NEWSLETTER

Is Mathematics Vocabulary Important? The Mediating Effect of Mathematics Vocabulary on the Relationship between Cognitive Abilities and Mathematics Performance

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MATHEMATICS vocabulary is an important indicator of mathematical language competence of the student. A desirable mastery of mathematics vocabulary is crucial to mathematical study, based on which, the student builds their understanding of math concepts and develops mathematical thinking. This article is an examination of the effect of mathematics vocabulary on the relationship between general cognitive abilities and mathematics performance, with a sample of 249 third graders from two primary schools in Shanghai.

Research Findings:

- There are positive correlations between mathematics vocabulary and math achievement, math problem solving and computation capacities in pupils. A better command of mathematics vocabulary often predicts better performance in math tasks.
- Mathematics vocabulary partially mediates the relationship between cognitive abilities (such as reasoning and working memory) and performance in math tasks.

Implications:

- Mathematics vocabulary is an essential foundation for math study, serving as an important link between cognitive abilities and math tasks. Improving students' command of mathematics vocabulary can help elevate their math performance, problem solving and computation capacities.
- Teachers should pay more attention to the instruction of mathematics vocabulary, aiding students in deepening their understanding of math concepts with methods like analysis and comparison. Mathematics textbook writers should also attend to the consistency and accuracy of vocabulary presentation to avoid the confusion in terminology use, which may lower math learning outcomes.

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