

Linking Pre-Class Engagement with Academic Achievement: The Role of Quests in a Flipped Chemistry Course

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Abstract : In flipped classroom environments, students are tasked with engaging in pre-class learning to maximize the effectiveness of in-class time. This study investigates the use of 'Quests', brief formative assessments administered at the start of class, to evaluate student understanding of assigned pre-class materials in an undergraduate chemistry course. Students completed Quests via Microsoft Forms, based on content from instructional videos and worksheets, and these assessments were mandatory, with no opportunity for make-up. This paper examines the correlation between Quest performance and overall course success, finding that students who performed well on the Quests consistently achieved higher final grades in the course. The findings suggest that Quests are effective in both reinforcing student engagement with pre-class content and predicting their broader academic performance. The implications of these results for flipped classroom strategies and student learning outcomes will be discussed.

Keywords : chemistry, flipped classroom, attendance, assessments

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