

# Talking aloud helps solve mathematical problems more quickly, according to a study

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Those students who think aloud while solving a mathematical problem can solve it faster and have more possibilities of finding the right solution than those who do not do it. Likewise, drawing or making a pictorial representation relating to the problem also contributed to its solution.

These are the conclusions of a study carried out at the University of Granada (Spain), which has been recently published in the journal *Revista de investigación psicoeducativa* and the *Electronic Journal of Research in Educational Psychology*.

To conduct this research, the authors analysed in depth the work of three last-year students of the degree in Mathematics of the UGR, who were isolated separately to solve a problem and were recorded in video to study their speeches aloud later.

## An effective system

Although the researchers warn that the amount of information about the individual's conduct available to be analysed when he speaks while solving a problem is higher than when he does not do so; their work has proved that this is an effective system and it "provides a valuable database to identify many of the contents, processes and strategies used in the solution of problems".

This work has been conducted by the professors José Luis Villegas

Castellanos (of the University of the Andes, Venezuela) and Enrique Castro Martínez and José Gutiérrez, of the University of Granada, who confirm that "the representations play an essential role in mathematic thought, favour the understanding of concepts and stimulate the development of a flexible and versatile thought in the solution of problems".

This research work has revealed, according to the professors, that the ability in the management of representations (such as talking aloud or drawing the problems) "is closely related to the success in problems solution", although they warn about the need of it is necessary go into this subject in depth developing more detailed studies.

Provided by University of Granada

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