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A teacher's conception of communication in geometry proofs.

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Summary: Mathematical proof has many purposes, one of which is communication of the reasoning behind a mathematical insight. Research on teachers' views of the role that proof plays as mathematical communication has been limited. This study describes how one teacher conceptualized proof communication during two units on proof (coordinate geometry proofs and Euclidean proofs). Based on classroom observations, the teacher's conceptualization of communication in written proofs is recorded in four categories: audience, clarity, organization, and structure. The results indicate differences within all four categories in the way the idea of communication is discussed by the teacher. Implications for future studies include attention to teachers' beliefs about learning mathematics in the process of understanding teachers' conceptions of proof as a means of mathematical communication. (Contains 2 tables.) (ERIC)

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