

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
On Track - Undergraduate Space Education (3)

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TEACHING PRACTICAL LEADERSHIP IN MIT SATELLITE DEVELOPMENT CLASS: AN  
APPROACH TO MONITOR AND TO QUANTIFY LEADERSHIP SKILLS DEVELOPMENT ACROSS  
THE TEMPORAL EVOLUTION OF THE PROJECT**Abstract**

In a space systems design class at the Department of Aeronautics and Astronautics at MIT, undergraduate students conceive, design, build, and test space vehicles and systems. Strong project management and team skills are essential if the student teams are to produce a high quality design. A module for teaching practical leadership skills in an engineering team was developed and tested in MIT satellite development class. Based on theoretical material from the Gordon Engineering Leadership initiative, this module was composed of a set of active learning activities that took no more than 5 classroom hours.

The model has been tested for more than two years in different cycles of the same class. In order to further improve this method, a quantitative assessment of how much it contributes to the development of leadership skills in each of the student was required. The authors have developed a quantitative assessment method to measure the level of improvement of the leadership skills across the term, while the module is administered. Results show that the module helps to improve the leadership skills mapped.

The article is structured as follows: first an overview of the module is presented; then the methodology developed to map the improvement in leadership skills is introduced. Finally, the results of the analysis are discussed.