

A Comparison of STEM Education Status and Trends in Five Highly Competitive Countries in the Asia-Pacific Region

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ABSTRACT

Aiming to identify the status and trends in the STEM education in the Asia-Pacific (APAC) region, this paper summarizes the findings of STEM education from the following five highly competitive APAC countries—Canada (CA), Hong Kong SAR (HK), Singapore (SG), Taiwan (TW), and the United States of America (USA). After that, a cross-country comparison is made concerning three aspects (background, current status, trends and issues) and 11 components of STEM education. Consequently, 11 conclusions, corresponding to the comparison components, are generated. To sum up, STEM education is drawing great attention in the five APAC countries, and some of them even consider it as a priority in current education reform. Despite the fact that the traditional education with a focus on mono-disciplinary approach is dominating, a growing number of educators are aware of the importance of applying an interdisciplinary approach to encourage students to understand themes and ideas that cut across disciplines, to connect them between different disciplines, and to extend their relationship to the real world for better redefining of problems outside of normal boundaries and generating solutions based on a new understanding of the complex situations. Assuredly, STEM education will continue to be promoted in these countries and will move forward in a rapid manner as concerted efforts are made by policy makers, teachers, and the other stakeholders. In addition, VET may play a vital role as a natural delivery system for STEM education.

Keywords: STEM education, comparative analysis, highly competitive countries, Asia-Pacific (APAC) Region