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STEM (SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS) EDUCATION POLICY

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Abstract

The STEM (Science, Technology, Engineering, and Mathematics) education policy aims to prepare the younger generation to face the challenges of the future by improving competence in these fields. The implementation of this policy involves the integration of STEM into the curriculum from an early age, as well as synergy between the government, educational institutions, and the industrial sector to provide the necessary support and resources. In addition to ensuring that the education provided is applicable, this policy also seeks to reduce the gender gap and encourage wider participation. Through comprehensive STEM education, it is hoped that an innovative workforce will be created that is ready to compete at a global level and support sustainable economic growth.

Keywords: Policy, Education, STEM.

Introduction

In recent decades, the implementation and development of Science, Technology, Engineering, and Mathematics (STEM) based education programmes has become a major concern in many countries. STEM stands for Science, Technology, Engineering, and Mathematics, which is an integrated educational approach that combines these four disciplines to develop critical thinking skills, creativity, collaboration, and technology literacy (Beers, 2011). STEM education aims to prepare students to face global challenges in an increasingly complex and high-tech world of work, and to equip them with relevant knowledge and skills to develop sustainable innovations and solutions. This approach emphasises interdisciplinary project-based learning, which encourages students to relate theory to real-life practice (Bybee, 2010).

STEM education is considered important to prepare the younger generation to face the challenges and demands of work in the era of industry 4.0 and the transition to industry 5.0. The era of Industry 4.0, which is characterised by rapid advances in digital technology, automation, the Internet of Things (IoT), artificial intelligence (AI), and big