

Presentation – ECEY6005- Sustainability in the Early Years -Script

Good afternoon, my name is Gemma Burton and today I would like to present part 2 of my assignment which will include a short reflection on my creative, digital scrapbook, completed as part of the John Muir Award. I will also be presenting a critical evaluation on understanding how outdoor experiences within nature can support the philosophy and principles of early childhood education for sustainability, which will include links to relevant theory, research and policy.

For my John Muir award, I chose to explore the school garden where I work at Ferryside school, which is located near the estuary in Ferryside. I chose this area as I do not have a garden of my own and this is where I invest much of my interest in the outdoors. This area is where I work alongside the pupils, where we grow plants, observe nature and continually learn new things about the outdoor environment and wildlife. However, if it were not for this area, I do not think I would have explored and engaged with the outdoors as much as I have. Therefore, I am grateful for the learning experiences and opportunities it has provided which have developed my knowledge and appreciation of nature.

Although I spend a lot of time in the garden supporting children's learning, I felt that I had not had the opportunity to investigate it through my own lens and explore the questions I wanted answered. I chose this area to deepen my own knowledge so that I could better understand the things that mattered most to me, to become more confident in answering questions that children may ask in the future.

I recognised that my knowledge in some areas was limited, particularly when identifying trees, flowers and plants. While I could recognise the more common wildflowers such as daisies and buttercups, I wanted to learn more about the smaller details hidden in the garden which helped me reconnect with some of my own childhood memories. I became curious, investigated and explored the wildflowers, trees, leaves, birds and their eggs along my learning journey.

The discovery about the White Clover amazed me the most, I can vividly remember through my childhood lying in fields full of them staring at the patterns in the clouds but never thought that this flower would become so important. I understood how

flowers provide nectar for the bees and butterflies, however through the app 'Picture This' I discovered that this flower held some strong nutritional values which made me curious to find out more. I further discovered through research conducted by Aberystwyth University (2024) that the White Clover has the ability to fix nitrogen in soil which reduces the need for industrial nitrogen fertiliser, which can negatively impact the environment. Industrial nitrogen can contribute towards water pollution, greenhouse gasses, soil degeneration and air pollution, heavily impacting biodiversity. The research also found that this flower has a higher nutritional value than many grasses and helps improve soil structure and fertility. Farmers are now growing fields of grass with the White Clover included in the grass seeds. A quote I found from a poem whilst exploring brought this discovery to life for me in simple terms 'Eu lles yn fwy na'u llun'.

This made me reflect on the way we grow plants, or how I would grow plants, maybe more so in other areas. This led me to question whether some of the surrounding soil where the white clover grows may be just as beneficial, or even more beneficial than the compost we used in some of the planters to grow vegetables. This for me, highlighted the importance of becoming more knowledgeable and curious in supporting biodiversity and sustainability and how natural process can support healthy plant growth.

This made me reflect and think on how we could conserve the area and test new ideas out by putting what I had learned into practice. By sharing my findings with colleagues, a new area was allocated to experiment with growing vegetables in a different location. This will mean a reduction in cost and minimise the use of chemicals found in compost and in its production.

On further reflection, the birds in the area made me realise their importance in sustainability and what I had discovered so far, especially with my plans moving forward. They play a big role in pest control as well as other key aspects of the ecosystem. By growing vegetables in richer soil, the birds would be essential in keeping pest levels down as part of the wider food web.

This made me more aware of the importance of keeping bird populations healthy by creating sustainable environments. I decided to work with the pupils to make food for the birds as well as designing and creating bird boxes from recycled wood, with help

from the local 'Men Shed'. As I did not see many birds during my exploration, but heard many, I believe this could provide better opportunities to build up knowledge of the birds visiting the area and their role in sustainability for everyone to appreciate. This would potentially enrich the environment, provide more learning opportunities as well as improve sustainability.

Moving on to section 2 of the presentation where I will critically evaluate an understanding on how outdoor experiences within nature can support the philosophy and principles of early childhood education for sustainability, which will include links to relevant theory, research and policy.

Kuhlman and Farrington (2010) highlight how sustainability involves environmental, social and economic dimensions where money and financial stability is necessary to keep it going and support other areas. The Well-being of Future Generations (Wales) Act (2015) supports this defining sustainability development as the process of improving the social, environmental, economic and cultural wellbeing by taking steps to achieve goals (Welsh Government, 2015). Furthermore, the Oxford English Dictionary (2023) defines being environmentally sustainable as, how far a process or activity can continue over time without using up or damaging natural resources. In addition to this, the World Commission on Environment and Development (WCED) explains how sustainable development encompasses meeting the needs of today without compromising the future's generations to meet their needs (Brundtland, 1987). This suggests how sustainability needs a balance between the present needs within the world and our responsibility to think about future needs.

Mohamed *et al.* (2024) explain that sustainability is important as it aims to address the environmental impacts of human activity, including climate change, pollution and resource reduction, to safeguard the wellbeing of future generations. Furthermore, the Brundtland Report was written in 1987 because the United Nations believed that major global change was needed, in response to worsening environmental, economic and social problems (WCED, 1987). Following this in 1992, the United Nations Conference on Environmental and Development, Earth Summit, released their Agenda 21 as a plan for protecting global challenges such as biodiversity, climate change and poverty to provide a more sustainable future. This emphasised how education was needed, and considered as central in achieving sustainability goals by

developing knowledge, values, attitudes and behaviours for effective decision making (UNCED, 1992, cited in Fien and Tilbury, 1988). This is supported by The United Nations Convention on the Rights of the Child (UNCRC), which states that education should develop children's talents and encourage respect for others, different cultures and the environment (UNICEF, n.d).

Moreover, The Wellbeing of Future Generations (Wales) Act 2015, places a legal duty on the government to consider the impact of long term decisions on future generations (Welsh Government, 2015). In addition to this also in 2015, the United Nations introduced the 17 Sustainable Development Goals as part of the 2030 agenda for sustainable development, to address global issues such as inequality, poverty, education and climate change. Furthermore, this highlights how legislation continues to value the importance of how young children need to be educated on sustainability and become informed ethical citizens to maintain the balance within the world of what matters now and for future generations. This is supported by the Curriculum for Wales which emphasises how meaningful experiences support children to develop into ethical, informed citizens who understand and value the importance of sustainability (W.G, 2022).

The first topic for discussion is practical learning.

Practical learning enables pupils to learn through hands on experiences by applying ideas, knowledge and imagination in a practical context or to a practical problem (Welsh Government, n.d). This is supported by Eklund and Graham, (2025) stating how practical, experimental learning, is a process where knowledge is developed through experiences, allowing learners to actively engage with and reflect on practical situations. In addition to this the Reggio Emilia Approach explains how practical learning encompasses real life, hands on learning experiences where children actively explore and engage for long periods building understanding over time through repetition and independence (Manera, 2022). Moreover, Piaget suggested that children construct their understanding through active engagement with the environment, referring to children as 'little scientists'. In addition to this Piaget believed that meaningful learning occurred when children are directly involved in practical learning through exploration and discovery (Siregar, 2025). Furthermore, the Curriculum for Funded Non-maintained Nursery Settings state that practical,

hands on learning provides children with meaningful, engaging experiences that fosters exploration (Welsh Government, 2024).

The Curriculum for Funded Non-maintained Nursery Settings explains how exploration through practical hands on learning in the outdoors is important as it enables children to begin understanding sustainability in a meaningful way. This can help to foster a sense of belonging within children's surroundings and the wider world (Welsh Government, 2024). Elwell *et al.* (2025) supports this explaining how early interaction and exploration with the outdoors helps children develop a connection and empathy towards nature, which can encourage more positive relationships with the environment. This in turn can foster the development of lifelong sustainability values as children grow. The Curriculum for Wales supports this stating how children need to be able to explore, make observations and share ideas with others as part of their progression regarding topics surrounding sustainability, through showing care for the outdoor environment. This can be done by providing children with relevant, meaningful hands on experiences, through a child centred approach (Welsh Government, 2019).

An example of this can be seen in the scrapbook, where knowledge was gained through practical hands on exploration, of what mattered most to me, such as the wildflowers, birds and trees and reflecting on how my discoveries interconnected to support sustainability.

However, research shows that although exploration is important, where children lead their learning independently, children may not always make clear links to sustainability without adult support, as practitioners help to connect ideas and thoughts to knowledge (Edwards and Cutter- Mackenzie, 2011, as cited in Tinney and Hirst, 2018). Moreover, the curriculum for Wales states that the practitioner's role in supporting children's learning includes observation, purposeful questioning and discussion (Welsh Government, 2020). This links to Vygotsky's theory of the more 'knowledgeable other' where adults can support children's exploration and help them develop an understanding they could not reach alone (Van der Veer, 2020).

An example of this can be seen in the scrapbook where I broadened my knowledge further by sharing my findings with colleagues. Through their firsthand experience of the importance of the White Clover, they were able to share more information with

me surrounding its significance, which strengthened my understanding of sustainability on a larger scale.

However, Brenneman (2011) suggests that many practitioners feel unsure about their own understanding of the natural world and their ability to teach it confidently. This can limit their ability to support children's learning and empathy for nature and the world around them. Moreover, Cremin *et al.* (2015) highlight that some teachers may find it difficult to allow open ended outdoor exploration due to limited confidence or a fear of losing control in the learning environment, which can restrict opportunities for children to explore through practical learning. This is supported by Tinney and Hirst (2018) who suggest that practitioners may feel uncertain and lack confidence when engaging with sustainability and citizenship, because they feel they lack the knowledge to teach it effectively. This may be because their approach to teaching may be more focused on facts rather than encouraging value based learning. Therefore, as emphasised by Smidt (2015) practitioners need appropriate training to develop confidence, knowledge and pedagogical skills in order to effectively support children's learning in the outdoors through nature to improve their understanding and education on sustainability.

Furthermore, upskilling practitioners within this field is important as stated by Croke. *et al* (2021) because children have the rights and are entitled to participate in decisions affecting their learning. This suggests how children need opportunities to play, explore and engage with the outdoors and nature based experiences that support their understanding of sustainability. This is supported by the UNCRC (article 12) which states how each child has the right to express their views in situations that affect them, also (article 29) which states that education should encourage and develop children's respect for the environment, which also promotes their understanding of sustainability (UNICEF, n.d).

Therefore, as states by Boyd, (2015) practitioners could use programmes such as 'Eco Schools' and create an ECO school council to encourage and promote children's knowledge, skills and values for sustainability. This would mean children could learn about sustainability from hands on experiences and participate in projects and activities which supports positive changes within the environment through a whole school approach. This is supported by UNESCO, (2002) stating how

education for sustainable development needs to be a learning process that supports individuals in making decisions which consider the long term impacts on the economy and social equity across all communities.

The next topic of discussion is learning from nature.

MacQuarrie *et al.* (2013) explains how learning from nature allows children to engage with the environment which supports a deeper understanding through interaction, curiosity and shared learning of how to care for the world. This is supported by the Forest School Association (2011) which states how learning from nature involves engaging with hands on experiences in natural environments where children can explore, discover and use natural resources to develop an understanding and positive attitudes towards the natural world. Moreover, Ozgen (2023) highlights how the Montessori approach to education involves children learning from nature where they make sense of the world and develop a better understanding of their experiences and their place within it. Furthermore, Froebel believed that children learn best from engaging with nature, where real life experiences help children understand the connections between living things where they begin to explore ideas of sustainability and the wider environment (Froebel Trust, 2022).

In addition to this MacQuarrie *et al.* (2013) states that learning from nature is important to children's development because natural environments provide rich opportunities for exploration which sparks children's curiosity to learn and make connections with the world. The Curriculum for Funded Non maintained nursery settings support this stating how children learn best when they are engaged in experiences that spark curiosity (Welsh Government, 2024). Moreover, Suardi *et al.* (2021) emphasise that curiosity is a key component of what motivates children to learn, which plays an important role in supporting their cognitive development. In addition to this Grigg and Lewis (2016) state how Burner highlighted the importance of children learning through curiosity and leading their own discoveries. Furthermore, Sisson and Lash (2017) explain that outdoor environments and natural materials provide rich opportunities for curiosity, enabling children to actively construct meaning and an understanding of how they can support sustainability in the environment, through being curious and making connections that matter to them.

An example of this was also included in the scrapbook as various experiences made me curious, including the discovery of the bird's eggshell, as to which birds visited the area, which lead on to which bird songs I could identify and finding out more about them.

However, Malone (2016) highlight a concern that children are having fewer opportunities to connect with nature, this is due to more time being spent on technology. McHarg *et al.* (2020) argue that increased screen use is replacing activities that support children's holistic development. This is potentially limiting opportunities for children to explore outdoors and engage with the natural environment. Moreover, the Curriculum for Wales promotes a learner centred approach, encouraging practitioners to plan and build on prior learning around children's interests, motivations and learner voice (Welsh Government, 2022). Therefore, practitioners may find it more challenging to motivate children and engage them with outdoor learning activities and experiences which could potentially reduce opportunities to develop curiosity, and a connection with nature which fosters an understanding of sustainability from a young age.

However, in conclusion the John Muir award has demonstrated through my own experience that the more time spent outdoors, engaging with nature has provided meaningful opportunities to develop curiosity, explore sustainability and how to introduce these experiences and opportunities to children. This has given me a greater appreciation of how living things are interconnected, which highlights the adult's role in promoting and supporting children learning in, and from nature. Furthermore, whilst there are many benefits to engaging with nature and exploring sustainability, its effectiveness depends on the knowledge and confidence of practitioners who can guide children's exploration and curiosity through practical learning and make links to sustainability. Policies such as the Wellbeing of Future Generations (Wales) Act, UNCRC and the curriculum for Wales reinforce the importance of how children need to understand their responsibilities towards the environment through becoming ethically informed citizens.

Thank you for listening.

Reference List

Boyd, D. (2015). *Early Years Eco-Schools Guide*. Available at: <https://www.eco-schools.org.uk/wp-content/uploads/2016/12/Early-Years-Eco-Schools-Leadership-Pack.pdf> (Accessed: 28 June 2026).

Brenneman, K. (2011). 'Assessment for preschool science learning and learning environments', *Early Childhood Research & Practice*, 13(1). Available at: <https://files.eric.ed.gov/fulltext/EJ931225.pdf> (Accessed: 28 June 2026).

Cremin, T., Glauert, E., Craft, A., Compton, A. and Stylianidou, F. (2015). 'Creative little scientists: exploring pedagogical synergies between inquiry-based and creative approaches in early years science', *Education 3-13*, 43(4), pp.404–419.
doi:<https://doi.org/10.1080/03004279.2015.1020655>

Croke, R., Dale, H., Dunhill, A., Roberts, A., Unnithan, M., & Williams, J. (2021). *Integrating Sustainable Development and Children's Rights: A Case Study on Wales. Social Sciences*, 10(3). <https://doi.org/10.3390/socsci10030100>

Eklund, M.A. and Graham, K.W. (2025). *Practical applications of experiential and community-engaged learning methods in business*. Cheltenham: Edward Elgar Publishing.

Elwell, T.L., Nahuelhual, L., Silva Fernández, M., Bianchini, J.A. and Gaines, S.D. (2025). 'Enhancing the potential of children's agency to achieve global sustainability', *Ambio*. doi:<https://doi.org/10.1007/s13280-025-02134-8>

Environment and Development. Open University Press: Milton Keynes.

Fien J. and Tilbury D. (1998). 'Education for Sustainability: Some Questions for Reflection' *Roots* 17.

Forest School Association (2011). *Full principles and criteria for good practice*. Forestschoolassociation.org. Available at: <https://forestschoollassociation.org/full-principles-and-criteria-for-good-practice/> (Accessed: 28 June 2026).

Froebel Trust (2022). *The Froebel Trust*. Available at: <https://www.froebel.org.uk/> (Accessed: 28 June 2026).

World Commission on Environment and Development. (1987). *Our Common Future*. Oxford: Oxford University Press.

Grigg, R. and Lewis, H. (2016). *A-Z of learning outside the classroom*. London: Bloomsbury Education.

Kuhlman, T and Farrington, J. (2010). *What is sustainability? sustainability*. 2. 3436-3448. 10.3390/su2113436.

MacQuarrie, S., Nugent, C. and Warden, C. (2013). 'Learning with nature and learning from others: nature as setting and resource for early childhood education', *Journal of Adventure Education and Outdoor Learning*, 15(1), pp.1–23. doi:<https://doi.org/10.1080/14729679.2013.841095>.

Malone, K. (2016). 'Reconsidering children's encounters with nature and place using posthumanism', *Australian Journal of Environmental Education*, doi:10.1017/aee.2015.48

Manera, L. (2022). 'The Reggio Emilia Approach to Early Childhood Education- An Analysis to Its Inclusive Perspectives and Their Relationships to Aesthetic Aspects', *Fostering Inclusion in Education*, pp.145–153. Available at; doi:https://doi.org/10.1007/978-3-031-07492-9_7

Mohamed, A.S, Faiz U.H, Mir S.I, Mohd, A.R, Muhammad A. B, Raza, A. and Nawaz, R. (2024). 'Environmental Sustainability', *Advances in environmental engineering and green technologies book series*, pp.1–15. doi:<https://doi.org/10.4018/979-8-3693-2845-3.ch001>

Oxford English Dictionary (2023). *Sustainability, n. meanings, etymology and more* | *Oxford English Dictionary*. doi:<https://doi.org/10.1093/OED//6507571288>

Ozgen, Z. (2023). 'Nature-based education in the light of Montessori Philosophy: meaning, principles and practices', *European Journal of Alternative Education Studies*. 8. 134-153. 10.46827/ejae.v8i1.4670 (Accessed: 28 June 2026).

Siregar, T. (2025). 'Implementation of Jean Piaget's Theory of Cognitive Development in Early Childhood', *Journal of Mathematical Techniques and Computational Mathematics*. 4. 1-14.

Sisson, J.H. and Lash, M., 2017 'Outdoor learning experiences connecting children to nature', *YC Young Children*, 72(4), pp. 8-16. Available at:<https://Outdoor Learning Experiences Connecting Children to Nature - ProQuest> (Accessed: 28 June 2026).

Smidt, S. (2015) *Observing young children: the role of observation and assessment in early childhood settings*. Available at:<https://ebookcentral.proquest.com/lib/trinity/detail.action?docID=3569303> (Accessed: 28 June 2026).

Suardi, M., Kurniawati, L. and Rachmawati, Y. (2021). 'Curiosity in young children', *Proceedings of the 5th International Conference on Early Childhood Education (ICECE 2020)*, 538. doi:<https://doi.org/10.2991/assehr.k.210322.048>

Tinney, G and Hirst, N (2018). '*Early Childhood Education for Sustainability Within Wales*' in Boyd, D, Hirst, N. and Siraj-Blatchford, J.(eds) *Understanding sustainability in early childhood education: case studies and approaches from across the UK*. Abingdon: Routledge.

Tinney, G. and Hirst, N. (2017). *Early childhood education for sustainability within Wales*. pp.116–150. doi:<https://doi.org/10.4324/9781315642505-9>

UNESCO (2002). *Four dimensions of sustainability*. Available at: http://www.unesco.org/education/tlsf/TLSF/theme_a.mode04/uncom04t01s03.htm (Accessed: June 28 2026).

UNICEF (n.d.). UN convention on the rights of the child (UNCRC). Available at: <https://www.unicef.org.uk/what-we-do/un-convention-child-rights/> (Accessed: June 28 2026).

Van der Veer, R. (2020). 'Vygotsky's Theory' In: Hupp, S. and Jewell, J.D. (eds) *The Encyclopedia of Child and Adolescent Development*. Wiley. Available at: <https://doi.org/10.1002/9781119171492.wecad101>

Welsh Government (2015). *Well-being of Future Generations (Wales) Act 2015: the essentials*. Available at: <https://www.gov.wales/well-being-future-generations-act-essentials-html> (Accessed: June 28 2026).

Welsh Government (2019). Descriptions of learning - Hwb. Available at: <https://hwb.gov.wales/curriculum-for-wales/science-and-technology/descriptions-of-learning/> (Accessed: June 28 2026).

Welsh Government (2020). *Supporting learner progression assessment guidance* - Hwb. Available at: <https://hwb.gov.wales/curriculum-for-wales/assessment-arrangements/supporting-learner-progression-assessment-guidance/> (Accessed: 28 June 2028).

Welsh Government (2022). Developing a vision for curriculum design - Hwb. Available at: <https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/developing-a-vision-for-curriculum-design/#curriculum-design-and-the-four-purposes> (Accessed: June 28 2026).

Welsh Government (2024). *A curriculum for funded non-maintained nursery settings*. Available at: <https://hwb.gov.wales/api/storage/1f581142-6b91-41e4-845d-3d6c7765df20/a-curriculum-for-funded-non-maintained-nursery-settings.pdf> (Accessed: June 28 2026).

Welsh Government. (n.d.). Available at: <https://www.gov.wales/sites/default/files/publications/2018-11/learner-voice-wales-research-briefing-04-practical-learning.pdf> (Accessed: June 28 2026).

World Commission on Environment and Development (1987). *Our Common Future*. Oxford: Oxford University Press.

I have not used AI.

