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**Examining the factors that impact group work effectiveness in studio physics** MELANIE SCHROERS, ROBYNNE LOCK, WILLIAM NEWTON, Texas AM University - Commerce — Studio physics, or SCALE-UP, has been found to improve outcomes such as conceptual understanding, problem-solving skills, and student attitudes when compared to traditional instruction. Such an active-learning environment relies heavily on group work. However, little is known about how best to structure groups and train students to work together effectively. In order to understand the factors that affect group productivity, we recorded videos of groups in the introductory calculus-based physics sequence at Texas A&M University-Commerce over three semesters. Videos were recorded of students working tutorials. Video data have been coded for epistemological framing and student engagement. We find that students do not adhere to assigned roles, such as manager, recorder, and skeptic, but rather take on roles according to their personalities. The roles chosen impact the group's effectiveness.

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