Purpose and Characteristics of STEM Education in Both the United States and Kazakhstan

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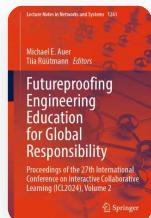
Futureproofing Engineering Education for Global Responsibility

(ICL 2024)

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Abstract

Over the past several decades, many reform initiatives have shaped teaching and learning in science, technology, engineering, and mathematics (STEM) subjects, both in Kazakhstan and in the United States. The educational systems of both countries place great importance on the goal of enhancing the effectiveness of STEM education within

school curricula, with a focus on ensuring that teaching methodologies align with program objectives. However, there are differences between the educational systems of Kazakhstan and the United States, resulting in unique approaches to STEM education for students in each country. This study examines the origins of STEM education curricula, curriculum designs, and educational goals in both countries, as well as current challenges within STEM education. The findings of this study suggest that STEM courses are still under development in both the USA and Kazakhstan, with differing goals and teaching methods between the two countries. By analyzing these issues, this study aims to contribute to the improvement of STEM education in Kazakhstan.

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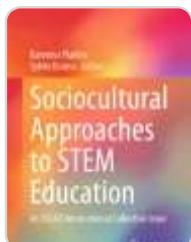
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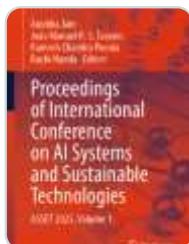
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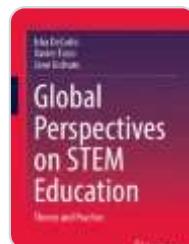
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