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Bringing back the take-home exam: an experiment to assess ownership in an Abstract Algebra course. Preliminary report.

Most of my colleagues have given up the task of determining whether or not their students have cheated on take-home exams. It is almost to be taken for granted that some form of help has been found during homework and take-home exam writing. To avoid this, our exams take place in-class. I believe that this situation leaves a hole in my assessment of upper level math skills, and I wanted to find a solution. Would including an oral element to a take-home exam reduce the practice of cheating? It may not, but could it push students to a different level of understanding of their solutions despite the procurement of help? Ultimately, I want students to learn. If the threat of needing to show oral “ownership” of their solutions gives the motivation to really understand what they are writing, then we both win. I test this idea in an upper level Algebraic Structures course in the fall in which I have scheduled three take-home exams, each with an oral component occurring after the exam has been turned in. I will tailor my oral questions to ideally assess the real understanding behind the written solutions. This talk will include the details of my reasoning and course structure, along with my reflections on the process, and student reactions. (Received August 14, 2019)