

Boosting Student Involvement during E-Learning for Engineering Courses

Muhammad Z. Iqbal

Department of Chemical and Petroleum Engineering, United Arab Emirates University, Al Ain, PO Box 15551,
United Arab Emirates

Abstract

Owing to the COVID-19 pandemic, e-learning has become mandatory for students of all ages. Universities and colleges are being impelled to consider a combined teaching method which includes both online and in person tutoring for various courses and programs. However, students are losing interest and do not show zeal in participating online classes partially due to the availability of the lecture videos after a class has ended. In order to boost the students' involvement and to build a sense of keenness as well as to incur a certain level of focus on learning material during class time, we have been practicing a new approach with positive indicative results.

Majority of the engineering courses comprise majorly of mathematical practices in order to equip students with hands-on training on fundamental sciences. A partially solved numerical question pushes students to solve it during the allocated time. Also, presenting incomplete process diagrams and sketches, compels students to ask questions about the correct information and take reasonable notes. Nevertheless, rewards reaped from such practices, cannot be fully achieved unless it is reflected in homework assignments and examination questions.

This presentation elaborates the response of the students from two courses, by implementing this approach. In addition, samples of homework assignments and one exam question with incomplete information is provided. Tutorial sessions in these courses are designed as a "no-solution will be provided" strategy, which further helped students to focus on asking questions and class-participation during the e-learning sessions.

Keywords: classroom; focus; aptitude; incomplete; numerical; sketch.