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## ***Environmental Awareness Through Project-Based Learning in Primary Social Science Classrooms in Dhaka: A Qualitative Analysis***


### **Extended summary**

This study examines how project-based learning promotes lifelong learning among teachers and environmental awareness among pupils in a Dhaka school. Project-based learning is examined in relation to pupils' awareness of air, water, soil, and sound pollution. By encouraging reflective practices and pedagogical development, project-based learning helps teachers develop professionally. Through teacher development and pupils' engagement with real-world issues, the study shows that project-based learning can create a more engaged and adaptive learning environment. The study analyzes how project-based learning might help teachers become more introspective and innovative through continuing professional development, improving pupil outcomes and development.

The relevance of the findings is twofold. First, it covers the influence of the project-based learning on teachers, highlighting how it supports lifelong learning through reflective practices, cooperation, and modification of teaching techniques. Second, it explores how project-based learning can improve pupil environmental awareness in primary school. By encouraging pupils to address real-world problems like pollution, project-based learning not only fosters critical thinking and problem-solving skills, but also encourages a sense of social responsibility. Furthermore, this research provides practical insights for educational policymakers and practitioners aiming to incorporate project-based learning in their curricula, particularly for overcoming problems linked to resources and time restrictions.

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The study was conducted in a well-established primary school in Dhaka known for its innovative teaching approaches. It was useful to test project-based learning in an environmental education and teacher professional development curriculum at this school. Semi-structured teacher interviews, classroom observations, and pupil reflections provided data. We interviewed four social science teachers, sixteen other subject teachers, and the school's head teacher about project-based learning, its problems, and its influence on pupil learning. We observed pupils' environmental engagement in the classroom. Their reflections revealed pupils' personal development, environmental awareness, and problem-solving skills.

A qualitative study design employed a thematic analysis of the data from interviews, observations, and pupil reflections. This study revealed various project-based learning and continuing professional development effectiveness findings. The research indicated that project-based learning helped teachers improve professionally by increasing reflective practices and teamwork. Continuous planning, implementing, and commenting on lessons helped teachers improve, and they felt more secure employing the project-based learning tactics. By providing new teaching methods and pupil-centered learning insights, continuing professional development programs helped teachers grow.

The study indicated that project-based learning increased pupils' environmental knowledge and participation. Environmental issues, especially pollution, were better understood and pupils were more engaged in practical activities. Collaboration and teamwork helped pupils learn 21st-century skills such as communication, problem-solving, and critical thinking. Many pupils showed an increasing motivation and engagement with the issue, indicating an increasing sense of environmental responsibility. The research results show that project-based learning can help pupils develop academically and socially.

The study also found various project-based learning implementation obstacles. Resources, time, and institutional support were issues for teachers. Teachers encouraged collaborative planning, parental participation, and digital tools for project management and collaboration among pupils to solve these problems. These strategies and an ongoing professional development were required to make project-based learning more sustainable and effective.

As for the schools implementing project-based learning, the research has various pedagogical implications. It suggests institutionalizing project-based learning-focused and continuing professional development programs in schools. These programs should offer training, peer mentoring, and research-based practices for teachers. Second, professional learning communities and cross-school partnerships should promote lifelong learning in schools. The study also suggests that project-based learning should be a regular part of the curriculum, so that teachers know how to make good projects and evaluate their students' progress in a meaningful way. Schools should also provide enough teaching materials and digital tools for project-based learning. Finally, professional development programs should include reflective teaching practices to allow teachers to frequently assess their teaching and find areas for development.

The study found that project-based learning improves environmental awareness and lifelong learning among both pupils and teachers. Structured continuing professional development can help project-based learning succeed, despite limited resources, improving teaching and pupil outcomes.

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Future research should explore how modified continuing professional development initiatives affect teacher readiness for project-based learning and how pupils interact with the method.

**Keywords:** project-based learning, environmental awareness, primary education, life-long learning, teachers' professional development

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