

STEM Education and Environmental Sustainability Vis-à-Vis Sustainable Development Goals (SDGs): A Systematic Literature Review and Bibliometric Analysis

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Abstract

This study aims to determine the role of STEM education in enabling sustainable development from an environmental perspective within the framework of Sustainable Development Goals (SDGs). In a quantitative approach, the systematic review offers a bibliometric analysis to complement the findings, using the Scopus database for broader academic reach. By doing this, the study establishes the current trends of research, prominent authors, and thematic threads relating STEM to the environmental goals of the SDGs. The study shows that STEM fields significantly contribute to achieving sustainability through new developments in sustainable energy, climate change, and resource mitigation, and it identifies interdisciplinary opportunities linked to SDGs. Moreover, the study offers suggestions for creating better environments that encourage collaboration to unlock the full potential of STEM education in attaining sustainable development objectives. Still, the study outlined some limitations, like geographic research biases and the lack of cross-disciplinary frameworks that hinder the generalization of the results across countries.

Keywords: STEM education, environmental sustainability, Sustainable Development Goals (SDGs), systematic review, bibliometric analysis