

Geometric Constructions to Activate Inductive and Deductive Thinking Among Secondary Teachers
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Geometry
Secondary Teachers
Deductive Proof

In a pilot study, the goal was to show that students in an inquiry-oriented, construction-based experience dealing with Euclidean geometry topics can gain in their ability to write deductive proofs. A learning environment was created that involved extensive work with constructions using traditional compass and straightedge techniques as well as with dynamic geometry software. A major piece of the work was a rigorous program of “deconstructions” whereby participants gave written and oral validations of each construction. A pre-test/post test consisting of formal, written proofs served as one assessment instrument. Preliminary data show promise for an increase in the proficiency on such tasks, indicating a potential mechanism for enhancing deductive reasoning.