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CIVIL ENGINEERING

Writing to Learn (2015-2018)

CHALLENGES

When prospective employers are asked about the area they would like to see improvement in our graduates' preparation to enter the workforce, they request better communication skills. However, poor communication skills might be a symptom of a deeper problem; poor cognitive skills. For example, students might memorize solutions of specific problems, rather than understanding the principles used to derive the solution. Clearly, if one does not fully understand the solution to a problem, one could never explain that solution effectively. Therefore, the challenge was to improve both cognitive and communication skills of students side by side.

MY PROJECT

Literature indicates that increased writing is likely to improve students' skills, learning, material comprehension, and communication. The hypothesis the led my project was that by emphasizing writing skills, students will recognize writing as an essential component for their professional success. Therefore, I incorporated writing exercises in the Environmental Engineering and Science (CE 256) class. I required writing responses in informal and formal writing exercises, including class assessments, homework assignments, quizzes, and exam questions. The in-class assignments included quizzes, as well as individual and group writing assignments. The homework assignments included 1) reflection, 2) explanation of concepts that are often challenging to students, and 3) longer writing assignments on the importance of incorporating sustainability concepts in engineering design. The majority of these were formative assignments.

"I have a better appreciation for the importance of different types of writing - both formal and informal - in learning; Particularly for topics like engineering that are typically not considered to involve much non-technical writing."

RESULTS

Student performance varied from semester to semester and was likely influenced by many factors. Thus, it is hard to find whether one specific project played a major role in improving student performance. However, for future analysis my measuring method will be to keep a record for student writing assignments and learning activities to track their progress overtime. I will definitely keep implementing this project in future classes that I teach.