

Team Skills of Engineers – Do We Teach What Industry Wants?

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ABSTRACT

The Building Engineering Team Skills program is a multi-phase project designed to:

- identify the team skills valued by industry,
- capture the best practices used by industry to improve those skills, and
- develop and incorporate those best practices into engineering undergraduate curriculum.

There are six major phases of the project. The first phase entails interviewing experts from industry with significant experience managing teams of engineers. Based on the team skills identified in expert practitioner interviews, and a review of team training techniques of engineers identified in the academic literature, we address the question, ‘Are we teaching engineers the team skills valued by industry?’

We begin by examining the degree to which previously identified team skills coincide with those valued by practitioners who manage engineers working in teams. We identify discrepancies between what is valued by practitioners and what is being taught in Universities, and discuss the implications for modifying what is taught to student engineers in academic settings. We also use the expert interviews as a preliminary source of ‘best practices’ for how team skills are taught in the professional setting. We examine these practices in terms of feasibility for and transfer to academic settings. Implications for further research are also discussed, with emphasis on potential contributions of the Building Engineering Team Skills program to address critical needs. Chief among these needs are the need to investigate these ‘best practices’ from the engineer’s perspective (rather than solely from the engineering manager’s perspective), and the need to design, implement and assess recommended curricular changes.