

Leadership and diversity training in the engineering classroom

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Developing skills to work within organizations is common in disciplines such as management, psychology, and hospitality management. Often students in these fields learn about teamwork, conflict resolution, and personality types in the classroom under the domain of leadership and diversity management. Students in engineering and other STEM disciplines frequently perform work in teams but lack exposure to these leadership concepts. This lack of knowledge in team dynamics, leadership, and diversity places STEM students at a disadvantage when working in teams and transitioning to managerial positions.

To address this deficiency, this research suggests engineering programs actively incorporate leadership and diversity management into the engineering classroom. In this poster, we propose an in-class leadership and diversity management training session. The goal is to examine whether a leadership and diversity training session can influence (1) confidence in working in a team, (2) preference for groupwork, (3) teamwork skills, (4) communication skills, and (5) confidence in a leadership role for engineering students in a diverse environment. We also present activities that instructors can use regularly in class to reinforce and further develop the skills presented in the training session.

The leadership training session is presented to junior-level civil engineering students in a required communication for engineers course. The overarching objective of this training is to provide a framework for working in teams in diverse environments. The 3-hour training consists of three major parts: (1) leadership, (2) behavioral style profiling, and (3) cross-cultural communication. In the leadership part, students learn the behavior of effective leaders. Through behavioral style profiling, students learn how to work with people of different personality styles. Cross cultural communication highlights how to work with people from different cultures.

This multidisciplinary research contributes to engineering education by investigating whether incorporating leadership and diversity management in engineering curriculum can boost student non-technical skills. Considering the team-based nature of the contemporary engineering workplace, the results will shed new light in engineering education focusing on student non-technical skills.