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Ontological beliefs and their impact on teaching elementary geometry.

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Summary: This paper proposes a conceptual framework to classify ontological beliefs on elementary geometry. As a first application, this framework is used to interpret nine interviews taken from secondary school teachers. The interpretation leads to the following results: (a) the ontological beliefs vary in a broad range, denying the assumption that a similar education provokes analogue opinions; and (b) ontological beliefs have a remarkable influence on the standards of proofs and on the epistemological status of theorems, and also on the role of drawing, constructions and their descriptions, media, and model building processes.

Classification: C29 E53 E54 C73 C74

Keywords: geometry teaching; teacher beliefs; ontology; secondary school teachers (grades 7 to 13); proving; interviews; educational research

[http://www.pna.es/Numeros2/pdf/Girnat2011PNA5\(2\)Ontological.pdf](http://www.pna.es/Numeros2/pdf/Girnat2011PNA5(2)Ontological.pdf)