

Abstract

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Enhancement of student learning and feedback of large group engineering lectures using audience response systems

We studied the use of an Audience Response System (ARS) in large group lectures of a material science module in an engineering program. The aim of this study is to create a high level of activity in lectures through implementation of different teaching approaches supported by the use of ARS. The teaching approaches used in this study include long and short lecture sections, use of videos, peer interaction learning, and review lectures. We found that the use of ARS had no effect on student engagement if lectures were not broken into short sections. Results also show that when ARS are used in an active teaching environment, they improve the engagement of students and attendance, especially, when students are encouraged to discuss the topic with their peers before voting. In addition, quantitative results show that engineering undergraduate students taught with the support of ARS have improved performance on exams.