OUTDOOR EDUCATION: RETHINKING THE BODY IN LEARNING ENVIRONMENTS

OUTDOOR EDUCATION: RIPENSARE IL CORPO NEGLI AMBIENTI DI APPRENDIMENTO

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ABSTRACT
The innovative pedagogical approach of Outdoor Education proposes the concept of an "open architecture," or "learning environment," in which spaces are open and equipped with flexible furniture so that educational spaces can be adapted as needed while still within a definitive architectural structure. The main goal is to incorporate OE into didactic methodologies, expanding the concept of "classroom" to include other open space environments that can be used both for didactics and for moments of individual meeting and reflection.

L'innovativo approccio pedagogico dell'Outdoor Education propone il concetto di "architettura aperta" o "ambiente di apprendimento", in cui gli spazi sono aperti e dotati di arredi flessibili in modo che gli spazi educativi possano essere adattati secondo necessità pur rimanendo all'interno di una struttura architettonica definitiva. L'obiettivo principale è quello di incorporare l'OE nelle metodologie didattiche, ampliando il concetto di "aula" per includere altri ambienti open space utilizzabili sia per la didattica che per momenti di incontro e riflessione individuale.

KEYWORDS
Outdoor Education; Corporeality; Learning environments; Architecture; Inclusion.

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Introduction

In the school environment, the contexts in which learning takes place represent the spaces in which the link between learning and experience can be emphasised. These spaces are no longer considered simply as surfaces, but as fundamental places within the architecture of teaching (Damiano, 2013). In this perspective, the educational experience can be described in terms of structured spatiotemporal coordinates, which influence the configuration of learning environments and the interactions between various factors affecting the student's learning journey (Strongoli, 2017). The technical, functional and morphological design of these places is driven by the need to create protected environments in which future generations can experience the concept of living in community. These environments should promote collaboration, and the welcoming of diversity as a resource and directly involve students in shaping their educational path (Bonaiuti, Calvani & Ranieri, 2007).

In this regard, Bobbio (2014) suggests a distinction between school spaces according to their configuration. On the one hand, there is the 'temple school', which follows a standardised structure with rows of desks lined up in front of a desk. This approach was originally designed to ensure universal access to education but often does not take into account the individual needs of students (Strongoli, 2019). On the other hand, there is the 'workshop school', characterised by a flexible nature that allows students to actively construct their knowledge; in this perspective, the school is not limited to the classroom but also includes other spaces such as libraries, gardens, courtyards, laboratories and multimedia spaces, where students can carry out individual and group activities, experiencing knowledge both inside and outside the classrooms themselves (Strongoli, 2019).

From an educational point of view, it is therefore crucial to rethink spaces in such a way as to promote the active and cooperative participation of students and include the bodily dimension as a device through which individuals orient themselves towards an environment to be explored and experienced sensorially (Iori, 1996). In this way, experiencing the school environment in ecologically and systemically reconfigured spaces can become a metaphor for learning to relate to others, respect rules, and take care of one's surroundings (Hertzberger, 2008).

1. A school 'outside' the walls: the normative perspective

There is a transition from the traditional conception of a school confined within walls to a vision of a school that extends beyond its physical boundaries. Currently, many aspects relating to the use of school spaces are being criticised, as many features remain anchored to traditional models, such as the organisation of classrooms based on numbered classes, the rigid arrangement of desks in front of the teacher's desk and the static nature of workstations. This type of organisation tends to promote traditional, linear teaching practices; the objective should instead be the creation of a school that serves as a privileged place for learning for all students, each with its own specific needs. To achieve this, structural innovations in the architecture of school spaces are needed (Strongoli, 2019). This is not a question of mere decoration of school facilities but concerns the design of an educational architecture that integrates pedagogical-didactic practices in an inclusive perspective, with a particular emphasis on outdoor spaces.

Attempts are being made to redefine the design of educational spaces so that it is not only about aesthetics and practicality but also about educational functionality (Ceciliani, 2019b). The configuration of these spaces should foster collaboration, research, reflection, knowledge construction and sharing; teachers should sensory, exploratory, social, environmental and technological activities based on the context in which students find themselves (Indire, 2021). The creation of a school that values outdoor spaces fosters the continuous link between practical experiences, theoretical reflection and documentation of experiences, both inside and outside schools. In this approach, there is no clear separation between indoor and outdoor spaces (Ceciliani, 2019a), but rather a continuity between different spaces, each with its peculiarities and characteristics.

With this in mind, the Ministry of Education, Universities and Research (MIUR) has supported the creation of educational architectures that go beyond traditional classrooms, paving the way for a vision of a school that extends far beyond its physical boundaries. Teachers and educators are responsible for creating a pedagogical link between indoor and outdoor spaces, integrating all activities that can take place both inside and outside the classroom.

At the national regulatory level, there have been several attempts over time to adapt educational spaces to the needs of students. The process began with the Ministerial Decree on School Construction of 18 December 1975, which focused on the issue of school spaces. Subsequently, the 2012 National Directions for the curriculum of pre-school and first cycle of education emphasised the importance of

using spaces flexibly, not limiting it to the traditional classroom, but including environments equipped for different learning activities, such as science, technology, languages, music production, theatre, artistic activities and motor skills (MIUR, 2012). In 2013, the Ministry of Education, University and Research (MIUR) published the 'Technical Standards: Guidelines for School Construction', which redefined the criteria for designing school spaces. These guidelines promoted the creation of modular environments and introduced parameters and criteria for different areas, including classrooms, group spaces, laboratories, individual spaces, informal and relaxation spaces, urban planning aspects, spaces for school activities, technological systems, materials, safety and furniture. Recently, the European Commission's 2021 National Recovery and Resilience Plan called for action on the architectural aspects of schools. Therefore, with the ministerial decree of 25 January 2022, a commission was established to draw up general indications and guidelines for the design of learning environments related to didactics, to build innovative schools that meet the new educational needs (MIUR, 2022).

The document 'Futura. Progettare, Costruire e abitare la scuola' published by MIUR emphasises the importance of participatory planning for new schools, involving architects, engineers, designers, pedagogues, educators, experts in new technologies and the educating community, consisting of students, teachers, headmasters, school staff, families and neighbourhood representatives. This approach aims to consider the school as a common good to be protected through the possession of the following characteristics (MIUR, 2022)

1. Quality of the architectural structures that must be balanced in terms of size, arrangement of elements and orientation of light, guaranteeing territorial recognisability over time;

2. Low-consumption buildings that must be designed to minimise environmental impact and maintenance requirements;

3. Sustainability of eco-friendly materials of natural origin that can be used to reduce environmental impact;

4. Openness to the territory since schools must be able to become places of encounter and experimentation, promoting the mixing of ages, knowledge and skills;

5. Diversified use of indoor and outdoor spaces to encourage multiple uses, considering the outdoor environment as an extension of the indoor;

6. Pedagogical design of spaces that must adapt to diversified and personalised teaching models;

7. The design of spaces must be able to foster cooperation between stekoholders;

8. Spaces must promote inclusive learning, considering different cognitive styles;

9. Different equipment must be provided for classrooms and laboratory spaces;

10. Learning technologies must be adequate to support teaching and administrative activities.

2. An integral approach between architecture and pedagogy

It is believed that these arguments are compatible with a pedagogical approach based on wholeness, as proposed by Bertagna (2010). This acceptance of the integral pedagogical approach is not only based on the importance of recognising the relational unity in education, which embraces both the 'I-you' dimension and a broader unity encompassing the environment, community, culture, and individual and collective histories, but also on the idea that promoting the whole of humanity requires respect for each individual's right to a range of experiential possibilities. These experiential possibilities, which can be considered in terms of 'capabilities' according to Nussbaum and Sen (2004), should be available to all and, if denied, raise a question of democracy that concerns society in general and pedagogical and social disciplines in particular. Moreover, depriving children of these autonomous experiential possibilities could relegate them to 'actus hominis,' i.e. actions caused necessarily, preventing them from exercising the human capacity to choose between different purposes and to realise them.

It is important to note that the lack of opportunities to explore spaces and have autonomous experiences also seems to be reflected in the literature for children and adolescents, where school facilities as explorable spaces are often absent, while the concept of 'loitering' is more present in international fiction. The discussion on the possibilities of autonomous experience should include both educational and legislative reflection. While some comparative data indicate that

other European countries do not prohibit primary school children from leaving school alone, a debate on the issue is needed. For example, the recent proposal to require the presence of an adult at the school exit for middle school students has been the subject of debate, and this hyper-protective drift should be critically examined, also considering young people's right to independent mobility (Borgogni, 2019).

Many nations have planned extensive programmes to renovate the heritage of schools and are again investing in school architecture. Furthermore, many architects have begun to reflect on the need to understand how to translate educational theories into architectural designs that redefine the organisation of spaces. One architect who showed considerable commitment and interest in Europe in the last decades of the 20th century in the field of the study and design of school buildings was Herman Hertzberger, who developed a profound reflection based on the 'pedagogy of space' inspired by Maria Montessori, to create environments that offer opportunities and stimulate different interpretations. The schools designed by Hertzberger emphasise the importance of articulated spaces over the rigid separation of individual classrooms. His approach is based on the concept of 'learning environments' and is influenced by typical urban elements, considering the school as a kind of city, where elements such as the 'street' and the 'square' play a key role. Hertzberger has contributed to the design of several Montessori schools, including those in Delft and Amsterdam. In his school concept, he promotes the theme of the 'educational promenade' where classrooms are like houses connected by a street, or where the heart of the school can be represented by a 'square,' which he sees as the evolution of the atrium as a central meeting place. This conception of the 'piazza' is in line with Loris Malaguzzi's vision of educational spaces, who attached great importance to such spaces as places of exchange and socialisation, arguing that the space itself could act as a 'Third Educator', a concept that the American architect Trung Lee called the 'Third Teacher'. including those in Delft and Amsterdam. In his concept of the school, he promotes the idea of an "educational promenade," in which classrooms are like houses connected by a street (Hin et al., 2010), or in which the heart of the school can be represented by a "piazza," which he sees as the evolution of the atrium as a central meeting place. This conception of the 'piazza' is in line with Loris Malaguzzi's vision of educational spaces, who attached great importance to such spaces as places of exchange and socialisation, arguing that the space itself could act as a 'Third Educator' (Edwards et al., 1995), a concept that the American architect Trung Lee called the 'Third Teacher'.

There is a growing need to create new settings that foster different dynamics in the relationships between teachers and students, as well as among the students themselves. This need is based on a different temporal sequence of teaching moments. Although the traditional classroom is still in use, the conception of a teacher standing in front of rows of desks is now outdated; the classroom itself has been rethought as an adaptable space for face-to-face lessons, but this is flanked by other modes and places that are part of a more articulated and simplified approach involving a systemic logic. In particular, spaces are provided for group work that promotes a positive environment and the active participation of each student; there is also a workshop space that serves as a place for practical implementation, hence the term 'atelier', and requires an environment in which students can work independently, stimulating observation, exploration and the creation of artefacts (MIUR, 2013). There are also spaces called 'Piazza' and 'Agora', which act as the symbolic and functional hearts of the school, serving as distribution centres for horizontal and vertical educational paths linked to all other school activities. These terms recall the approach of Loris Malaguzzi's Reggio Children preschools. For the latter, the 'Atelier' represents a place where different skills and experiences mingle, and acts as a 'gulf of reflection' where creativity, expressiveness, planning and experimentation converge. In short, the Atelier offers competent support to the imagination (Bobbio, 2008) and helps to challenge traditional pedagogical schemes, actively involving hands, minds and emotions. Moreover, as Rinaldi points out, it is a metaphorical place that represents the school's overall objective: to support the development of communication and the many languages (Rinaldi, 2008) of children. There are many possible solutions for designing spaces that meet modern learning and teaching needs but, nevertheless, the imposition of overly rigid norms and rules makes little sense. Instead, it is more meaningful to directly involve those who will actually use school facilities: teachers, students and parents. Starting with a sound pedagogical concept, architects can develop architectural designs that are adapted to the specific needs of each situation.

The important thing is that user participation in the design is not merely a formality, but is conscious and competent, without, however, interfering with the skills of those who specialise in the design and construction of such spaces. In other words, it is a participation that manifests itself through a process of brainstorming ideas, which are subsequently translated into a scientifically and stylistically accurate manner. Currently, this is the prevailing trend, especially abroad. When designing or renovating new school facilities, it is no longer only architects who are involved, but a path is followed that involves all stakeholders. In the past, there was no real

dialogue, architects designed on their own, and later pedagogues also started to be involved. Today, a further step has been taken by involving the entire community concerned, so that children have the opportunity to express their often surprising opinions.

Designing new spaces for educational institutions requires considering not only the architectural aspect but also the pedagogical one. Already the famous Vitruvius in 35-25 B.C. or, in his treatise 'De architectura,' stated that the architect must possess extensive knowledge in different disciplines, as his judgement is called upon to evaluate the effects produced by different techniques. This approach reflects a holistic cultural view of the school, considering it both as an ecological environment and as a physical space for learning.

On the one hand, pedagogy aims to reflect on educational models, anthropological conceptions, the dynamics of teaching and learning, and the importance of developing didactic paradigms that are meaningful to the educational community and that can foster a complete formation of the individual. On the other hand, architecture focuses on the physical organisation of the spaces in which people live, considering the spatial, cultural and ethical relationships between natural and urban environments intended for different functions. The desired objective today would be to come to speak of a 'pedagogy of space', that is, an architectural design attentive to the individual, his uniqueness and his relationships, which finally unites these two disciplinary fields. It is worth remembering that, as Heidegger (2008) states, space should be conceived "concerning the body, as its place and as a container for other places" Fig.(1-3).

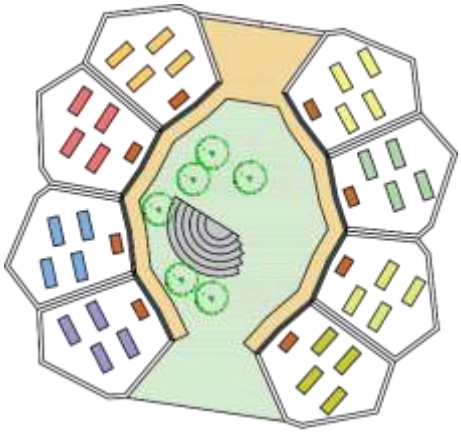

Figure 1 Example of traditional educational layout

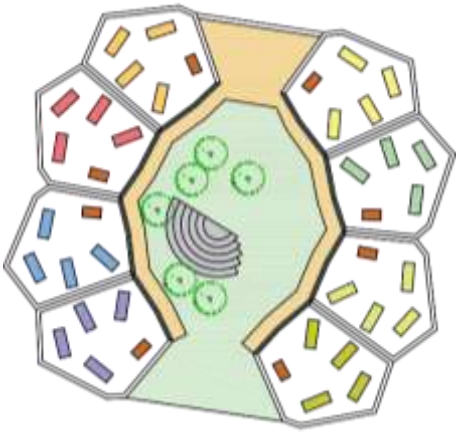

Figure 2 Example of alternative educational layout

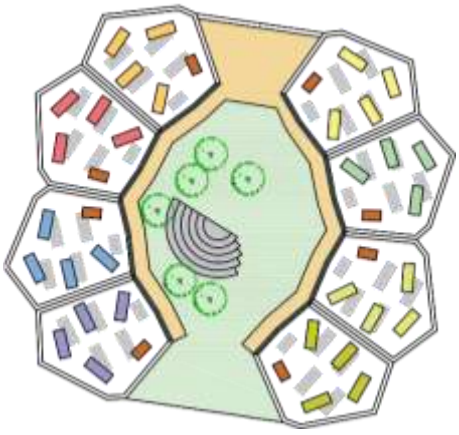

Figure 3 Comparison between the two layouts

3. Vicarious spaces for health and quality of life

The holistic approach to education allows us to explore in detail the quality and typology of spaces from a pedagogical point of view. In this context, the concept of "vicariance of use," defined by Berthoz (2013) as the possibility of using spaces, objects or tools in different ways, is taken up by Sibilio (2017), concerning "didactic corporeities" (Sibilio, 2011), to include interactions between peers (co-learning) that can be influenced or suggested by the configuration of the spaces. This approach to vicariance allows us to advance the hypothesis that a space can have its own educational intentionality. This hypothesis is supported by field research and practical reflections (Borgogni, 2012; 2018), suggesting that a space can be

considered intentionally educational if it meets certain design, construction, infrastructural and use criteria (Hubbard, Kitchin, 2010).

From a design perspective, a space should be designed to allow for a complex variety of behaviours, and educational intentionality should be clearly incorporated into its design, involving community participation. The design must be able to anticipate certain behaviours and remain open to unexpected uses (Arnstein, 1969; Hart, 1992). In terms of implementation, the space must be created with attention to execution and detail, avoiding neglect that could compromise its safety or durability over time. On an infrastructural level, space should offer opportunities for action, and affordances (Kyttä et al., 2018), which suggest desired behaviours, but it should also remain flexible enough to allow unpredictable uses, whilst guaranteeing safety. The "loose" characteristics of the space (Franck, Stevens, 2006; Borgogni, Farinella, 2017) would allow for maintaining a level of complexity both in the environment and in bodily practices. Public spaces that could be intentionally educational include playgrounds, green areas, condominiums or neighbourhood courtyards. Furthermore, streets and squares can serve as educational spaces, both for play and for children's independent mobility, although they may represent more significant cultural challenges.

The idea of "urban mothering" (Borgogni, 2019) emerges as a concept in which the community itself plays a role of protection and reciprocity, extending the intentionality and reciprocity of educational intentionality (Malavasi, 2012) to public spaces and the adults who supervise them. This concept requires greater social and political awareness to promote children's autonomy in public spaces. Ultimately, the presence of children and other vulnerable categories in public spaces is a question of democracy and rights that goes beyond educational, social and health benefits. The design, care and participation of the community are fundamental to guarantee that public spaces are polysemous places in which technical and social aspects are intertwined (Borgogni, Farinella, 2017).

Attention to the health, well-being and quality of life (Giaconi, 2015) of students should be an essential component in the design of school spaces. According to the World Health Organization (WHO, 1998), health is defined as the ability to adapt and self-manage in the face of social, physical and emotional challenges, and this concept of health also applies to the school environment. Schools play a crucial role in developing healthy lifestyle habits among students through targeted school policies. In fact, international research has highlighted a decline in children's health, with growing problems such as obesity, stress, anxiety disorders and loss of contact with the surrounding physical world. This situation has led to a decrease in direct

sensory experience, as children spend more and more time in passive activities such as using digital devices. The school, therefore, must try to counterbalance this trend, offering educational experiences in natural environments and challenging the traditional classroom structure. Bringing school outdoors means embracing an education based on the centrality of children's bodies (Ceciliani, 2014). Outdoor activities have been shown to have a positive impact on student health and learning, improving attention, and creativity and reducing behavioral problems (Scarlatti, 2020). Furthermore, they promote freedom, autonomy, the construction of personal identity and the development of pro-social skills (Corona et al., 2017).

4. OE experiences: what opportunities for the body?

Studies on the regeneration of attention ART (Kaplan & Kaplan, 1989) suggest that the experience of nature can improve concentration and well-being. This happens thanks to four characteristics of nature: fascination (unexpected stimuli that arouse wonder), the distancing from mental fatigue, the possibility of having new experiences and compatibility with the natural inclinations of the human being. When students spend time in natural environments, they learn to relate to spaces differently than in the traditional classroom. They develop emotional bonds with places and improve their ability to manage spaces. This process is crucial for students' social cohesion, safety and social identity (Birbes, 2016). In summary, the design of school spaces should promote the experience of nature as an integral part of students' education and well-being.

Outdoor Education (OE), or "outdoor education", represents a pedagogical approach that adapts to the specific sociocultural realities and educational institutions of a territory (Formella & Perillo, 2018) rather than following predetermined formulas. Although the term may seem new, it has historical roots dating back to the eighteenth century, when thinkers such as Rousseau and Fröbel began to consider both closed and open spaces as an integral part of educational processes. This conception was subsequently developed by pedagogists such as the Agazzi sisters, Giuseppina Pizzigoni, Maria Montessori and Loris Malaguzzi, who modelled their educational practices considering both internal and external spaces.

In Italy, after the Second World War, open-air schools, or "en plain air", regained their foothold, promoting experimental educational approaches based on cooperation, active activity and participatory democracy. These experiences have inspired training models such as the Reggio Children atelier (Vecchi, 2017), Indire's "1+4 Spazi Educativi" and European Schoolnet's "Future Classroom Lab", which,

although they focus mainly on internal spaces, retain the structure of activity areas also compatible with the external environment (Mentasti & Meccariello, 2020).

OE emphasizes valorizing the opportunities offered by outdoor spaces and sees the outdoor environment as a place of learning. Contrary to common perception, which often considers outdoor spaces as dangerous or unsuitable for children (Farné, 2015), EO recognizes children's right to explore, play and interact with the natural world. This type of education allows students to develop a direct and personal understanding of their surroundings, learning to regulate their actions and moving from the perception of danger to multiple self-regulation skills. EO is not limited to the experience of nature but is interdisciplinary and transdisciplinary, involving disciplines in real and novel contexts (Indire, 2021). The OE activities include sensory paths, socio-motor and exploratory activities, insights into the green economy and human rights and place-based education. The latter methodology promotes the involvement of the local community to address concepts from different disciplines, encouraging students to learn role models associated with community responsibility.

OE experiences foster confidence in oneself and others, improve academic performance, promote critical thinking and problem solving, develop connections with nature and encourage sustainable behaviours. Therefore, many schools and children's services have adopted paths to reorganize educational spaces and activities. Municipal administrations have also begun to support the reappropriation of spaces outside the school, including school gardens, parks and surrounding natural areas. Ceciliani (2019) also suggests a deconstruction of outdoor spaces, allowing greater flexibility and adaptability for educational purposes through modifiable furnishings.

Conclusions

In summary, if we recognize the importance of educational intentionality (Borgogni, 2019) which is based on the valorisation of external spaces, educational responsibility becomes an interdisciplinary social, administrative and scientific issue. From this perspective, children's bodies, play and independent mobility take on a crucial role as indicators of the quality of life (Giaconi, 2015) in an urban environment. Starting from children and considering their right to experience, it is possible to develop conceptual paradigms and specific practices. Ecological and systemic models (Sallis et al., 2016), regarding health-related behaviours, highlight that the organized and supervised environments in which these behaviours occur,

especially those related to physical activity, constitute only part of the possibilities of movement. On the other hand, the conceptual model that links motor activity to the autonomy and independent mode of children (Borgogni, Arduini, Digennaro, 2018) suggests that non-autonomous motor experiences, organized or not, are difficult to expand in terms of economic and organizational resources, while opportunities for autonomous experience in public spaces, such as mobility from home to school, extracurricular activities and outdoor play, constitute or could constitute the main source of active experience for children. If the approach is predominantly institutional, based on the organization and management of spaces and times by adults, the experiential possibilities are inevitably reduced.

The contribution raises important questions about the educational community regarding children's right to experience. Can public spaces become educational places? And to what extent are we willing to recognize the independence and autonomy of children? Which infrastructural, and social architectural aspects are we ready to implement in accessiblely inclusive projects?

The responsibility to answer these questions involves significant pedagogical dimensions. The denial or limitation of experiential opportunities for children not only has educational, social, motor and health consequences but also restricts the range of individual choice possibilities and reduces the margins for existential planning ((Bertin, 1951, 1973; Bertin, Contini, 2004) understood as a continuous interaction between experience and reflection, so that the right to experience and personal choices can be effectively guaranteed, through the affirmation of capabilities (Nussbaum, Sen, 2004) as concrete possibilities of person's choice.

Outdoor places offer a natural and spontaneous environment that favours the development of different forms of learning of the mind (Corona, 2008), each linked to adaptive and biological abilities (Farné, 2015). The Outdoor Education (OE) approach is increasingly seeking to position the outdoor environment as the main context for educational experiences, starting from the closest and most accessible places, such as the school garden or courtyard. These spaces have a significant impact as they promote ecological awareness among students and make them responsible towards their surroundings. Green spaces, courtyards, playgrounds and gardens are an essential part of the urban infrastructure dedicated to education, and not only respond to the educational needs of future citizens, but also contribute to the transfer of intergenerational and cultural knowledge and sensitivity, fundamental to address the challenges of urban life in an eco-sustainable way that provides an integral logic between the biological and technosocial dimensions (Angelucci et al., 2016). Allowing children to spend

meaningful time outdoors is crucial to developing autonomy of action and relationships that would not be possible indoors.

In recent years, there has been increasing attention to the environment at all levels of society. The renewed interest in a direct connection with outdoor spaces aims to promote in-depth knowledge of environmental, cultural and social elements, thus contributing to the construction of individual identity and the perception of a shared space to be inhabited in a conscious way (D'Aprile & Strongoli, 2016). In this context, OE emerges as an alternative approach to education, not as a simple didactic prescription to which teachers comply, but as a teaching modality that encourages the exploration of value and well-being in relation to the relationship with the surrounding environment through motivating and diversified experiences (Farné, 2018).

Education must, in this regard, guarantee a constant transformation of learning environments, allowing the generation and reconversion of school spaces, in particular outdoor ones, and a rethinking of the body's potential to create varied and stimulating situations and experiences, based on novelty, surprise and the absence of routine (Ceciliani, 2019b). This reconsideration of educational spaces promotes a school-city system in which educational activities are closely integrated with daily life, encouraging the formation of a collective intelligence aimed at building and managing a new shared environment (Angelucci et al., 2013). In this context, the school building can become a civic and cultural centre in which the new generations not only acquire knowledge but which allow the territory to self-determine, with possible implications for educational action (Aiello et al., 2017). and the community in which one is immersed through practical experiences from a sensorial and corporeal point of view.

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