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Gamification in Science Education. A Systematic Review of the Literature

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Abstract

The implementation of gamification in education has attracted many researchers to increase engagement and achieve learning more effectively. Implementing technology in science curricula has seen a massive influx over the past years to stop the decline in students motivation towards science learning and promote scientific thinking. This studys objective is to present the empirical findings of the state-of-the-art literature on the use of gamification in science education. Therefore, we performed a systematic literature review of 24 empirical research papers published in various electronic databases and the web search engine for scholarly literature and academic resources, Google Scholar, between 2012 and 2020. This review reveals the latest emerging trends of gamification in science education while revealing the literature gap, challenges, impediments, and extending the possibilities for future research directions. It examines the conflicting findings of other studies and provides a framework and insight for future researchers regarding content areas, educational levels, theoretical models, outcomes, methodologies, game elements, and assessment tools.

Keywords: gamification, science education, student motivation, game elements, educational technology, student

Full text

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