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Peer Quizzing: Are Two Heads Really Better Than One?

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Peer Quizzing: Are Two Heads Really Better Than One?

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Abstract

Instructors are often plagued with a difficult opened ended question; what measures can be implemented during class that will maximize students' academic benefit? During this research project, the impact of frequent peer quizzing in introductory college level physics courses on subsequent learning assessments, such as midterms and percent gain, are examined. A peer quiz is initially administered to a student individually and graded but not returned to the students until they are given the opportunity to revisit the same quiz question with a partner. Two physics instructors' student data is included in the data set, which is comprised of Introductory Calculus Based Mechanics ("PHY 241") and Introductory Calculus Based Electricity and Magnetism ("PHY 242") classes that either have peer, individual or no quizzes. The results of this project show that peer learning quiz classes yield a higher correlation between various assessments than individual quiz classes. This suggests that peer quizzes are more effecting in teaching college level introductory physics courses than individual quizzes. These results hold true when top ranking pretest scorers are removed from the data sets, thus indicating that peer quizzes are beneficial to both students that do and do not have prior understanding of the course material.