962-P1-802 **Carmen J Schabel*** (carmen@mth.pdx.edu), PO Box 751, Portland, OR 97207-0751. *A Teaching Experiment in Number Theory.* Preliminary report.

There is no debate within the mathematics community about the importance of proof in the undergraduate curriculum, yet students struggle with writing proofs. Since students struggle with writing proofs, it follows that mathematics instruction should address this struggle. Therefore, the main purpose of this study is to design an instructional model to help students develop their proof writing skills. In order to design the instructional model, I chose to conduct a classroom teaching experiment in a junior-level number theory course. The instruction in the teaching experiment was based on two principles. First, students cannot write proofs about concepts that they do not understand. Thus, instruction must focus on developing conceptual understanding. Second, students are not passive receivers of information. Therefore, instruction must actively involve students. Of the 12 students initially enrolled in the course, 8 volunteered to be interviewed 3 times during the quarter. Six of these students completed all three interviews. Other data sources were exams, homework, student journals, my instructor's journal, and an observer attended class once a week and kept a journal. Based on this data and three other pilot studies, I will design the instructional model. (Received September 26, 2000)