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In this session, we will present the results of a guided discovery teaching experiment. Two sections of an introductory proof course were taught using the text Chapter Zero, by Carol Schumacher, with an emphasis on student presentation of proofs. The students were expected to spend a significant amount of time working on the proofs of theorems outside of class and with little direct instruction from the professors. In each class session, the majority of the time was spent on student presentation of proofs and discussion of those proofs. Our research focused on the development of proof schemes (as defined by Harel and Sowder) through these presentations. A questionnaire was administered to all students at the beginning and end of the semester. This questionnaire was designed to determine the proof schemes utilized by students when reading and interpreting proofs. The results were analyzed for statistically significant changes. We found that the use of deductive proof schemes increased, the use of empirical proof schemes decreased, but no change was found in the use of the external conviction proof schemes. We believe that the use of the guided discovery method improved the students understanding of the nature of proof. (Received September 16, 2008)