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**Martinez, Mara V.; Brizuela, Barbara M.; Superfine, Alison Castro**

**Integrating algebra and proof in high school mathematics: an exploratory study.**

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Summary: Frequently, in the US students' work with proofs is largely concentrated to the domain of high school geometry, thus providing students with a distorted image of what proof entails, which is at odds with the central role that proof plays in mathematics. Despite the centrality of proof in mathematics, there is a lack of studies addressing how to integrate proof into other mathematical domains. In this paper, we discuss a teaching experiment designed to integrate algebra and proof in the high school curriculum. "Algebraic proof" was envisioned as the vehicle that would provide high school students the opportunity to learn not only about proof in a context other than geometry, but also about aspects of algebra. Results from the experiment indicate that students meaningfully learned about aspects of both algebra and proof in that they produced algebraic proofs involving multiple variables, based on conjectures they themselves generated. (Contains 13 figures and 1 table.) (ERIC)

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