



Self and Peer Evaluation in Preparing Engineering Students for the Diverse Workforce

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ABSTRACT

CONTEXT

Engineering students of today will enter an increasingly diverse and multicultural workforce, reflected in the increasing number of multinational corporations and the growing belief that workforce diversity strengthens organisations. Engineering graduates therefore require professional skills to work in these inclusive environments, with people from different cultural backgrounds, ethnicities, physical abilities/disabilities, religions, genders and sexual orientations. It is vital to prepare a future workforce which respects this diversity and encourages them to critically reflect on their own strengths and weaknesses, and to recognise and acknowledge their peer's roles and contributions, particularly when working in groups. Peer evaluation increases student responsibility and autonomy, develops deeper understanding of the subject matter, skills or processes. Additionally, this allows the student to be an active participant in their assessment, helps them develop critical reflection in themselves and their peers, and trains them to evaluate their own subjectivity and judgment, and to respond appropriately to the opinions of their peers. Despite these benefits, peer evaluation is currently not a widely adopted formative assessment practice in higher education, specifically within engineering faculties.

PURPOSE OR GOAL

We investigate how student self and peer evaluation in engineering courses can improve their perception of the assessment process and how it improves their group work experience. We study the relationship between student's self and peer assessment and their understanding of diverse work environments once they graduate.

APPROACH

This article is based on a study of junior undergraduate engineering courses in two Australian universities where formative self and peer-assessment was integrated into the learning approach. We used a two-phase mixed method approach including both quantitative and qualitative assessments. The view and experience of students during each unit of study was collected and analysed.

ANTICIPATED OUTCOMES

Results are expected to provide a better understanding of how self and peer evaluation in engineering courses can help students to improve their professional skills and graduate attributes and prepare them for the diversity and complexity of engineering practice.

CONCLUSIONS

This article can provide examples of effective formative assessment design and implementation to improve students' learning experience and prepare them for the diverse workforce.

KEYWORDS

Peer evaluation, Curriculum design, Student learning.