

# The effectiveness of in-service training programs on teachers' professional change

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## Abstract

There is a disturbing gap between the broad acceptance of the outdoor learning environment and the limited use of teachers from all age groups in this environment. They rarely use it, and most of them ignore it completely.

This study explored the influence of in-service teacher training (INST) of a group of science teachers from different schools at a teacher center and an individual mentoring of each of the teachers in her class on the quality and extent of the teachers' use of the outdoor learning environment.

The sample included 20 elementary science teachers. The INST had 56 hours over 12 meetings held once a week after school hours and individual meetings with each teacher in her school. It included a concrete experience of the teachers with the spiral model of the outdoor learning (concrete preparation in the classroom and laboratory – outdoor activity – indoor abstract summary) in a variety of outdoor learning environments located in the schoolyard and near the school and in the context of topics that are an integral part of the science curriculum; Introducing the pedagogical essence of the outdoor learning environment and the implementation of the theory in each teacher practical teaching in her classrooms.

The study used the mixed methodology (quantitative and qualitative). It included attitude questionnaires (pre/post), observations, and interviews).

The analysis of the questionnaires indicates that the teachers came to the INST program with very positive attitudes towards constructivist learning in general and towards the outdoor learning environment in particular. These attitudes remained very high even after the INST. The teachers' attitudes towards the INST itself were also very positive.

However, it was found that the implementation of the outdoor learning as an integral part of the curriculum, following the INST, was minimal. Significant implementation was carried out among a minimal number of teachers. It is important to note that the limited implementation took place although the INST program focused on outdoor activities of 20-30 minutes in the school area and in the neutralization of the technical and organizational restrictions involved in going out and despite the individual guidance and mentoring that was offered to each of the teachers.

The analysis of the interviews indicates that the adoption of the outdoor learning environment as an integral part of the curriculum is a paradigm shift for most teachers rather than professional development. It requires a profound change from a content-center approach to a student-center approach.

The analysis of the interviews of the teachers who successfully implemented the principles of outdoor learning environment indicates two variables that influenced their ability to adopt this new approach:

a) The internal factor: an internal perception of the essential role of the science teacher in providing the needs of each student and not the need of the Ministry of Education. *"... I define myself as a learner teacher. When I find learning materials or a teaching method that will affect my students' interest and understanding of the material being taught, I will have to adopt it at all costs."*

b) External factor: The level and degree of external support that teachers received during the implementation of the new teaching strategy. *"... without the close guidance and physical and emotional support I received, I could never have made the change."* These findings suggest that integrating the outdoor environment as an integral part of the teaching process requires teachers to change profoundly. For this deep change, an INST program cannot deal only with the content. It should also focus on the essence of teaching and learning. An effective INST should also concentrate on intensive school-based individual guidance. Moreover, such change processes require systemic support.