Abstract Submitted
for the NWS18 Meeting of
The American Physical Society

Students' lack of awareness surrounding special-case analysis MACKENZIE LENZ, ELIZABETH GIRE, Oregon State University — Physics instructors often expect students to reflect on the meaning of and think about the correctness of their answers. One common reflection strategy is to perform a special-case analysis. We define special-case analysis to be an algebraic manipulation of an answer to confirm what will occur in a new situation for which the student has a known answer or a good intuition. We interviewed eleven students in the first term of an introductory physics with calculus course. Six of the students were enrolled in a reformed course that prompted reflection on homework and five were in a non-reformed course without prompted reflection. These interviews were performed with the intent of learning about student's knowledge and implementation of reflection strategies. One prompt was explicitly designed to encourage special-case analysis; when solving this prompt none of these eleven students preformed a special case analysis. When asked latter if they knew what a limiting or special-case was nine students had no recollection of this strategy and two thought it sounded familiar.

MacKenzie Lenz
Oregon State University

Date submitted: 15 Apr 2018 Electronic form version 1.4