

DESIGNING INCLUSIVE OUTDOOR SPACES: AN ADVANCED UNIVERSITY TRAINING COURSE

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Education never stands still—it moves, adapts, and transform in response to new realities, while reshaping society in turn. This collection explores some forces defining learning today: digital tools, intercultural dialogue, artistic expression, and the call for ecological responsibility. At its core, education remains a space for negotiation and reinvention.

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02

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# PROCEEDINGS

Vol. 2

**Cultures,  
Practices,  
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Organizers and partners

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# DESIGNING INCLUSIVE OUTDOOR SPACES: AN ADVANCED UNIVERSITY TRAINING COURSE

Michela Schenetti<sup>a</sup>

Francesca Thiebat<sup>b</sup>

Anna Costa<sup>a</sup>

<sup>a</sup>University of Bologna, Italy

<sup>b</sup>Politecnico Torino, Italy

Outdoor education has become increasingly relevant in Italy over the last 15 years, as evidenced by the growth in scientific publications, professional interest, and training initiatives. This trend has spurred the organization of conferences, the development of university specialization courses, and in-service training programs across the country. Outdoor environments, seen as the “third educator” alongside teachers and peers, provide rich and meaningful learning contexts. They offer less structured settings that foster early cognitive, emotional, and social development. However, international research highlights that outdoor spaces are still underutilized in education, despite their potential to enhance children’s overall well-being and lifelong learning. In 2023, the University Advanced Training Course “Designing Inclusive Outdoor Spaces” was launched, co-financed by ARPAE, the Emilia-Romagna Region, and the Municipality of Bologna. The course brought together 46 professionals, including environmental educators, urban planners, and pedagogical coordinators, in participatory workshops using Thinking Routines to foster collaboration and innovation. Through interdisciplinary approaches, participants co-designed projects aimed at creating inclusive and equitable educational spaces, from school gardens to urban parks, with a focus on children’s rights and well-being.

outdoor education; inclusive spaces; interdisciplinary approaches; participatory planning/design; well-being; sustainable architecture

## A NEED TO RETHINK OUTDOOR SPACES

In recent years, the need to rethink outdoor educational spaces has become increasingly evident, in line with the growing recognition of their educational, social and environmental value. Several national and international documents emphasise the importance of integrating such spaces into educational pathways, with a focus on sustainability, mental health and well-being, focusing on inclusion, accessibility and the rights of children, young people and adults.

In Italy, the introduction of Law 92/2019 has refocused attention on the objectives not only of citizenship education, but of the school system, to be truly democratic, equitable and inclusive. At the global level, the World Health Organisation (WHO)

highlighted the importance of green and blue spaces for mental health in 2021. This reinforces the recognition that accessible natural environments contribute not only to the mental and physical well-being of young children, but also to the health of the whole community. The Covid-19 pandemic emergency had a major impact on the school sector and, by highlighting existing problems, led to a rethinking of teaching and experimentation with new spatial solutions. The need for more ventilation in indoor spaces and the distances required by regulations brought the focus back to school and urban outdoor spaces.

In 2002, the European Union introduced *GreenComp*, the European Framework of Competences for Sustainability, a document that defines key competences to prepare citizens capable of facing the environmental and social challenges of our time. These references underline the urgency of considering outdoor spaces as fundamental educational environments, capable of combining sustainability, learning and well-being, and promoting a culture of inclusion and active citizenship.

## **ARCHITECTURE AND EDUCATION IN DIALOGUE**

The University Advanced Training Course “Designing Inclusive Outdoor Spaces” launched in 2023 is conceived as a workspace for developing knowledge and practices that support the promotion of inclusive and educational outdoor contexts on the one hand, and participatory and collaborative planning on the other. This requires an approach based on dialogue between pedagogy and architecture.

From an educational and pedagogical point of view, the importance of promoting deliberate and conscious outdoor education has gradually become clear. At the same time, however, it became clear that this dimension could only be truly sustainable if it was accompanied by an appropriate rethinking of spaces, equipment and materials. Hence, the design of any context endowed with educational intentionality consists of two inseparable parts: the educational and pedagogical design and the architectural design (Weyland & Galletti, 2018, p. 9). It has been recognised that these dimensions cannot continue to proceed in parallel without ever meeting, but rather that it is necessary to appreciate the potential inherent in a joint and participatory design between them.

The challenge, which has long been at the centre of the architectural debate, of creating a “school without walls” through the design of school gardens and urban parks, highlights the importance of learning models that are not tied to defined physical spaces, but open “to a circuit of functions integrated with cultural services and with the expressive values of each context and territory” (Del Nord, 1991). Where the outdoor space is no longer a neglected space, but a place of continuity with the school environment, which Del Nord defines as an “educational structure” (Bologna and Torricelli, 2021).

Several publications in recent years have highlighted the growing desire and need to develop action processes that integrate these disciplines in a collaborative perspective, particularly with regard to the redesign of school spaces (Castoldi, 2020; Tosi, 2019; Weyland & Attia, 2015). Recognising the benefits of such collaborative

work, it has been highlighted in the aforementioned field of research that the construction or reconstruction of educational spaces in a participatory sense is “a journey that takes those involved to the limits of their fields of expertise, to meet in the (usually no man’s) land of interdisciplinarity, between the sciences of education (in the broad sense) and those of planning (architecture and design)” (Weyland & Galletti, 2018, p. 43). The constructive intersection between pedagogy and architecture is thus offered as an opportunity to become aware of one’s own positioning and to move towards the inclusion of perspectives other than one’s own. In this regard, Weyland and Attia (2015), in a study based on interviews with teachers, architects, administrators and school leaders, highlight the difficulty of mutual understanding between these professionals. The motivation they identified was often due to different terminological and interpretations around the theme of spatial design.

The creation of a place for sharing and dialogue between these areas, such as the Advanced Training Course, is in this sense proposed as a context that can potentially respond positively to this issue, allowing the construction of a common language. Through a space for reflection, shared and collaborative training involving multidisciplinary professionals from the pedagogical-educational and technical-architectural fields, it is possible to understand how to design open-air environments characterised by good architectural and structural quality and optimal pedagogical-educational-didactic coherence. The need for training in the design of spaces capable of promoting a sustainable development perspective (Dessi & Piazza, 2022) and of supporting educational approaches based on outdoor education has been recognised, particularly by professionals in the educational field. This desire was combined with the need, expressed by professionals and architects, to better understand what the users of the spaces they design really need, with their wellbeing and quality of life as a principle. To achieve this, it was necessary to structure a training context that would take on the task of not only rethinking outdoor spaces from a design and architectural perspective, but also supporting and stimulating participants’ reflexivity about what it means to educate outdoors from an inclusive perspective and in a participatory context.

This need seems fundamental today. It is necessary to reverse course and work towards changing a cultural paradigm that has often led to a lack of attention to the real needs of children, adolescents and adults when it comes to their living spaces and contexts. This requires careful attention to the skills of those who deal with this issue daily in their work contexts, to unravel the historical and cultural conditioning that has often led to false beliefs from an adult-centred and non-inclusive perspective.

## **TO BUILD A COMMON LANGUAGE**

The main objective of the “Designing Inclusive Outdoor Spaces” postgraduate course by the research group that led to its creation was to train a professional profile competent in the design of outdoor spaces, able to reflect on the characteristics of spaces in relation to the needs of those who use them and to collaborate in an

interdisciplinary way with institutions and other professionals.

The course enabled the training of a heterogeneous group of 46 participants, including teachers, environmental educators, pedagogical coordinators, municipal green technicians, architects and town planners. All united by a common interest and/or commitment to work around the themes of designing environments with an educational intention in the outdoors.

The participatory and interdisciplinary nature was one of the main strengths and characteristics of the course, which invested in a wide range of speakers with different educational and professional backgrounds, who approached the topic from their own point of view and approach. Specifically, the speakers included: educators, psychologists, ecologists, architects, landscape architects, institutions and associations in the sector; with the aim of offering and creating, together with the participants, a common framework and language around the design and care of outdoor spaces.

The training focused on promoting a shared understanding of inclusive design, children's culture, health promotion and environmental sustainability. Training was given on how to co-construct active citizenship based on collaborative and interdisciplinary work, exploring methodologies, outdoor education and learning, and issues related to the planning and maintenance of spaces. The training was focused on promoting common knowledge related to inclusive design, childhood culture, promoting health and environmental sustainability.

A fundamental objective underlying the creation of the course was the desire to create a network linking the various educational institutions in the area. It was essential to activate relationships between participants aimed at developing concrete experiments in participatory planning in their own reference contexts and beyond. All this was to converge towards a single goal: to arrive at a rethinking of educational services, of the professionals who work within them and of those who, in various capacities, are involved in the design of open spaces as open ecosystems (Bronfenbrenner, 1986), competent and connected to the world; a conception that, recognising their fundamental role of agency, leads to the concrete possibility of creating networks of different people and institutions, always with a view to activating processes of training and educational and cultural change. In fact, "the quality of outdoor education processes is closely linked to the quality of the design of outdoor spaces, which in turn depends on the involvement of all participants who use those spaces, so that it can be co-designed and participated in by all" (Schenetti & Petrucci, 2023). As stated by Milotay (2016), the key to the success of pedagogical experimentation initiatives capable of generating educational and social innovation lies precisely in being able to activate – and make sustainable in the long term – the mutual interdependence between top-down and bottom-up oriented transformative processes (Schenetti & Petrucci, 2023).

In order to promote the collaboration between the pedagogical and architectural dimensions, already highlighted by Weyland and Attia (2015), the course emphasised the importance of a performance-based approach in the design of learning

spaces. This approach starts from the needs of the users involved, from a user-centered design perspective, to define design solutions that meet specific environmental and technological requirements (UNI 8289). The definition of the 'demand', which integrates the needs of the different users, is therefore essential to provide an adequate 'response' through design.

The many variables involved in the design of an outdoor education space require a rethink of the design process, which must necessarily consider the different points of view of the child, the educator, the manager, the parent and the specific characteristics of each user. The environment is both a constraint and a stimulus that the project cannot ignore. The outdoor space 'without walls', also through the integration of furniture and equipment, must be inclusive and flexible to respond to the needs of the different users, often not known in advance, to the stimuli of the children and teachers, to environmental and weather variables. During the course, a role-playing activity was carried out to simulate a co-design process in which the points of view of the participants, all directly involved in outdoor education but with different roles, were discussed. It should be noted that the activity was initially carried out in homogeneous groups, which were then brought together in a more heterogeneous way by the teachers to stimulate reflection and open less usual perspectives. Architects, agronomists and teachers tried to identify with the children, teachers, parents and headmasters to construct the question to ask the designers. The groups then tried to come up with a design response that would meet the needs expressed. This was a pragmatic way of testing the extent to which this approach can create environments that truly meet the needs of all, thus promoting outdoor education that is truly inclusive and sustainable. The experience of the course also shows how important it is to integrate the methodology of user-centred design with co-design in the design of outdoor spaces. In fact, the former is somewhat limited to considering the user as a mainly passive subject whose needs are studied and analysed by the designers through observations or interviews. Co-design, on the other hand, focuses on how to involve the user with an active role in the design process (Cocina et al., 2019). The main difference between these two approaches is therefore the shift from designing 'for users' to designing 'with users' (Sanders and Stappers, 2008). There was no lack of attention to the requirements of landscape architecture, which made it possible to consider the wide range of design possibilities offered by the characteristics of the ground, paving and topography, as well as natural elements and colours. This was linked to the multiple possibilities offered by spaces designed as 'playgrounds' and 'play universes', where an approach based on dialogue between architecture and pedagogy was adopted. In this direction, the right of children and young people to play and their way of learning becomes an essential condition for design. The perspective is that of the 'playable city', in order to move away from the concept of an urban context characterised by fenced and enclosed schoolyards and playgrounds, in which the playable space is relegated to the periphery in predefined locations. The proposal is to reverse the perspective and make all public spaces available to citizens playable, such as squares, natural and pedestrian areas, and spaces around schools; to think of cities

where play begins in school areas and extends into the urban space, understood as open and continuous. In this sense, the “Plan for Play in Public Spaces” of the city of Barcelona has been studied, which has set itself the goal of becoming a playable city by 2030, moving towards a change in the concept of urban play space and promoting more and better opportunities for play in public spaces, in close connection with citizenship and nature.

### **META-REFLECTION PRACTICES TO SUPPORT CHANGE PROCESSES**

The actions described and planned had a common objective: to build a group that, by working together, listening to each other and questioning each other, would create a participatory process. What the design of the training course was intended to train, i.e. the ability to design spaces from a shared point of view, focusing on the multidimensional participation of disciplines, professions and users, was in fact experienced first and foremost by the participants themselves during the course. The practices of reflexivity and confrontation, born from the proposal of the Thinking Routines of Harvard University, were essential for activating the participation of the students.

During the training, the participants were involved in Thinking Routine sessions (Ritchhart & Perkins, 2008): strategies that originated from Harvard University’s Project Zero with the aim of making learning processes visible and shareable. This method was used to increase the trainees’ awareness of the learning process underway: to activate their reflexivity, to exchange between professions and to heuristically track the evolution of co-constructed thinking over time. Thinking routines are simple, short strategies that can be proposed to students and trainees with the aim of intervening in their thinking processes, enhancing them and making them visible. They are therefore strategies that aim to extend and deepen thinking and, if used frequently, become part of the fabric of the learning community’s daily life (Mughini & Panzavolta, 2020).

### **CO-DESIGN PROCESSES AND PROJECT WORK: TOWARDS NEW PERSPECTIVES**

At the end of the course, co-design processes were activated between participants aimed at the construction of group Project Work. This project proposal envisaged the activation of a reflective process by the individual which, in addition to taking shape for the individual himself, was then open to the possibility of becoming a participatory design constructed by and for several individuals in a shared and collaborative manner (Deluigi & Marino, 2023).

The course aimed to create participatory contexts among students by encouraging them to experiment with design in their own environment. The course, therefore, did not limit itself to training the subjects included in the course, but also sought to put them in a position to produce effective and concrete changes from a participatory and shared perspective, promoting a new culture of education and childhood at a community and social level. The decision to conclude the training with the elaboration of group Project Work was made precisely in order to achieve these objectives.

The 46 participants autonomously divided themselves into 6 multi-professional groups, formed according to their disciplinary skills and experiences. Over time, thanks to getting to know each other and the training experiences offered with active methodologies, often carried out during immersive days in natural settings, the participants began to establish relationships and connections between their experiences and interests. It is in this way that common design ideas were developed for the qualification and innovation of outdoor spaces of educational, school and neighbourhood services, which later came to concrete life in the Project Works.

The methodological learning proposal adopted for the Project Work construction phase can be associated with Problem-Based Learning (PBL) and Project-Based Learning (PjBL) approaches, given their strong appeal and connection with the participatory and co-design methodological set-up adopted throughout the course. Again, the approach was strongly student-centered, with students organizing themselves into working groups that collaborated for a considerable period of time (Helle et al., 2006). The project works were focused on real needs and problems of environments known to the students, who, through dialogue and direct confrontation with the recipients of the learning spaces and soil analyses, raised questions that were fundamental to the construction of the projects. The team of teachers and tutors played a careful role of facilitation, guidance and support throughout the projects, helping the participants to frame the processes, monitoring the development of the final products and assessing the learning at the final moments (David, 2008; Helle et al., 2006). In order to support the concreteness of the design processes put in place, the production of final artifacts made by the trainees through the construction of posters representative of the projects constructed by the working groups was planned. Finally, in the design phases, also in this training environment, the recursive recall made by the students to their prior knowledge was evident, reinforcing the learning internalized during the course. The projects presented demonstrated the value of multi-professional co-design that places the need for interdisciplinary and participatory work at the center. Each project highlights the importance of community involvement, interdisciplinary dialogue and the adoption of ecological approaches to transform educational spaces into places of growth, socialization and sustainability. Specifically, the 6 project works can be traced to three main outcomes:

- Transformation of outdoor space from garden to experiential educational space (i. e. “The garden belongs to everyone”; “Polo 0-99”);
- Redevelopment of outdoor space to promote nature-related sensory-type activities to counteract isolation and promote inclusion and socialization (i. e. “Hourglass”; “Pole 0-99”; “Green space, white sheet, lots of mud”);
- Renovation of damaged outdoor areas as an opportunity for redesign with a view to outdoor education involving furniture, natural elements and equipment to promote interaction and collective responsibility (i. e. “Towards new perspectives for the gardens of educational services”; “Kalipè”; “Green space, white sheet, lots of mud”).

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