

THE ROLE OF DOMAIN-SPECIFIC MATH LANGUAGE SKILLS IN ARITHMETIC FLUENCY AND WORD-PROBLEM SOLVING FOR FIRST- AND SECOND-LANGUAGE LEARNERS

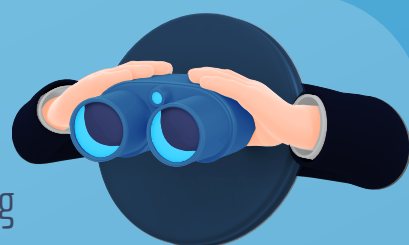
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What did we ask?

How are language skills related to math learning for second-language learners?

How are math specific language skills, specifically math vocabulary, related to math learning?

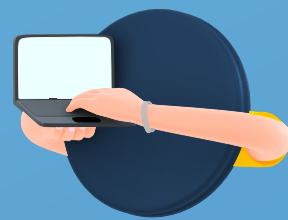


How did we test it?

Participants were 7- to 9-year-old Canadian students in grade 2 or 3. First-language learners (n = 103) and second-language learners (n = 57).

What did we find?

- Second-language learners had lower scores on measures with strong oral language components than first-language learners, whereas they performed equally well on other tasks.
- Math vocabulary, math orthography, and general vocabulary in the language of instruction were all related to word-problem solving success for first-language learners, whereas only general vocabulary was related to math problem solving for second-language learners.
- Math vocabulary was related to arithmetic fluency for both groups, whereas math orthography was not.



Why is this important?



Teachers of second-language learners may need to adapt materials or reduce language demands so that all students have equal opportunity to develop competent math skills. For all students, explicit instruction on math vocabulary and math symbol knowledge may support their math competency.

