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Measuring Conceptual Gains and Benefits of Student Problem Designs[1] ERIC MANDELL, RACHEL SNYDER, WAYNE OSWALD, Bowling Green State University — Writing assignments can be an effective way of getting students to practice higher-order learning skills in physics. One example of such an assignment is that of *problem design*. One version of the problem design assignment asks the student to evaluate the material from a chapter, after all instruction and other activities are complete. The student is to decide what concepts and ideas are most central, or critical in the chapter, and construct a problem that he or she feels best encompasses the major themes. Here, we use two concept surveys (FCI and EMCS) to measure conceptual gains for students completing the problem design assignment and present the preliminary results, comparing across several categories including gender, age, degree program, and class standing.

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