



Documenting biodiversity through nature journaling: a participatory study in primary school

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Nature journaling, understood within a methodological framework that integrates observation, selection, organization, and interpretation of outdoor experiences (Muir Laws & Breunig, 2010; Muir Laws, 2017), represents a meaningful educational practice for engaging with the natural world. By collecting observations, questions, and emerging connections through words, drawings, numerical representations or collections of natural elements, the nature journal makes encounters with environmental phenomena tangible and communicable. It functions as both a documentation tool and a reflective space (Guerra, 2020), where experiences are revisited, reorganized, and transformed into early forms of understanding (Muir Laws & Lygren, 2020). This multimodal practice (Guerra & Luini, in press) supports the development of reflective thinking, fostering connections between perception, emotion, and knowledge construction. In this perspective, empirical studies highlight how some journaling modes, such as drawing and collection of natural materials, enhance attention, observation skills (Fan, 2015), and the understanding of biodiversity, supporting situated and sensory learning processes (Zakariyaa et al., 2025). Implemented across diverse outdoor contexts, from urban to more natural environments, the journal becomes a physical and symbolic space for developing personal relationships with place (Hu, 2021), while encouraging ongoing inquiry, ecological awareness, experiential learning, and a growing sense of environmental responsibility (Johnson, 2014).

Building on this theoretical framework, a participatory study was conducted with 34 fourth-grade students in a primary school in Milan. Children were invited to use nature journals weekly to document outdoor experiences in local environments, including schoolyards, urban parks, and a university nursery. Preliminary findings suggest that free use of the journal fosters curiosity-driven observation, helping children move beyond stereotypical representations of nature toward more detailed and context-sensitive understandings. The journals reveal increasing attention to environmental diversity and relationships, as well as the development of emotional connections to place, an essential foundation for fostering care and responsibility toward local biodiversity.