

1125-N1-2047 **Keith Weber*** (keith.weber@gse.rutgers.edu), 10 Seminary Place, New Brunswick, NJ 08901, and **Teo Paoletti, Dimitri Papadopoulos, Victoria Krupnik, Joe Olsen** and **Timothy Fukawa-Connelly**. *Teacher questioning in advanced mathematics lectures.*

In this paper, we categorize mathematics professors' questions in proof-oriented mathematics courses to analyze what types of participation opportunities are available for students in these courses.

We recorded 11 lectures from different mathematics professors teaching different proof-oriented courses. We flagged 1031 questions from these lectures. We used an open coding scheme to generate a list of ten categories of questions. We then re-coded the data set using these categories, achieving a high level of inter-rater reliability (94%).

We discuss two main findings in this report. First, although teacher questioning was common across lectures, the opportunity for student participation was limited. This was because most questions were classified as factual questions asking for a specific piece of information or questions asking for the next step in a computation or proof. The majority of the questions (59.5%) were answered by the professors. Most questions (80.3%) had a wait time of two seconds or less.

Second, we illustrate substantial variance in professor's question posing in these lectures. In some cases, entire proofs were routinely elicited from students. In others, there were hardly any genuine opportunities for student participation. (Received September 19, 2016)