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Epistemological and didactic obstacles: The influence of teachers' beliefs on the conceptual education of students.

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Summary: This investigation addresses the topic of teachers' beliefs about mathematics, mathematics education and their expectations of this discipline as regards their students' learning of two specific topics: fractions and angles. International research in this field has produced many results, the first being a good definition of the concept of beliefs, and has taken the first steps towards understanding the impact of these beliefs on didactic activity. This research is based principally on the classical Theory of Obstacles. Within this framework, our aim is to establish whether or not, beyond objective epistemological obstacles, teachers' beliefs create some misconceptions among students. So didactical obstacles, arising specifically from some beliefs of the teachers, must be added to the epistemological obstacles. This is also clearly reflected in teachers' beliefs regarding the knowledge that their students must acquire.

Classification: C30 C20 C70 D70

Keywords: epistemological obstacles; didactic obstacles; teachers' beliefs; students' beliefs; misconceptions; fractions; angles; teacher attitudes; research