

“I Don’t Belong with All the Really Smart Kids Here”: Student Characterizations of Belonging in Engineering

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ABSTRACT

This research paper is a qualitative study of how students with diverse demographics, mindsets, and identities describe what it means to belong in engineering. Engineering students’ sense of belonging has a significant impact on students’ decisions to leave engineering. Talented students who feel that they do not belong in engineering are more likely to leave than their peers. Previous studies have focused on belonging for underrepresented students in engineering (e.g., women or minorities) or specific factors contributing to student belonging (e.g., classroom performance). However, few have explored how students describe what it means for them to belong in engineering to understand how this attitude may be formed and internalized by diverse students. To address this gap, thirty-five interviews were conducted with first-year engineering students at four universities under a semi-structured interview protocol to learn about students’ experiences and perceptions of engineering. Interview transcripts were analyzed using inductive and deductive thematic coding to develop broader themes about how a diverse set of undergraduate students describe their sense of belonging in engineering. Student responses were compared to one another while being sensitive to potential differences in students’ demographic or latent diversity (i.e., mindsets, beliefs, and values). Emerging results show differences in how students evaluate belonging relative to their peers. This research can inform and influence engineering faculty to serve students holistically by understanding how students describe belongingness and provides actionable implications to develop and support their sense of belonging. These efforts may support student retention of diverse students across engineering.

KEYWORDS

belongingness, fit, engineering identity, retention, qualitative methods