How does language impact the learning of mathematics? Let me count the ways

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ABSTRACT

The role that language plays in the teaching and learning of mathematics is at the forefront of current literature in mathematics education. In this paper, I give particular attention to the manner in which teachers and students engage in the exploration of mathematical concepts and procedures with the goal of revealing how language impacts students’ learning. Through a series of examples of language commonly used in the mathematics classroom, I address specific issues pertaining to language used to describe mathematical processes, to read and interpret notation, and to define mathematical terms. Considering that communication is a key factor in the building of understanding, it is hoped that these examples will motivate teachers to examine and to adapt their own practices in order to cultivate productive and meaningful mathematical discourse in their classrooms.

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But just how much impact language has on the way we think is challenging to determine, says Betty Birner, a professor of linguistics and cognitive science at Northern Illinois University. Other factors, like culture, meaning the traditions and habits we pick up from those around us, also shape the way we talk, the things we talk about, and hence, changes the way we think or even how we remember things. Consider the below examples of how language could impact experiences:

The way we talk and communicate eventually lead to the ways within our culture. The brain with a second language. Numerous studies have found that learning a new language can change how your brain pulls information together, and because of that, enables you to have more perspectives on a particular issue. Stress the importance of learning “What is Mathematics” in view of Klein’s “double discontinuity” in mathematics teacher education, present the “Panorama project” as our response to this challenge. Through the use of abstraction and logic, mathematics developed from counting, calculation, measurement, and the systematic study of the shapes and motions of physical objects. Practical mathematics has been a human activity for as far back as written records exist. In the context of mathematics images, let us mention two substantial initiatives to collect and provide images from current mathematics research, and make them available on internet platforms, thus providing fascinating, multi-faceted images of mathematics as a whole discipline: Guy Métivier et al. In fact, the way I learn a language is similar in many respects to the way people learn maths. When I start learning a new language, I tend to avoid explicitly studying grammar rules at first. I prefer to start using the language before anything else. I do this through learning some important phrases to help me communicate with a native speaker. I don’t know the specific conjugation rules that make up the phrases. Can Language Learners be Good at Maths? I’ve shown you how an appreciation of maths can translate into a fondness for language learning. But it also works the other way. Language lovers can become maths lovers! There’s a great deal of evidence that mastering a foreign language is one of the hardest things you can accomplish.