

CONFERENCE PROCEEDINGS

CIVINEDU 2025

9th International Virtual Conference on
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SCIENTIFIC COMMITTEE



Paula Andreea Stîngă
Babeş-Bolyai University
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EDUCATIONAL RESEARCH

An outdoor classroom as multifunctional learning space in primary education

Valentina Dessì¹, Maria Fianchini¹, Franca Zuccoli²

¹Politecnico di Milano, Italy

² University of Milano-Bicocca, Italy

Abstract

Schoolyards are valuable resources for school communities, yet they are rarely utilized as learning environments. In recent years, however, outdoor education has regained attention, accompanied by a growing body of studies and field research aimed at overcoming barriers and promoting the active use of these spaces. To highlight the successes, critical issues, and ongoing challenges of an outdoor education project implemented in a primary school, this contribution presents the outcomes of a post-occupancy evaluation of an outdoor classroom co-designed by the school community. The research methodology followed a multidisciplinary approach, drawing on both Architecture and Educational Sciences, and included a range of field activities involving teachers and students.

Keywords: outdoor education, schoolyard, post-occupancy evaluation.

Un aula al aire libre como espacio de aprendizaje multifuncional en educación primaria

Resumen

Los patios escolares son recursos valiosos para las comunidades escolares, pero rara vez se utilizan como entornos de aprendizaje. Sin embargo, en los últimos años, la educación al aire libre ha recuperado protagonismo, acompañada de un creciente número de estudios e investigaciones de campo que buscan superar las barreras y promover el uso activo de estos espacios. Con el objetivo de destacar los éxitos, los problemas críticos y los desafíos actuales de un proyecto de educación al aire libre implementado en una escuela primaria, esta contribución presenta los resultados de una evaluación posterior a la ocupación de un aula al aire libre, codiseñada por la comunidad escolar. La metodología de investigación siguió un enfoque multidisciplinario, basado tanto en la arquitectura como en las ciencias de la educación, e incluyó diversas actividades de campo con la participación de docentes y estudiantes.

Palabras clave: Aprendizaje al aire libre, post-occupancy evaluation.

Introduction

Schoolyards are valuable resources for both students' and teachers' well-being, as well as for the implementation of educational practices. As highlighted by Bellomo (2020), open schools and outdoor education became widespread during the first half of the twentieth century, aiming to address health issues and innovate educational approaches. However, improvements in hygienic conditions—and consequently, a reduction in health hazards—along with the increasing dominance of frontal teaching methods with fixed classroom settings, led to a decline in interest in outdoor education. As a result, schoolyards have been used less frequently and primarily for recreation.

In recent years, however, outdoor education has regained attention due to growing evidence of the negative effects of limited physical activity and prolonged time spent indoors on students' mental and physical health (Broda, 2011).

The push for innovation in educational practices and the recognition of all school spaces beyond the traditional classroom as possible learning environments led to the reevaluation of schoolyards. So, a growing number of studies and on-field research works aimed at overcoming the barriers perceived by teachers and encouraging the educational use of these spaces (E. *et al.*, 2020).

Against this backdrop, this contribution presents the outcomes of an evaluation process for an outdoor learning project implemented in an outdoor classroom specifically built at the Pole-sine Primary School in Milan, thanks to funding from the Municipality of Milan for innovative educational environments. The outdoor project and classroom are a result of the school's participation in a pilot program to co-design outdoor spaces, promoted by the Snam ETS Foundation (Dessi *et al.*, 2022) and developed by the authors of this paper. The evaluation process concludes a three-year monitoring program on the use of the new environment, as required by the Municipality of Milan's funding call, to demonstrate the implementation of the submitted educational project.

Methodology

The methodology adopted in this work results from a transdisciplinary approach and field research practice carried out by the authors over several years. Specifically, it integrates the fundamental principles of post-occupancy evaluation (Preiser *et al.*, 1988) — which primarily focuses on the functional efficiency of spaces in use — with models designed to assess the effectiveness of new school environments in fostering genuine educational innovation (Daniels *et al.*, 2019; Duthilleul *et al.*, 2021). This approach also emphasizes the importance of listening to and valuing students' voices (Cook-Sather, 2009).

An evaluation plan for the new learning environment was developed with the aim of identifying successes, critical issues, and ongoing challenges. To this end, several activities were carried out: on-site observations of classroom activities, a teacher survey using a structured questionnaire, and focus groups involving three classes and a group of teachers. These focus groups were designed to gather personal experiences and promote discussion among peers.

Results and discussion

Field observations were conducted during the autumn period. Educational activities primarily focused on topics related to nature; some classes were engaged in hands-on tasks, while others explored natural elements in the garden (fig. 1), followed by reflective or creative activities at the tables (fig. 2). No issues emerged in teachers' managing the classes in the outdoor space, as the children remained attentive, composed, and actively engaged. Additionally, the teachers' commitment to opening or closing the shelter depending on weather conditions, as well as the students' collaboration in adapting the setting to their needs and maintaining cleanliness in the outdoor classroom, were positively noted.



Figure 1. *Exploration of natural elements in the schoolgarden*
Author: Annachiara Visconti



Figure 2. *Art work in the outdoor classroom*
Author: Annachiara Visconti

The questionnaire received responses from fourteen teachers, representing approximately 25% of the potential sample. Of these, thirteen had used the outdoor classroom, though only three reported doing so on a weekly basis. Regarding the types of activities conducted, most were similar to those typically carried out indoors, although some took advantage of the larger or open-air setting, including special events. The most commonly represented subjects were, in order, Italian and art, civic education, science, and history. All teachers reported observing some benefits, particularly improved well-being and health conditions, along with increased student interest and participation.

From the students' feedback, a wide variety of uses for the outdoor classroom emerged, including both educational and recreational activities as well as special parties. Students appreciated working in a well-equipped space surrounded by nature, enjoying the fresh air, having ample room to move, and engaging in activities such as reading, art, and science. They also valued specific features like the blackboards and rainwater collection tanks. Most students described the space as a relaxing and comfortable learning environment that supported both concentration and enjoyment, while also fostering a sense of responsibility and collaboration. Only one student reported difficulty concentrating due to increased noise and external stimuli. When asked about possible additions or modifications, students suggested a range of additional activities, adding equipment for both learning and play, and offering solutions to address minor practical issues.

The final meeting with a group of teachers was held to discuss the findings from the previous evaluation activities and, more broadly, to reflect on the overall experience. From their accounts, strong satisfaction emerged regarding the variety of educational activities made possible by the space, as well as its effectiveness in fostering student participation and a sense of responsibility. The outdoor classroom also proved highly successful during special events —

ranging from welcoming nursery school children to hosting educational projects promoted by external organizations — and in serving as a space that connected the school with the local community. However, some challenges were also noted, particularly concerning the management and maintenance of the greenery and facilities. These issues led, at times, to the temporary closure of the courtyards, unauthorized access during school closures, and the proliferation of mosquitoes.

Conclusion

The goal of the post-occupancy evaluation plan extended beyond fulfilling the requirements of the mandatory monitoring report. It was designed to support the school community in a medium-term reflection on the outdoor education project, evaluating its successes, critical issues, and ongoing challenges.

This work clearly shows that the outdoor classroom has gained full recognition as an effective learning environment within the school. Its integration into the green space and direct accessibility from outside make it a valuable setting for meetings and welcoming activities, particularly in relation to the surrounding local community.

At the same time, the findings highlight the need for municipal authorities to address the specific requirements of outdoor teaching when planning interventions in school courtyards. This is essential to ensure that the issues raised by teachers do not undermine the value of the financial investments made in constructing the outdoor classroom.

Finally, although outdoor learning has proven to be a strong educational initiative with significant potential for further development, the challenge remains to engage a growing number of teachers. Broadening participation is key to ensuring that all students can benefit from the opportunities it offers.

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Author Contributions

It should be noted that this paper is the result of a shared work. While sections 'Introduction and objectives' and 'Conclusions' were written by Valentina Dessi, Maria Fianchini and Franca Zuccoli, sections 'Methodology' and 'Results and discussion' were written by Maria Fianchini.

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