

## **Incorporating Six Sigma in Engineering Education**

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### **Abstract**

Six Sigma is a buzz term in today's technology and business world. The Six Sigma approach combines elements from several quality movements with advanced statistical methodology. It is a comprehensive tool combining business concepts with technical skills and leadership skills. Six Sigma has been successfully applied to manufacturing, to research and development, and to business and financial services.

Recently, there has been great interest in initiating Six Sigma training in academic education. At the Department of Chemical Engineering at Texas Tech University, Six Sigma methodology has been successfully incorporated into the classical undergraduate course of Engineering Experimentation. The students have learned fundamentals of Six Sigma, specifically, critical thinking, D.M.A.I.C. process, measurement system evaluation, design of experiments, and Six Sigma team concepts. In addition, the students have obtained hands-on experience not only to practice the multidisciplinary methodology, but also to maximize their potential to be creative. It has also been a unique and integrative experience for the students to practice engineering and business concepts simultaneously. Other than the traditional learning impact on education, practicing Six Sigma at the college level also has significant impacts on the students' future career development.