Project-Based Learning in Teaching Elementary Learners Towards Revised K-12 Critical Thinking Skills Model

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Abstract

This study investigated the implementation of Problem-Based Learning (PBL) in elementary classrooms, focusing on its impact on student engagement, motivation, and academic achievement. It also assessed the challenges faced by both teachers and students and identified factors influencing PBL's effectiveness in promoting student learning and development. The ultimate aim was to propose a revised K-12 critical thinking skills model based on the empirical findings. The research employed a quantitative approach to quantify the extent of PBL use, the challenges encountered, and the perceived influence of various effectiveness factors. Key findings indicate a high extent of PBL use, correlating with high student engagement, motivation, and academic achievement. However, both teachers and students reported encountering a high level of challenges associated with PBL. A strong positive and statistically significant relationship was found between the use of PBL and the challenges encountered, suggesting an interwoven dynamic where increased PBL implementation corresponds with increased challenges. Conversely, the study found a low and non-significant relationship between the use of PBL and general factors influencing its effectiveness, implying that perceived effectiveness factors are not consistently or strongly linked to observed student outcomes. Based on these results, a Revised K to 12 critical thinking entitled Responsive PBL Framework for Enhanced Critical Thinking is proposed. This model emphasizes that cultivating critical thinking through PBL requires dynamic implementation highly responsive to the specific needs and challenges of both students and teachers.

Keywords: critical thinking skills, problem–based learning, Quantitative approach, elementary learners