

## The Development of Student Core Competencies through the STEM Education Opportunities in Classroom

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**Abstract :** The goal of the modern education system is to prepare students to be able to adapt to ever-changing life situations. They must be able to acquire required knowledge independently; apply such knowledge in practice to solve various problems by using modern technologies; think critically and creatively; competently use information; be communicative, work in a team; and develop their own moral values, intellect and cultural awareness. As a result, the status of education significantly increases; new requirements to its quality have been formed. In recent years, the competency-based approach in education has become of significant interest. This approach is a strengthening of applied and practical characteristics of a school education and leads to the forming of the key students' competencies which define their success in future life. In this article, the authors' attention focuses on a range of key competencies, educational, informational and communicative and on the possibility to develop such competencies via STEM education. This research shows the change in students' attitude towards scientific disciplines such as mathematics, general science, technology and engineering as a result of STEM education. Two-staged analyzes questionnaires completed by students of forms II to IV in the republic of Trinidad and Tobago allowed the authors to categorize students between two levels that represent students' attitude to various disciplines. The significance of differences between selected levels was confirmed with the use of Pearsons' chi-squared test. In summary, the analysis of obtained data makes it possible to conclude that STEM education has a great potential for development of core students' competencies and encourages the development of positive student attitude towards the above mentioned above scientific disciplines.

**Keywords :** STEM, science, technology, engineering, mathematics, students' competency, Pearson's chi-squared test

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