EFFECT OF LEARNING STYLE DIVERSITY ON ENGINEERING STUDENT TEAMS

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Abstract  Modern demands of industry and ABET Engineering Criteria 2000 have resulted in a dramatically increased emphasis on team based learning in the engineering curriculum. Nevertheless, very little attention has been given to the development of practical guidelines for the implementation of teams in the engineering classroom environment. We have proposed a comprehensive curriculum to implement a student training for engineering team effectiveness. The curriculum includes training to develop personal effectiveness in teams, as well as training on interpersonal effectiveness and project management.

Index Terms  Engineering Students, Learning Styles and Diversity, Teams

The personal effectiveness module includes student awareness of learning style and personality type diversity and their impact on team effectiveness. At the core of team effectiveness is the fundamental need for members to understand themselves and others. Personality plays a significant role in how teams operate. Our personality dictates our preferences, how we receive and process information, how we make decisions, how we learn and how we relate to the world and to others. There are a number of techniques to assist in identifying personality types and learning styles, Myers Brigg Type Indicator (MBTI), Kolb Learning Cycle, Felder-Silverman Learning Style Model, DISC Behavioral Profile, Hermann Brain Dominance Instrument (HBDI) to name a few.

This work in progress reports the results of student surveys, student focus groups and faculty impressions on student team effectiveness where student training on learning style diversity has been implemented in a classroom workshop. Also, we will discuss our respective team formation strategies. Two workshops have been developed, based on the Keirsey Temperament and the Kolb Learning Style models. The Keirsey Temperament workshop has been given to students in a Junior level Introduction to Engineering Management class, and the Kolb workshop has been given to a Freshman Introduction to Engineering class and a senior capstone class in Aerospace Engineering. The focus group and survey results of trained students will be compared to the responses of untrained students. An analysis of the survey and focus group results will be performed and presented in this presentation.

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