

Chapter 8

Pedagogical Transformation Through School Garden as a Living Laboratory in Public Schools in Nepal

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ABSTRACT

The study explores a school-garden project in a public school in Nepal. The learning garden was formed by the joint effort of co-researchers like students, teachers, and parents following participatory action research (observe-plan-act-reflect). Gardening at the school became a holistic way of teaching and learning. The findings suggest that the school garden is providing a living laboratory as students learn flora and fauna and their interrelation and it opens a space of multiplicity to transform pedagogy. The school garden motivated the students to have a sense of responsibility for environmental conservation. The students can be regarded as junior scientists cultivating and taking care of the garden. The teaching and learning were contextualized through indoor and outdoor sessions. As part of the curricular activities, engagement in the school garden provided a powerful learning arena. Parents, teachers, and students meaningfully engaged in the school as a part of co-curricular activity.

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CONTEXT

In line with the Global Goals for Sustainable Development, NORHED/ *Rupantaran* (*transformation in the Nepali language*) project, funded by the Norwegian Agency for Development Cooperation (Norad), conducted participatory action research (PAR) to develop practices and knowledge concerning innovative approaches to improve the quality of teaching and learning in the public institution in Nepal. The present study was conducted in a public secondary school in Chitwan district. The school was purposively selected to include socio-economically diverse catchment areas at Chitwan. The research participants were all the basic level students, teachers, parents, school management committee, participatory action research committee, and child-club members from the sampled school. Since the NORHED/ *Rupantaran* project has its project site in the Chitwan district, the first author (as a Ph.D. scholar) was interested in researching school garden-based learning among school children which was one of the main focuses within the *Rupantaran* project. In the PAR journey, we aimed to transform science learning through engagement in the garden. Furthermore, participatory activities in the PAR project require a willingness among those involved to share and exchange views of the existing learning situation, their opinions on one-size-fits-all pedagogy, and experiences. The first author engaged in the field with co-researchers through school and community visits (transect walks). During the visits, we raised an open discussion, formal and informal conversations without any structured format with the co-researchers like science teachers, students, parents, and SMC members to identify the existing problems, particularly garden-based pedagogies in the public school settings in Nepal.

Research shows that PAR in a school setting is useful to all stakeholders/research participants in collaborative actions like gardening (Acharya, Budhathoki, & Acharya, 2022; Trott, 2019; Wagle et al., 2023). Also, the researchers believe that schools have a radical space of possibility. This study focuses on the construction of a school garden and linking science curricula with gardening activities.

INTRODUCTION

Participatory action research in a school setting is supportive of all stakeholders/ research participants of the collaborating institution. The research recognizes that school is an important site for social and individual change efforts and that PAR is central to the struggle. The study was conducted to promote engaged science teaching and learning at the basic level i.e., five to eight graders, considering the impact on students' performance, knowledge, attitude, and skills. As a researcher in this study, we worked in partnership with teachers, students, parents, and school management committee (SMC) and PAR committee members. This study focused on the construction of a school garden and its use in hands-on activities linked with the science curricula. Introducing a school garden as a living laboratory for students' engagement provides opportunities for many countries worldwide facing challenges in providing adequate instructional materials for learning science (Afrina, Abbas, & Susanto, 2021; Chambless et al., 2012; Evans & Karvonen, 2010). Garden-based practice includes collaborative behaviors such as sharing, collaboration, argumentation, and using the school garden. School science education in Nepal aims to promote garden-based learning to transfer science pedagogy for engaged learning. Science learning is associated with students' learning performance, attitude, and knowledge. Community participation is a must to uplift schools in Nepal (Khanal, 2013). Along the same line, research reveals that critical reflection on teachers' beliefs and practices is needed to improve school education (Pant et al., 2023).

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