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Justin D Boyle* (boylej@unm.edu), NM. *Knowledge and Beliefs for Teaching Proof: A Conceptual Framework for Mathematics Teacher Educators.*

Mathematics teachers require a broad range of knowledge and beliefs to support their students understanding of reasoning and proving. Several standards for mathematical practice include reasoning and proving such as developing viable arguments and critiquing the reasoning of others. A reasoning and proving conceptual framework was developed for mathematics teacher educators as a guide to design learning activities for teacher development and include the following four dimensions: criterion of proof, purpose, equity and opportunity. These four dimensions combined are mapped onto knowledge (mathematical and pedagogical) and beliefs (mathematical and student), and aim to provide a complete conception of proof for teaching. An example of a mathematical task is used to ground the theoretical need of each framework dimension. Furthermore, two narrative cases of pre-service teachers are shared to further justify the need for the development of all four dimensions. In conclusion, if teachers are limited in any of the four dimensions, then students will continue to develop limited or distorted understandings of mathematical proof. (Received September 06, 2013)