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**Lectures in advanced mathematics: why students might not understand what the mathematics professor is trying to convey.**

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Summary: We describe a case study in which we investigate the effectiveness of a lecture in advanced mathematics. We first videorecorded a lecture delivered by an experienced professor who had a reputation for being an outstanding instructor. Using video recall, we then interviewed the professor to determine the ideas that he intended to convey and how he tried to convey these ideas in this lecture. We also interviewed 6 students to see what they understood from this lecture. The students did not comprehend the ideas that the professor cited as central to his lecture. Based on our analyses, we propose 2 factors to account for why students did not understand these ideas.

*Classification:* D45 C75 C35 D75

*Keywords:* lectures; undergraduate mathematics education; understanding; difficulties

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