

Empowering Future Generations: A Systematic Review of Project-based Learning's Role in Achieving Sustainable Development Goals

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The modern education is currently confronted with the dilemma of the need to prepare students with the necessary competencies to address global issues such as those outlined in the United Nations' Sustainable Development Goals (SDGs). But, there is a big chasm between understanding sustainability as a concept, and practicing it. This research has focused on reviewing the research on the role of ProjectBased Learning (PBL) as a pedagogical strategy for integrating SDGs in educational curriculum. The approach is a systematic review of 17 original contributions covering different types of education (primary, secondary, vocational, higher) and different educational subject disciplines (science, engineering, business, teacher education). The study was inductive and aimed at searching for the patterns between PjBL and the effectiveness of PjBL in acquiring the fundamental skills and competencies related to the practice areas of SDGs. The findings of the research indicate that PjBL is consistently and effectively: (1) Enhancing 21 st-century skills: critical thinking, creativity, and problemsolving; (2) Bridging the theory-practice gap through doing real; (3) Boosting motivation, self-efficacy, and active engagement through contextual projects; (4) Developing transversal competencies: collaboration, professional responsibility, and social awareness; and (5) Leading to concrete change in terms of improved academic projects and environmentally friendly innovation (e.g. waste-based products, processes, services and composting projects). In conclusion, PjBL has proven to be a transformative pedagogical framework for Education for Sustainable Development (ESD). Its sustainable implementation requires institutional support, systematic teacher training, and academic-industry collaboration. Thus, PjBL functions not merely as a learning method but as a strategic approach to produce an innovative generation that is responsible for sustainable development.

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