Work-in-Progress: Promoting Learning through a Prompt Feedback on Assignments and Quizzes in Peer-to-Peer Meetings with Students in Electronics I Course

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Abstract

In this work-in-progress article, I present descriptive, preliminary analysis on the effectiveness of a peer-to-peer feedback method to promote prompt feedback on students' assignments. Traditionally, homework assignments and quizzes given to students in Electrical Engineering classes are graded a few days or weeks after submission. Although usually the graded works are returned (or are available for pick up), the majority of the students do not review their graded assignments and quizzes to self-correct and learn from their mistakes. Also, a very small group of students (~5%) may contact their instructor or TA to review their works. Among those, the majority are students concerned about their grades, not necessarily about learning and understanding the underlying concepts. Although in good teaching practice, the solution of the given assignment/quiz is posted to the class website shortly after the submission deadline, there

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assignments, quizzes, and exams to his classes over the last 11 years and from own experience realized that the traditional feedback system of grading students' works by TAs and returning

students were assigned unique problems and had no access to solutions at the time of doing the assignments. The overall grades were distributed with 40% homework assignments, 20% quizzes, 20% midterm, and 25% final. The total of 105%, provided each student with 5% to spare, in case they missed any assignments, and since it is class policy not to provide make-up exams or quizzes.

Table 1. Electronics I students studied in this work

Group	Semester	# students	Review sessions

Figure 1.a shows the mean scores of the overall grades and the final exam grades of all three groups. Comparing the overall grades, the mean score in Spring 2019 was 75.1% which increased to 86.44% in Spring 2021. However, the mean decreased to 82.33% in Fall 2021, while still being higher compared to the pre-pandemic term. Although it could be reasoned that the high average grades for groups II and III are largely due to the 26% points from the review session participations (participation rate was always higher than 90%), the mean score of 84.59% in Fall 2019 semester (before the pandemic)

with five choices of “very helpful, helpful, it was ok, Not that much helpful, waste of time”. Figure 1.b shows that 22 out of 36 students have found the

3- Thought process explanation: Asking students to explain their own work made them process the solution for each question which according to their comments had helped them to improve their thought process.