning. Forthcoming in *Applied Measurement in Education*.

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