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Lesson study is a form of professional development in the K-12 classroom, which originated in Japan and is becoming increasingly popular in the US. Several Mathematics faculty at Sonoma State University have participated in lesson study projects in K-12 schools as well as in a class for future teachers. Inspired by their work, we adapted the classic lesson study process to work in our upper division Real Analysis course, required for all Mathematics majors.

Instead of a lecture format, we designed group activities that introduced important concepts and gave students a chance to practice the use of difficult theorems. Our focus was on the connection between the epsilon-delta definitions and sequence definitions of key concepts like convergence, continuity and differentiability. In planning and debriefing sessions, we developed mathematical prompts and anticipated student responses, revised existing materials and planned the next lesson involving these connections. Our goals were to gauge their level of understanding at various stages of the course and to see if these group activities actually helped them do mathematics independently.

We will share mathematical activities, classroom video, student feedback, and our personal experiences with the lesson study process. (Received September 22, 2009)