

Good afternoon my name is Chantelle Mathias I am here today to reflect on my scrapbook as part of the John Muir Award and critically analyse how the experience can support the philosophy and principle of early years education for sustainability.

As part of the John Muir Award I have decided to discover, explore, conserve and share my experience of Roath Park which is located in Roath in Cardiff and first opened its doors in 1894 (Cardiff Local Guide, 2024).

The reason I have chosen Roath Park as part of the John Muir Award is because it holds a special place in my heart which I am going to share with you.

When I was younger, my friends and I used to frequently visit Roath Park to play in the playground. I have many memories of rolling down the hills and feeding the ducks, which terrified me as a child as they would chase after me, which wasn't a great experience! I am now a mother of two lovely girls and when my children were little, we loved to go to Roath Park as a family to go on long walks, boat rides, and have some delicious ice cream.

Since Roath Park was so close to our house, we often spend time there, especially on nice sunny days. As a family, we still talk about our wonderful recollections from our time spent together at the park. Having spent a lot of time there both with my own children and during my childhood, Roath Park holds a very important place in my heart.

Therefore, my participation in the John Muir Award has made me take a step back and appreciate the beauty of the park and the natural world. Being a busy mother of two gorgeous girls, I wasn't aware of all the lovely things that Roath Park had to offer since every time I went there with my children, I would be too busy focusing on them and not taking in any of the surroundings.

As part of the John Muir Award I decided to visit Roath Park using my sustainable lens. At the end of a busy day at work I started to discover the park, as I walked through the park entrance the lighthouse caught my attention, so I sat on a bench near the light house overlooking the lake. I discovered the memory of the lighthouse for Captain R.F Scott and his companions and how the lighthouse was surrounded by natural water plants which was great to create habitats for the birds and insects.

As I continued to discover the park I noticed the park map which outlined all the surroundings. I then approached the café and noticed how they support sustainability by recycling its waste and also encouraging customers to recycle by using clear labeled recycling bins.

Along the lake there were lots of rowing boats not being used, amongst the boats there was rubbish in the water which made me think about sustainability and what can be done about this which I will expand on in the conserve section.

As I walked near the flower garden, I was surrounded by trees and plants. There are over 12 different species of trees at Roath Park. I had never actually looked closely at a tree before, I was amazed by the art on the tree bark. So I decided to take some imprints of the bark to discuss with my husband who works in the timber industry. Amongst the trees I could hear the beautiful sound of the birds tweeting. I identified lots of different species of birds such as Mallard, mute swans, black-headed gulls and magpies. As mentioned by Greenstumble (2016) birds rely on trees and plants for their habitats and trees help regulate the climate through evapotranspiration which is a process in which water is absorbed by the roots through the soil and then evaporates from the leaves. As the surrounding air cools the

water converts to vapour (Earthday 2020). By absorbing sunlight and casting shadows, trees help cool the environment. Around the park I noticed there was a few trees that had been cut down. It is believed that trees absorb 30% of annual world emissions and when the trees are cut down all that pollutants are discharged into the air (Greenstumble, 2016).

In the flower garden I was amazed at how many different types of flowers I was surrounded by. There was lose flower petals lying on the ground which I took with me to explore and share with my family. I explored how important plants were and how plants provide us with oxygen. Without plants, people and animals would have less fresh air to breathe (Greenstumble, 2016). I took a moment to sit on the grass and look at all the beautiful flowers surrounding me. I witnessed some habitats of insects living amongst the flowers and a marriage proposal and it was at this moment of amazement that I realised how important Roath Park is to so many people.

As I walked through the flower garden, I noticed the conservatory, so I went into explore. I was unaware how many different types of fish they had there. I took some time to explore and find out what was in the conservatory. There were koi carps, terrapins, Asian ducks and tropical plants. I discovered how the plants all grew naturally without any kind of chemical fertilisers which is great for our environment.

When I finished in the conservatory I continued to walk around the park and stopped at waterfalls, as I was listening to the water flowing I took time to explore the importance of the waterfalls. The creation of a waterfall is greatly impacted by the process of soil erosion and they help to reduce erosion. They provide ecological health benefits by indicating the health of an ecosystem and support eco systems by providing habits for different species. I have never realised how important waterfalls are.

The John Muir award has made me realise how I had taken the outdoors for granted and didn't really appreciate it for the right reasons. Having spent some time at Roath park I discovered

I needed to help and conserve nature by helping to reduce littering, make some bird feeders for the ducks and the birds and make people aware of what the ducks like to eat.

Therefore I dedicated my time to help conserve the nature by making bird feeders with my children. I arranged for litter picking to take place on the last day of every month to help reduce the litter around the park. I posted signs around the park asking for volunteers to join me on the last Sunday of every month to take part in a clean up to help the park become more sustainable. My children got involved and found some useful information about what the ducks and swans like to eat and explained why bread isn't good for them as its bad for their health. We then put this information up around Roath park in the hope it gives out positive messages to others.

Moreover, I shared my scrap book with my colleagues and children in my early years setting. The children did some leaf rubbings from the leaves I found at the park. The children asked me if we could visit Roath Park to explore all the wonderful things they had discovered. So I decided to email the headteacher to ask for permission to take the children on a school trip to Roath park following on from me taking part in the John Muir award and sharing my findings on how we can be more sustainable and look after the environment. The headteacher agreed to the school trip which will be taking place on Friday 17th July 2024.

To conclude taking part in the John Muir Award has made me think about the importance of sustainability in my environment which previously I wouldn't have thought about. Protecting our natural resources is becoming more important as the world's population rises. We will be able to preserve these invaluable resources for both the current and coming generations if we can maintain our sustainability.

Part 2

The concept of sustainability dates back to the Brundtland Report of 1987. As noted by Kuhlman and Farrington (2010) meeting current requirements without sacrificing the potential of future generations to satisfy their own is known as sustainability. Davis (2010) argues that sustainability is an international issue which will mean something different to everyone. A wide range of researchers believe that to provide a sustainable solution a global transformation must occur, even while this presents political challenges, the majority of nations believe that action must be taken (Davis 2010).

Moreover, Hadland (2020) emphasises how children's health, our food, and the environment are all aspects of sustainability. Therefore, sustainability places a strong focus on the connections and interdependence throughout society (Davis, 2010). This is supported by the John Muir Award which encourages others to appreciate, engage with, and take care of natural places (John Muir Trust, 2019; White, 2013). Furthermore, McCrea and Newsome & Gaul (2016) highlight the value of early relationships between children, parents, and educators as a means of promoting change in society and providing opportunities for shared sustainability education.

Although, while sustainability is an issue that affects everyone, it is believed that educators hold themselves most responsible (Davis, 2010; Korkmaz and Guler Yildiz, 2017). Pramling Samuelsson (2011) points out how the direction provided by educators greatly influences the development of sustainable philosophy and thought. Therefore, to transform our lives, we must transform our thoughts. These changes are undoubtedly aided by learning and education. However, the majority of education authorities understand the importance of the necessary adjustments before education can contribute effectively and positively to building an environmentally friendly society (Davis, 2010).

Moreover, as pointed out by Hedefalk, Almqvist and Östman (2014) our future generations will face several global challenges, including poverty, loss of biological variety, and CO₂ emissions due to climate change. These issues are also specific to areas, described, and taught in the school curriculum especially linking to the health and wellbeing area of the new curriculum for Wales which offers a comprehensive framework to develop children's ability to deal with the possibilities and challenges of life (Welsh Government, 2020a). Furthermore, an educational framework that integrates the concepts of human, social, and economic development with environmental concerns is what defines education for sustainability (Prince, 2010) This also links back to the John Muir award when conserving to help our environment.

Hedefalk, Almqvist and Östman (2014) also argue that there is a significant push underway to educate children on how to behave in a more sustainable manner. Therefore, for our future generations to live sustainably, humans must live responsibly now and in balance with the planet's natural resources (Prince, 2010). As mentioned by EYR Team (2023) encouraging a close connection

with our planet is essential for the next generation. Similarly, as pointed out by King (n.d) young children benefit from early exposure to sustainability education as it helps them make sense of the world. Following this, children start to feel a connection to the environment, get passionate about nature and realise how important it is.

Furthermore, early years education on sustainability proposes a manner of thinking and acting towards our environment. It addresses a wide range of topics, including recycling, gardening, and everyday items like adding natural fibres to our surroundings. The objectives of environmental education are to allow children, families, teachers, and our local communities the chance to grow and acquire new information, skills, perspectives, and a dedication to protecting the environment (Journey, 2021).

Moreso, early years education must be acknowledged as the foundation of educational achievement throughout life in order for education to be sustainable. It is believed that during these formative years children demonstrate their highest potential for development and learning and sustainability needs to be embedded in the curriculum from the beginning (Daries *et al.* 2009; King, n.d.). Bourn *et al.* (2016) argues his thoughts for education for sustainability by stating that young children should start with softer subjects of sustainability before older children go on to more difficult ones. Some authors, however, advise against taking an unrealistic view of early years as they believe it may be preventing more challenging and purposeful educational discussions (Hirst, 2018; McCrea and Newsome & Gaul, 2016).

Additionally, as mentioned by Ärlemalm-Hagsér and Davis (2014) many people feel that education is an essential means for promoting sustainable lifestyles, where children are recognised as important individuals with a right to meaningful involvement with environmental concerns. However, even though young children are most at risk from sustainability concerns now and in the future, early years education has been significantly slower to adopt procedures and practices related to sustainability (Dyment *et al.* 2013).

As noted by Welsh Government (2020) sustainability will be included into every learner's education at every stage of the learning process through the implementation the new curriculum for Wales. Children in the early years may support their development through the four core purposes of the new curriculum by being ambitious, capable learners, enterprising, creative contributors and ethical, informed citizens and also connect with the seven themes of the education for sustainable development goals citizenship (ESDGC) through physical hands-on activities (Tinney and Merriman, 2018; Welsh Government, 2020). However, it is becoming more evident that we cannot continue to utilise more resources than our planet can support, sustainability needs to be at the core of all we do as educators of the next generation (Davidson, n.d.).

Cutter-Mackenzie *et al.* (2014) argues how children interact with nature more by touching, smelling and acting out scenarios in a clear and detailed way which contributes to sustainability by using less resources. Furthermore, King (n.d) points out how early years settings fosters a sustainable mindset

in children by educating them about trees, plants, and wildlife. Experiencing nature firsthand can also help young children visualise the ecosystem they are striving to protect.

Moreover, the Government of Wales Act, enacted by the UK Government in 1998, established a responsibility to promote sustainable development and integrated it into all aspects of Welsh policy (Boyd, Hirst and Siraj-Blatchford, 2018). Wales has placed an obligation on many agencies to promote sustainable development since the Government of Wales Act 1998.

In relation to this, the Welsh Government has encouraged the development of ESDGC in both the public and private sectors, from early 2018. A Framework for Action on Education for Sustainable Development and Global Citizenship was released in 2006 by the Welsh Assembly's Department of Education and Lifelong Learning (Tinney and Mckenzie *et al.* 2018).

Furthermore, the ESDGC in Wales approaches the teaching and learning of sustainability using seven interconnected themes, and the guidelines advocates a commitment to sustainability throughout the entire setting. The seven themes are waste and consumption; health; culture and identity; environmental changes; decisions and choices; wealth and poverty (Tinney and Merriman, 2018). These themes can also be evident in the John Muir Award by encouraging people to appreciate, interact with, and take care of the natural world (John Muir Trust, 2019). In Wales, integrating ESDGC into work with all age groups has become mandatory for all maintained education settings (Boyd, Hirst and Siraj-Blatchford, 2018). However, we need to consider how it might be difficult to draw connections between the ESDGC and the early year's circular.

According to research from Tinney (2013), cited in Tinney and Merriam (2018), teaching the ESDGC was seen as an additional or add-on topic and was also a complicated subject that young children would find challenging to understand.

Moreso, the wellbeing of Future Generations Act (2016) requires government departments to uphold rights, inclusion, equity, and sustainability. This suggests that continuing to emphasise ESDGC will be important in producing graduates in the early years with the future-ready thinking skills and interdisciplinary approach needed to support children and families regardless of enduring political, economic, social, and environmental challenges. Since early years educators can help children develop their creativity, participation, and experiential learning skills, they may also contribute to the long-term health and well-being of larger society.

As highlighted by Tinney and Merriman (2018) young children are the future problem solvers, and politicians making sustainable development an important issue for them. This links to Article 29 of the United Nations Convention on the Rights of the Child (UNCRC) which emphasises the need of teaching young children to learn how to respect others, take care of the environment, and live in peace with others (UNICEF, 2019).

Moreover, since the 1992 United Nations Earth Summit in Rio, when governments from all over the globe established goals for environmental and development-related action, the phrase sustainable development has gained importance as a concept. For many years, the government has supported

education for sustainable development, and it is currently a cross-curriculum component in schools in England, Wales, and Scotland (Cooper, 2019).

Furthermore, the United Nations Conference on Sustainable Development (UNCSD), often known as Rio+20, was held in 2012. Two subjects that were central to the conference were the green economy and an institutional framework in the context of sustainable development. One of Rio +20's outcomes was the creation of a new set of sustainable development goals (SDGs), which went into effect in 2015 (Allen, Metternicht and Wiedmann, 2018; Mensah, 2019; Weitz *et al.* 2017). Furthermore, the Rio de Janeiro Earth Summit in 1992 served as the primary motivation for its popularity in recent years, especially in terms of sustainable development. The summit created a mandate for the United Nations to create a set of sustainable development indicators that will help in monitoring progress to assist putting these ideas into effect (Bell and Morse, 2012).

Moreover, there are 17 goals in the sustainable development framework that emphasise the challenges that our planet are facing now and in the future. The 17 goals are aimed at ending poverty, minimising gaps in income, providing a stable ecological foundation for support, and enhancing everyone's health and education. All the sustainability development goals are interrelated and provide an in-depth discussion on the pedagogical approach to early childhood education (Boyd, King, Mann and Neame, 2022). However as pointed out by Boyd, Hirst and Siraj-Blatchford (2018) the sustainable development agenda is still having a big impact on the political, social, economic, and ecological fields.

Moreso, Taylor (2016) cited in Mensah (2019) identified economic growth, environmental conservation, and social equality as the three primary pillars of sustainable development which links to the well-being and future act as highlighted by Welsh Government (2015). The goal of the Well-being of Future Generations Act is to enhance Wales's cultural, social, economic, and environmental well-being. This is also supported by Article 3 of the sustainability goals to ensure healthy lives and well-being for all children (United Nations, 2022). In relation to this the John Muir award supports the three pillars of sustainability development through discovering, exploring, conserve and sharing in the nature (John Muir Trust, 2019).

As mentioned by Edwards and Cutter-Mackenzie (2013) education on sustainability is becoming more important, especially for children in the early years. An integral component of early years sustainability education is finding the best approach to integrate the conceptual foundations of sustainability education with the play-based pedagogies that are already in use. The play-based pedagogies can be developed as operating on a continuum, with more teacher-directed play-based activities at one end of the continuum and more freely selected and open-ended play at the other (Davis, 2010). As pointed out by Jackson (2024) the play-based experiences of young children are greatly enhanced and supported by the environment, acting as a third teacher which is supported by my Malaguzzi theory which believes the third teacher provides a flexible environment that is sensitive to the requirement that practitioners and children collaborate to develop learning (Biermeier, 2015). It is also

evident by Davis (2010) how early years educators are addressing sustainability problems by modify curricula and pedagogical approaches

Moreover, as pointed out by Cheng and Monroe (2010) children's interest in adopting sustainable behaviours is positively impacted by their sense of control, family values, connection to nature, and previous outdoor experiences. As highlighted by White (2014) every child has the right to appreciate and experience the unique and necessary qualities of being outdoors. Children's outdoor play experiences are believed to address sustainability since early years education has historically valued its commitment to natural play (Edwards and Cutter-Mackenzie, 2013). Play in the outdoors is seen as an essential component of early years education and early years educators believe they already engage in education for sustainability through the outdoors. However, as play is acknowledged as being essential to early years education, it is evident by Dymont *et al.* (2013) how it is insufficient to solve today's sustainability concerns.

Furthermore, according to Pestalozzi (1746) children grow best in the great outdoors, where play and real-world experiences allows them to flourish. He had a big impact on Froebel's (1782) theory who believed in first hand experiences (Solly, 2016). In light of Froebel's theory, the unique connection that children have with nature is examined in how children learn through exploration and observation. (Froebel Trust, 2022; Theodora, 2024). Similarly, more recent theorist Susan Isaac (1885) encouraged children's natural interest, their interactions with nature, and their learning about the world, which helped them learn about sustainability, reasoning, and experience-based learning (Leaton Gray, 2022; Solly, 2016). Moreso, by supporting child-led learning and promoting sustainability, practitioners who cherish and appreciate the outdoors will empower children to make the most of nature. However, it is evident that practitioners excessively safeguard children from possible hazards in the nature which hinders their ability to acquire important life skills (Solly, 2016).

Moreover, Davis (2014) points out how natural play areas in early years settings are frequently directly related to the implementation of early years education for sustainability. Every child has the chance to develop their own interests and abilities and feel a sense of accomplishment in a natural play setting. In the early years children are often investigating cause and effect as well as the effects of their behaviour (McGonigal, n.d.). Furthermore, the idea of children playing in the outdoors is not new; it dates back to Froebel's initial idea of a children's garden, in which teachers were viewed as gardeners. In the same way, Rousseau, Montessori, and Dewey all emphasised the value of outdoor and nature-based activities for children's development (Davis, 2010).

Although while the benefits of outdoor learning for environmental education are reasonably obvious, the connections to sustainable development and global awareness are less clear. However, it is evident how outdoor learning could be quite important in this process. Australian Curriculum (2022) argues how outdoor learning fosters the development of knowledge and abilities while respecting a healthy relationship with the natural world and encouraging its sustainable usage. Furthermore, it helps young children to accept responsibility and think back on their actions by putting them in real-world scenarios (Cooper, 2019). This also relates to the John Muir Award because through conserving, we can contribute to the maintenance of the planet's ecosystems, biodiversity, and

natural resources, which will guarantee the survival and continued existence of plants, animals, and the environment for both the present and future generations. The world will be healthy and vibrant for children to enjoy as adults if conservation is embedded in them at an early age (EYR Team, 2023).

To conclude the early years is seen as an important starting point for educating children on how to be environmentally friendly and support sustainability in our world (Boyd, King, Mann and Neame, 2022). Early years educators will use curricula, methods, legislation and the 17 sustainable development goals to support sustainable learning and make young children aware how to protect our world by discovering, exploring, conserving and sharing which is embedded in the John Muir Award.

Sustainable principles provide support to an educational approach that places a strong focus on allowing children to take responsibility, think critically, and reflect. By Combining everything will have a significant impact, from practical approaches to sustainability to teaching and learning methods and creating a more sustainable world for our future generations (King n.d; Samuelsson and Park, 2017).

Thank you for listening to me today, do you have any questions?

Reference list

Allen, C., Metternicht, G. and Wiedmann, T. (2018) 'Prioritising SDG targets: assessing baselines, gaps and interlinkages', *Sustainability Science*, 14(2), pp.421–438 Available at: <https://doi.org/10.1007/s11625-018-0596-8> (Accessed: 21 June 2024).

Ärlemalm-Hagsér, E. and Davis, J. (2014) 'Examining the rhetoric: A comparison of how sustainability and young children's participation and agency are framed in Australian and Swedish early childhood education curricula', *Contemporary issues in early childhood*, 15(3), pp.231–244. Available at: <https://doi.org/10.2304/ciec.2014.15.3.231> (Accessed: 21 June 2024).

Australian Curriculum (2022) *Outdoor learning*. Available at: <https://www.australiancurriculum.edu.au/resources/curriculum-connections/portfolios/outdoor-learning/> (Accessed: 30 June 2024).

Bell, S. and Morse, S. (2012) *'Sustainability indicators'*, Routledge. Available at: <https://doi.org/10.4324/9781849772723> (Accessed: 30 June 2024).

Biermeier, M.A. (2015) *Inspired by Reggio Emilia: emergent curriculum in relationship driven learning environments*. Available at: <https://www.naeyc.org/resources/pubs/yc/nov2015/emergent-curriculum/> (Accessed: 30 June 2024).

Bourn, D., Hunt, F., Blum, N. and Lawson, H. (2016) *CPRT research survey 5 (new series) primary education for global learning and sustainability*. Available at: <https://cpctrust.org.uk/wp-content/uploads/2016/02/Bourn-report-160217-final.pdf/> (Accessed: 25 June 2024).

Boyd, King, Mann and Neame. (2022) *Sustainability matters early years resource | NCFE*. Available at: <https://www.ncfe.org.uk/all-articles/sustainability-matters-early-years-resource/> (Accessed: 2 July 2024).

Boyd, D., Hirst, N. and Siraj-Blatchford, J. (2018) *Understanding sustainability in early childhood education across the UK*. Milton Park, Abingdon, Oxon; New York, NY: Routledge.

Cardiff Local Guide (2024) *These pictures tell the story of Cardiff's Roath Park and the history behind its iconic features*. Available at: <https://cardifflocalguide.co.uk/these-pictures-tell-the-story-of-cardiffs-roath-park-and-the-history-behind-its-iconic-features/> (Accessed: 22 June 2024).

Cheng, J.C.-H. and Monroe, M.C. (2010) 'Connection to nature: Children's affective attitude toward nature', *Environment and behavior*, 44(1), pp.31–49 Available at: <https://doi.org/10.1177/0013916510385082> (Accessed: 22nd June 2024).

Cooper, G. (2019) *Encountering, experiencing and exploring nature in education*. Available at: https://www.researchgate.net/profile/Zbigniew-Glabinski/publication/304251100_Tsunami_on_the_Baltic_Sea_how_to_get_knowledge_about_one's_own_region/links/576a98e108aefcf135bd270e/Tsunami-on-the-Baltic-Sea-how-to-get-knowledge-about-ones-own-region.pdf#page=137/ (Accessed: 30 June 2024).

Cutter-Mackenzie, A., Edwards, S., Moore, D. and Boyd, W. (2014) *Young Children's Play and Environmental Education in Early Childhood Education*. Cham Springer International Publishing.

Daries, J., Engdahl, I., Otieno, L., Pramling-Samuelson, I., Siraj-Blatchford, J. and Vallabh, P. (2009) 'Early childhood education for sustainability: Recommendations for development', *International Journal of Early Childhood*, 41(2), pp.113–117. Available at: <https://doi.org/10.1007/bf03168882> (Accessed: 22 June 2024).

Davidson, J. (n.d.) Future Perfect. *Cultivating a culture of sustainability amongst tomorrow's global citizens is more important now than ever before and what we do in our schools is crucial*. Available at: https://teachsecondary.com/zipfiles/Embedding_a_culture_of_sustainability_in_schools.pdf/ (Accessed: 22 June 2024).

Davis, J (2014). *Research in Early Childhood Education for Sustainability International perspectives and provocations*. Routledge.

Davis (2010). *Young Children and the Environment*. Cambridge University Press.

Dymont, J.E., Davis, J.M., Nailon, D., Emery, S., Getenet, S., McCrea, N. and Hill, A. (2013) 'The impact of professional development on early childhood educators confidence, understanding and knowledge of education for sustainability', *Environmental Education Research*, 20(5), pp.660–679. Available at: <https://doi.org/10.1080/13504622.2013.833591> (Accessed: 24 June 2024).

Earthday.org (2020) *5 reasons we need trees for a healthy planet*. Available at: <https://www.earthday.org/5-reasons-we-need-trees-for-a-healthy-planet/#:~:text=5%20reasons%20we%20need%20trees%20for%20a%20healthy/> (Accessed: 23 June 2024).

Edwards, S. and Cutter-Mackenzie, A. (2013) 'Pedagogical play types: What do they suggest for learning about sustainability in early childhood education', *International Journal of Early Childhood*, 45(3), pp.327–346. Available at: <https://doi.org/10.1007/s13158-013-0082-5> (Accessed: 24 June 2024).

EYR Team (2023) *Conservation classroom activities for early years*. Available at: <https://www.earlyyearsresources.co.uk/blog/2023/08/conservation-classroom-activities/> (Accessed: 2 July 2024).

Froebel Trust (2022) *Children and nature*. Available at: <https://www.froebel.org.uk/training-and-resources/children-and-nature/> (Accessed: 3 July 2024).

Greentumble (2016) *How do plants help the environment*. Available at: <https://greentumble.com/how-do-plants-help-the-environment#:~:text=How%20Do%20Plants%20Help%20the%20Environment%201%20Plants/> (Accessed: 23 June 2024).

Hadland, C. (2020) *Creating an Eco-Friendly Early Years Setting*. Routledge.

Hedefalk, M., Almqvist, J. and Östman, L. (2014) 'Education for sustainable development in early childhood education: a review of the research literature', *Environmental Education Research*, 21(7), pp.975–990. Available at: <https://doi.org/10.1080/13504622.2014.971716> (Accessed: 25 June 2024).

Hirst, N. (2018) 'Education for sustainability within early childhood studies: collaboration and inquiry through projects with children', *Education 3-13*, 47(2), pp.233–246. Available at: <https://doi.org/10.1080/03004279.2018.1430843> (Accessed: 26 June 2024).

Jackson, D.S. (2024) *Unlocking the potential of the environment: The third teacher in early childhood education*. Available at: <https://curatingplay.com/unlocking-the-potential-of-the-environment-the-third-teacher-in-early-childhood-education/> (Accessed: 30 June 2024).

John Muir Trust (2019) *John Muir Award*. Available at: <https://www.johnmuirtrust.org/john-muir-award> (Accessed: 29 June 2024).

Journey, P. (2021) *Promoting sustainability in early childhood education*. Available at: <https://www.petitjourney.com.au/sustainability-in-early-childhood-education/> (Accessed: 30 June 2024).

King, J. (n.d.) *How We're Supporting Practitioners to Embed Sustainability into Early Years*. Available at: <https://www.ncfe.org.uk/all-articles/supporting-practitioners-embed-sustainability-early-years/> (Accessed: 2 July 2024).

Korkmaz, A. and Guler Yildiz, T. (2017) 'Assessing preschools using the eco-schools program in terms of educating for sustainable development in early childhood education', *European Early Childhood Education Research Journal*, 25(4), pp.595–611. Available at: <https://doi.org/10.1080/1350293x.2017.1331074> (Accessed: 27 June 2024).

Kuhlman, T. and Farrington, J. (2010) 'What is sustainability', *Sustainability*, 2(11), pp.3436–3448. Available at: <https://doi.org/10.3390/su2113436> (Accessed: 23 June 2024).

Leaton Gray, S. (2022) 'Phantasy and play: Susan Isaacs and child development', *London Review of Education*, 20(1). Available at: <https://doi.org/10.14324/lre.20.1.40/> (Accessed: 6 June 2024).

McCrea, E. and Newsome & Gaul (2016) *Sustainability as a different way of thinking everyday' Examining environmental education in NSW early childhood education services: A literature review with findings from the field*. Available at:

<https://www.environment.nsw.gov.au/resources/grants/160418-Early-Childhood-Report.pdf/>

(Accessed: 25 June 2024).

Mensah, J. (2019) 'Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review', *Cogent Social Sciences*, 5(1), pp.1–21. Available at:

<https://doi.org/10.1080/23311886.2019.1653531> (Accessed: 24 June 2024).

Pramling Samuelsson, I. (2011) 'Why we should begin early with ESD: The role of early childhood education', *International Journal of Early Childhood*, 43(2), pp.103–118. Available at:

<https://doi.org/10.1007/s13158-011-0034-x> (Accessed: 2 July 2024).

Prince, C. (2010) 'Sowing the seeds: education for sustainability within the early years curriculum', *European Early Childhood Education Research Journal*, 18(3), pp.423–434. Available at:

<https://doi.org/10.1080/1350293x.2010.500082> (Accessed: 2nd July 2024).

Solly, K. (2016) *Nature in the early years children experience nature | Community Playthings*.

Available at: <https://www.communityplaythings.co.uk/learning-library/articles/put-the-pencil-down?source=pal144> (Accessed: 4 July 2024).

Theodora, P. (2024) 'Frederick Froebel's illuminations on kindergarten children's relatedness to nature', *Frederick Froebel's illuminations on kindergarten children's relatedness to nature*, 16(2).

Tinney, G. and Merriman, E. (2018) *Early years education and education for sustainable development and global citizenship (ESDGC) – Two sides of the same coin* pp.71–76. Available at:

[https://repository.uwtsd.ac.uk/id/eprint/912/1/Tinney,%20Glenda%20and%20Merriman,%20Eileen%20\(2018\)%20Early%20years%20education.pdf/](https://repository.uwtsd.ac.uk/id/eprint/912/1/Tinney,%20Glenda%20and%20Merriman,%20Eileen%20(2018)%20Early%20years%20education.pdf/) (Accessed: 21 June 2024).

UNICEF (2019) *The convention on the rights of the child: the children's version*. Available at:

<https://www.unicef.org/child-rights-convention/convention-text-childrens-version/> (Accessed: 29 June 2024).

United Nations (2022) *Goal 3: ensure healthy lives and promote well-being for all at all ages*.

Available at: <https://sdgs.un.org/goals/goal3/> (Accessed: 30 June 2024).

Weitz, N., Carlsen, H., Nilsson, M. and Skånberg, K. (2017) 'Towards systemic and contextual priority setting for implementing the 2030 Agenda', *Sustainability Science*, 13(2), pp.531–548. Available at:

<https://doi.org/10.1007/s11625-017-0470-0> (Accessed: 1 July 2024).

Welsh Government (2015) *Well-being of Future Generations (Wales) Act 2015: The essentials Guidance on our law to improve social, economic, environmental and cultural well-being*. Available at: <https://www.gov.wales/sites/default/files/pdf-versions/2024/5/1/1715621083/well-being-future-generations-act-essentials.pdf/> (Accessed: 30 June 2024).

Welsh Government (2020a) *Developing a vision for curriculum design - Hwb*. at: <https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/developing-a-vision-for-curriculum-design/> (Accessed: 30 June 2024).

Welsh Government (2020b) *Health and Well-being: Introduction - Hwb*. Available at: <https://hwb.gov.wales/curriculum-for-wales/health-and-well-being/> (Accessed: 3 July 2024).

White, G. (2013) *Journeys in the Wilderness: A John Muir Reader*. Available at: <https://books.google.co.uk/books?hl=en&lr=&id=bbm8BQAAQBAJ&oi=fnd&pg=PT7&dq=what+is+the+john+muir+award&ots=Tlyli21RuZ&sig=gCLObHnDmc1P2PTrCLle5MuptSU#v=onepage&q=what%20is%20the%20john%20muir%20award&f=false/> (Accessed: 29 June 2024).

White, J. (2014) *Being, playing and learning outdoors: making provision for high quality experiences in the outdoor environment with children 3-7*. New York: Routledge.

World Commission on Environment and Development (1987) *Report of the world commission on environment and development: Our common future*. Available at: <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf/> (Accessed: 30 June 2024).

