Project Lead The Way:  
Examining Teachers’ Perceptions and Interactions of a Pre-Engineering Curriculum with Middle & High School Students

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Abstract: This paper presents a brief overview of how Project Lead The Way pre-engineering curriculum is implemented in middle and high school classrooms across the United States. Studies have been conducted that examine the logistics of the Project Lead The Way program, but not from the perspective of the classroom teacher. This paper will focus primarily on preliminary findings from online survey data and will discuss how teachers’ perceptions of the Project Lead The Way program has changed or impacted their delivery of classroom material as well describing how teachers report on student achievement when participating in a Project Lead The Way Classroom.

Introduction

The great urgency is for ‘technology literacy,’ the need for students to see how society is being reshaped by our inventions, just as tools of earlier eras changed the course of history. The challenge is not [just] learning how to use the latest piece of hardware, but asking when and why it should be used (Boyer, 1983, p. 111).

Today, more than ever before, technological competence has become crucial to maintaining our nation’s position as a leader in global affairs and to solidifying our position in the emerging global economy (Report of the Expert Panel for the Review of Federal Education Programs in Science, 1993). Moreover, this situation places special responsibility on American educators to guarantee that students at all levels gain exposure and encompass opportunities to pursue quality science, mathematics, engineering, and technology (SMET) education. In the No Child Left Behind Act particular emphasis was placed on the area of science. During the 2007-2008 academic year, assessment of science comprehension in K-12 classrooms must be underway (No Child Left Behind Toolkit For Teachers, 2003).

Project Lead The Way

Project Lead The Way is a national non-profit organization that was established to assist schools in educating knowledgeable students to excel in high-tech fields (Forging New Generations of Engineers, 2003). “Research shows, and continues to confirm, that students introduced to engineering principles, concepts, and real-world problems in high school are better prepared for college engineering programs, and more likely to be successful.” (Forging New Generations of Engineers, 2003, p. 4) Project Lead The Way is
a standards-driven program that provides opportunities for students to achieve higher standards in science, technology, and mathematics (Project Lead The Way Programs, 2003). A key and critical component of this program is the Professional Development that teachers receive during the Project Lead The Way program (Project Lead The Way Programs, 2003) as teachers are provided with an intensive, comprehensive training in “cutting-edge technology that is part of the student curriculum.” (p. 17)

**Research Questions**

- What are Project Lead The Way teachers’ perceptions regarding the Project Lead The Way curriculum (i.e. flexibility, context, grade level appropriateness)?
- How do Project Lead The Way teachers perceive the achievement of students participating in Project Lead The Way courses?
- How do Project Lead The Way teachers report on various training, support, and professional development experiences?
- How is a Project Lead The Way teacher’s efficacy impacted by Project Lead The Way curriculum?

**Methods**

Surveys will be distributed to approximately 2500 middle and high school Project Lead The Way teachers throughout the United States using Survey Monkey, an online survey instrument. Follow-up postcards will be sent through the mail approximately three weeks after the online survey was distributed. Respondents will be contacted again via e-mail approximately three weeks after the mailed reminder was sent. Participants will be identified and recruited because of their affiliation as a middle or high school Project Lead The Way teacher through a formal e-mail solicitation. Data will be coded, stored, and analyzed using Microsoft Excel.