

Chapter 4

Saudi Arabia's Vision 2030 and Its Impact on STEM Education

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ABSTRACT

The Kingdom of Saudi Arabia (KSA) released a plan in 2016 to achieve goals set for the country by the year 2030. Included in this plan, 'Vision 2030,' is a plan for transforming the education system into one that will better suit the Kingdom's needs, increasing the amount of science, technology, engineering, and math (STEM) studies and trainings in the nation. It is with this vision that Saudi Arabia has fully taken on the task of training educators across the Kingdom in different programs that teach all aspects of STEM. To see the impact of these programs, and to ensure they are working, there are studies being conducted that follow participants in the programs and receive feedback throughout all stages. These studies allow challenges to be uncovered early in the process and therefore make it possible to establish solutions. The purpose of this chapter is to examine the Saudi Vision 2030's impact on STEM education.

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VISION 2030'S GOALS FOR STEM IN EDUCATION

With Saudi Arabia's Vision 2030 having several objectives, a common theme among them succeeding is the need for a world-class education system. Having goals such as a strong economy, effective government, improved healthcare system, and so much more, the demand for students with a strong STEM background is apparent (Kingdom of Saudi Arabia, 2022). It is with this Vision that students will be given the skills they need to take on this task and play a part in accomplishing these goals. Unfortunately, implementing STEM practices in the classroom is not such an easy task. With the knowledge of what STEM is being a question amongst some teachers in Saudi Arabia, proper training and professional development are needed. However, it is something the Kingdom anticipated in the Vision and thus has implemented programs to train and educate teachers on the basics of STEM (Pearson, 2016). Partnering with companies and universities such as Pearson Education, DigiPen Institute of Technology, Monash University, and so many more, a lot has gone into designing and implementing these trainings and information sessions (Smith et al., 2019).

LITERATURE REVIEW OF PROGRAMS IN PLACE

Given the apparent need for solid STEM practices and skills to be brought into the classroom, the Kingdom of Saudi Arabia needs to prepare its teachers and all others involved in this endeavor. To do this, the Kingdom has established many programs to assist teachers in making these changes and introducing these ideas. With STEM ideas being relatively new to the Kingdom, all involved must understand this concept before taking on the task of teaching it. The KSA has worked with many organizations and universities to do what is needed to give its teachers the best chance possible at completing this mission.

Immersion Programs

Having plans to train as many as 25,000 teachers across the Kingdom of Saudi Arabia, the KSA Ministry of Education partnered with international universities and education-based companies to implement different programs involving STEM (Smith et al., 2019). One of these programs, working in collaboration with Pearson Education, is a Math and Science Professional Development Program. In this program, 500 'master trainers' will receive the skills and practice they need to go out then and train other teachers throughout the Kingdom (Pearson, 2016). In addition, in another program taking place, the KSA partnered with Monash University to initiate a 44-

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