

Sustainability in the Early Years

Good afternoon! My name is Claudia Bucur, and in today's presentation, I will discuss the John Muir experience in two parts. In the first part, I will explain where and what I explored. In the second part, we'll delve into the academic aspect of the presentation, exploring the profound connection between sustainability and the early years.

My Muir experience takes place in Loughor and is the adventure of a curious bee, Maya, in my garden. I chose Loughor as a location because it is my 'sense of place' and it represents a perfect place for a Muir experience because it has parks and green spaces. It also lies on the estuary of the river Loughor, where you can observe different birds and a variety of flowers that Maya tells us about in her Muir experience. By creating Maya's story, I regained my childhood paradise. My love for flowers and bees and my respect for nature are closely related to my childhood. I would like to share a video to help you understand this connection better. This video shows some of the flowers found in my mother's garden throughout the year. I have always been fascinated by the colours, the fragrance, the fragility, and the usefulness of flowers because, in addition to all these, some flowers became, in my mother's skilful hands, creams for healing wounds, jams or syrups, teas, or decorations that coloured and scented our home. As a child, I loved listening to bees buzzing while watching them collect pollen. Also, my favourite game was to count the butterflies and observe the colour of their wings and the way they played among the flowers. But my fascination and curiosity did not stop there. I enjoyed spending time in the garden and asking my mother about each flower: what is its name, and how much water, light, or heat it needs. From my uncle, a beekeeper, I learned to value bees and honey, which he called sweet gold, because, he said, millions of flowers are needed for one kilogram of honey. He also told me that the weather influences the activity of bees. Not only that, in many species, the rain washes the nectar from the flowers, but the number of hours of picking is reduced.

Moreover, the quick rains make the bees interrupt the picking and rush to the hive without nectar or drown them if the rain catches them in the field or on their way to the hive. Until I started looking for information about the Muir experience and writing Maya's story, I thought that all I could do to help the bees was to plant flowers. Now, I have discovered

that I can help the bees both in the rainy periods of the year and the hot ones when many bees drown while trying to drink water from puddles or pools. Thus, I add a grated apple and a little water to a plate near the flowers every morning. In this way, the bees can obtain the sugars from the fruit, drink the water, and not drown because they can sit on the pieces of fruit.

Now, I am going to talk about sustainability in the early years, which, according to Laird, Piazza, and Allen (2014), the incorporation of John Muir's experiences into early childhood education presents a transformative opportunity, as this approach can ignite a profound appreciation for the environment and the concept of sustainability in young children, fostering a generation that values and preserves the natural heritage.

Additionally, Malik (2021) claims that building upon the theoretical foundations established by Jean Piaget and Lev Vygotsky, constructivist theories assert that children acquire knowledge and skills most efficiently by directly interacting with their surroundings. Given this, children can actively construct knowledge through sensory experiences and exploration by following the narrative of Maya's journey. Moreover, according to Vygotsky's (1978) theory of the Zone of Proximal Development (ZPD), learners acquire higher levels of understanding when guided by an individual who is more knowledgeable than they are. From this perspective, Eberbach and Crowley (2017) sustain that educators can scaffold the learning process by explaining the significance of biodiversity and the function that bees play in pollination. This will assist students in comprehending complex ecological ideas through guided investigation and interaction with the environment.

Furthermore, David Kolb's (2014) experiential learning theory emphasizes the significance of learning through firsthand experience. Given this, Muir's nature adventures, when adapted into an instructional narrative like a bee's journey, provide children with the opportunity to participate in a cycle of experiencing, reflecting, and applying their knowledge of ecological systems and sustainability.

Moreover, David Sobel promoted place-based education, emphasizing the significant role that local settings play in the learning process. Through this instructional strategy, students are encouraged to spend time fully immersed in their immediate environment, which can foster a deep connection to the natural world that is both essential and transformative (Nichols, 2016). As a result, students gain a nuanced understanding of their environment by engaging with the ecosystems in their immediate area, and this helps them cultivate a 'sense of place,' as Wilson (1997) mentioned, which is essential for cultivating environmental responsibility.

Additionally, Warden (2015) sustains that by allowing students to watch bees and butterflies in their natural habitat and participate in activities that benefit local wildlife, the practitioners foster an essential and deep connection to the natural world, which is at the core of Sobel's educational philosophy.

Furthermore, Haas and Ashman (2014) claim that Froebel, who established the kindergarten system, believed that interacting with nature and spending time outside could facilitate a child's growth and comprehension of the world. Given this, Froebel's concepts of fostering interest and involvement with the natural world are mirrored in John Muir's experience, which includes planting flowers that attract bees and butterflies and creating conditions that help bees collect pollen and hydrate themselves.

In the same way, the educational theory of John Dewey (1938), 'Learning by Doing,' is highly resonant with the practical and natural components of Muir's experience. Learning through doing and experiencing situations that are based on real-life was something that Dewey advocated for. Dewey's concept that education should be a process of living rather than simply a preparation for future life can be observed in planting vegetables and providing food and water for bees. This creates a real-world framework in which children can observe and participate in the cycles of nature. Moreover, this approach promotes experiential learning and fosters critical thinking, problem-solving, and a more profound understanding of natural systems, according to Europass Teacher Academy (2023).

In addition, the various ways utilised in John Muir's experience in the first part of the assessment manifest the theories that Howard Gardner has developed on multiple intelligences. According to Gardner's theory, intelligence is not a singular entity but a collection of different cognitive talents when taken together (Davis *et al.* 2011). Given this, students can be engaged using music (lyrics and songs), visual stimuli (pictures and flowers), and kinesthetic activities (growing flowers and vegetables), which allows them to adapt to a variety of learning styles and abilities. This multi-faceted strategy guarantees that more students will be able to connect with and understand the topic, contributing to a general improvement in the educational process, according to Tamilselvi and Geetha (2015).

It follows that Muir-inspired activities are incorporated into educational settings, with educators playing a crucial role in guiding and facilitating these experiences, and the policy context further reinforces this approach. According to the Welsh Government (2015), all public bodies in Wales are required to consider the long-term effects of their choices on future

generations under the Wellbeing of Future Generations Act 2015. Moreover, educators play a crucial role in developing environmentally conscious individuals equipped to make sustainable choices. This can be accomplished by incorporating sustainability into early childhood education through activities inspired by Muir's experiences. Instilling a profound respect for the natural world and a dedication to living in a manner that is environmentally responsible from a young age is emphasised by this regulatory framework. This will allow educators to accomplish the objectives of the act.

Furthermore, the UN Convention on the Rights of the Child (UNCRC) (1989) provides a solid foundation for incorporating nature-based learning into school curricula. Notably, Article 29 and Article 31 of the United Nations Convention on the Rights of the Child emphasise the right of the child to participate in play and recreational activities, as well as the right to receive an education that encourages respect for the natural environment. Educators preserve these fundamental rights by including Muir-inspired stories and activities celebrating the natural world. These activities and narratives offer children meaningful learning experiences centered on play and promote environmental awareness and respect. These experiences are not only educational but vital in raising a generation that values and preserves our natural heritage, according to Gilbertson *et al.* (2022).

In addition, the educational philosophies of Reggio Emilia and Montessori further emphasise the significance of the first part of the assessment in developing a bee garden experience inspired by John Muir. Maria Montessori's approach places a significant emphasis on the impact of sensory experiences and the exploration that the child drives. When it comes to Montessori education, the phrase "the hundred languages of children" effectively illustrates the numerous ways in which children can express themselves and acquire knowledge, according to Mphahlele (2019). Throughout the course of Maya's journey, the utilisation of visuals, nursery rhymes, and videos activates a variety of senses and caters to a range of learning modalities. This comprehensive approach is an illustration of the holistic educational philosophy that Montessori advocates for. According to this philosophy, every child is encouraged to explore, discover, and learn through experiences that engage all their senses.

Similarly, the Reggio Emilia approach emphasises the environment as the "third teacher." This ideology emphasises the importance of a child's environment in his or her learning process. Also, the Reggio Emilia framework emphasises children's innate curiosity and imagination as the driving forces behind meaningful and deep learning, according to Johnson and Watts

(2018). Moreover, by establishing an immersive garden experience where children can view and engage with bees and other elements of nature, the practitioners foster an environment conducive to exploration and discovery. This is consistent with the Reggio Emilia philosophy, which advocates for learning environments that encourage and support children's innate curiosity and inventiveness.

Furthermore, Chawla (2021) claims that early childhood education that is both sustainable and enriched by experiences inspired by John Muir encompasses cognitive, emotional, social, and physical growth. A particular form of education considers the interdependence of different aspects of development and attempts to cultivate each of these aspects through learning that is based on nature and is immersive. Through hands-on exploration and investigation, educators can encourage children's cognitive development by having them participate in activities highlighting the natural world's beauty and depth of complexity. It is possible to cultivate critical thinking and scientific curiosity by, for example, studying the life cycle of bees, acquiring an understanding of plant growth, and gaining knowledge about ecosystems. Through active contact with nature, the bee's garden experience improves various skills, including observational abilities, empathy for living species, and physical coordination. Emotionally, experiences inspired by Muir's deep appreciation for nature can instil a sense of wonder and gratitude in children. The peaceful and captivating environment of a garden, where children may see the balance of natural processes, promotes emotional wellbeing and inner peace. These experiences can also help children develop empathy as they learn to care for plants and animals and recognise their place in the wider ecosystem.

Socially, nature-based activities offer several opportunities for cooperative learning and teamwork. Children who work together to grow flowers, water plants, and observe insects learn social skills like communication, collaboration, and conflict resolution. According to Chawla (2021), these shared experiences in nature promote a sense of community and collective responsibility, which is consistent with Vygotsky's social learning theories and Reggio Emilia's social principles.

Moreover, Dymont and Green (2020) claim that engaging with nature physically—digging in the soil, planting seeds, and tending to a garden—develops fine and gross motor abilities. These activities help with physical development and promote an active, healthy lifestyle from a young age.

Additionally, Vieira (2022) sustains that children exposed to nature at a young age develop ecological literacy and gain a deep appreciation for the importance of ecosystems and biodiversity. Learning about sustainability may be made engaging and accessible by incorporating multimedia resources such as photographs and videos, which helps to instil these principles at an early stage. This approach holds immense promise for the future of the environment and the wellbeing of children.

Nature immersion has been shown to relieve stress, boost mood, and improve social interaction, according to Chawla (2021). Moreover, activities inspired by Muir's experiences boost children's wellbeing by providing opportunities for relaxation, wonder, and cooperative play, contributing to their general emotional and social health. Muir's experiences can be brought to life through storytelling, nursery rhymes, and imaginative play, which encourage creativity and help children establish deep connections with nature. By instilling these ideals in children during their formative years, they can develop a lifelong commitment to sustainability (Sampson, 2015).

However, this experience presents a few challenges and places for evaluation. According to Davies (2023), sustainability includes environmental management and social and economic aspects. Regarding citizenship, it is essential to analyse how such activities promote a sense of community, responsibility, and active civic participation. In this context, the John Muir Award experience could be improved by encouraging participants to interact with their community through collaborative projects or discussions concerning the socioeconomic implications of environmental protection.

Furthermore, while emphasizing bees and biodiversity is essential, integrating arguments about climate change, managing resources, and sustainable living practices could provide a more complete picture. This will assist participants in understanding how individual acts, such as planting a garden, fit into the greater context of global sustainability initiatives.

In conclusion, incorporating John Muir's environmental experiences into early childhood education through the example of a bee's journey in a garden is consistent with fundamental educational approaches and practice concepts. It promotes holistic development, ecological literacy, and children's emotional and social well-being. Moreover, children who participate in this immersive, reflective journey develop not only a deeper appreciation for the world around them but also critical thinking and problem-solving abilities. This John Muir

experience illustrates the potential of experiential learning in raising a generation of thinking, responsible global citizens.

Thank you for your time, and I welcome any questions or feedback you may have.

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