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Finding Flaws: Using Small Group Discussions to Improve Understanding of Experimental Design

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Abstract

Many students lack skills in comprehending summaries of scientific studies as well as thinking critically about experimental designs and evidence. This research explored whether group discussion activities may help support skills needed for understanding and evaluating research summaries, specifically when there is a lack of evidence for stated conclusions due to flaws in research designs. This study was conducted in undergraduate Research Methods in Psychology courses, using discussion activities where students were asked to read short reports of studies similar to popular media accounts of research findings. The study manipulated only discussion group size (twos, threes and fours) while holding all other aspects of instruction constant. Individual performance on tasks asking students to find flaws in new examples was better on average after working in groups of four compared to groups of two, and weaker students were more likely to benefit from interacting with peers after working in groups of four.