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Restructured Graduate Classical Mechanics Course at a Large University ANTOINETTE STONE, LLOYD KNOX, University of California, Davis — Implications from Physics Education Research for improving learning were applied to a standard graduate classical mechanics course. The revised format included reduced lecture time, increased discussion time and increased student-initiated classroom Q&A time. Assessments were changed from 2 midterms and 1 final exam to biweekly quizzes, 1 midterm and 1 final. Discussion time was led collaboratively by a senior graduate student in a role facilitating peer-to-peer questions and discovery. An initial diagnostic content exam was given pre and post. The language of student's questions during the discussion and Q&A sessions were used to generate a student questioning-hierarchy model. Questions were based in the following areas: content clarification, skill building, linking ideas, and extending concepts. Responses were binned according to the model. We measure the correlation between language progression via the model and learning outcomes via assessment.

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