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BCF CURRICULUM INVESTIGATION GRANT REPORT

Nature connectedness through the arts

Co-creating a curriculum to support pupil wellbeing
in primary schools

NOVEMBER 2023

AUTHORS

NASREEN MAJID

LUCY TAYLOR

JIM DEES

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- design, implement and evaluate a response to the issue identified
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- contribute to research and scholarship in the study of the curriculum.

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AUTHOR AFFILIATION

Nasreen Majid is a lecturer in education at IOE, UCL's Faculty of Education and Society.

Lucy Taylor is a teacher and art leader at West Lodge Primary School.

Jim Dees is the headteacher of West Lodge Primary School.

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British Educational Research Association (BERA)

9–11 Endsleigh Gardens

London WC1H 0EH

www.bera.ac.uk | enquiries@bera.ac.uk | 020 7612 6987

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Summary

The overarching aims of this project were first to understand how a group of year 5 pupils form connections with nature through the arts to support their wellbeing. The project further aimed to understand how these pupils conceptualise the notion of a nature-connected curriculum that, at its heart, aspires to support pupil wellbeing in primary schools. The project used the research from Walshe et al. (2022) to highlight how such an approach builds pupils' eco-capabilities to support long-term wellbeing as a result of being immersed in nature.

A range of activities took place across the academic year 2022–23 to build skills to support pupils to understand their sense of belonging in nature and enable them to look at nature with a range of lenses. A mosaic approach, adapted from Clark and Moss (2011), was used to capture a wide range of data to understand first how pupils can be supported to develop a sense of connecting with nature through the arts to enhance their wellbeing and second how this scaffolding could enable pupils to develop a bespoke curriculum to support wellbeing in primary schools. The project incorporated a living willow sculpture as part of the legacy and focal point of the work. A resident artist visited the school in February 2023 to work with the year 5 cohort to develop a willow sculpture of a 'bee'. This enabled pupils to incorporate the skills they had developed in their design and technology (DT) lessons of designing and building dens.

Four research questions were used to frame the development and delivery of this project.

RESEARCH QUESTIONS

- How can pupils in primary school be supported to develop a sense of connecting with nature through the arts to enhance their wellbeing?
- What scaffolding can schools provide to pupils to support them in the development of an art-based curriculum to connect with nature?
- How many of the eight eco-capabilities did the pupils develop by the end of the project?
- What role do teachers and school leaders play in enabling pupils in the development of a nature-connected curriculum?

KEY FINDINGS

- Pupils have become more aware of how being in nature makes them feel and understand how it contributes to their wellbeing and happiness.
- Pupils have developed a range of activities that will allow all pupils across the school to connect with nature and thus support their wellbeing.

The project findings suggest that the skills developed by pupils through the academic year have long-term benefits not just for the individual pupils in the study but also for the wider school community. These benefits include an intrinsic understanding of personal wellbeing and how activities in the natural environment can enhance wellbeing. Furthermore, immersion in this project has supported pupils to understand how looking after the natural environment can start locally and with themselves.

Pupils have developed the following eco-capabilities during the project: autonomy; bodily integrity and safety; individuality; mental and emotional wellbeing; relationality: human/nonhuman relations; senses and imagination; and spirituality. These eco-capabilities were developed through enabling pupils to help decide the direction of the project and by taking learning outdoors for extended periods more frequently – creating more space within the curriculum for pupils to connect with nature. Giving pupils the time and space to experience nature and reflect on this helped facilitate a greater sense of awe and wonder.

Teachers have considered the impact of nature connection when designing the curriculum, which has supported their wider thinking on adapting their curriculum content to incorporate the natural environment. The year 5 pupils will become leaders in 'nature connectedness' in the next academic year and will continue to promote learning in and through this area.

The project has highlighted that school leadership plays a vital role in enabling the development of a comprehensive nature-connected curriculum that is sustained and embedded across the school community.

1. Introduction

1.1 CONTEXT OF THE SCHOOL

West Lodge is a large primary school in north-west London and caters for a diverse and vibrant community. The school's nurturing ethos enables all members of its community to thrive and achieve their potential. The school is three-form entry, with specialist provision for pupils on the autistic spectrum, which allows these pupils to access specialist facilities within a mainstream setting. The school was recognised as Global Changemakers as part of an Art Inside Out project, an initiative commissioned by the Eden Project (Inside Out, 2021). This link has been developed through accessing the Eden Project Changemakers CPD (Eden Project, n.d.). West Lodge has done a tremendous amount to develop climate and sustainability education across its curriculum. One established example of this is using the framework of the Sustainable Development Goals (UN, 2015) to build curricular content as a comprehensive strand across all year groups.

The school has a large green space, including an orchard, woodland, pond, beehives, allotment and an area of lawn left unmown to encourage and increase biodiversity. West Lodge would now like to make better use of its natural space by further embedding it within curricular provision. The school's nurturing ethos means that pupil and staff wellbeing are at the heart of all initiatives, and therefore developing a curriculum that frames the school's natural environment as a vehicle for the wellbeing of its community is the next step.

A large proportion of the current generation of pupils have not been exposed to the same level of connection with nature as those who grew up in the 1960s, 1970s and 1980s – camping, exploring woods and meadows, and building dens are activities that many of the current generation experience at best infrequently and often in an adult-led way. By introducing the concept of nature connectedness at West Lodge, the school aspired to support pupils to understand the importance of being outside and how this could enhance their physical and mental wellbeing. In line with current trends, many pupils in the school spend a lot of their spare time inside using

various types of technology, and during the school day much of the learning takes place within the classroom walls. Therefore, the school felt that pupils needed to understand that they could have valuable learning experiences in the natural landscape. As well as reconnecting with nature, the school hoped that the pupils would learn many new skills during this project.

The framework of eco-capabilities as a pathway to wellbeing and sustainability (Walshe et al., 2022) was used to understand the range of skills pupils developed throughout the project. The idea of eco-capabilities has emerged from recent work led by Nicola Walshe (Walshe et al., 2022). The idea of connecting with nature through the arts to enhance pupil wellbeing is integral to supporting pupil welfare while encouraging pupils to build sustainable habits to live rich and informed lives. Through this medium, pupils are immersed in 'caring for the planet', a key aspect of sustainability. Emerging research on climate and sustainability education clearly demonstrates the power of co-constructing work with young people to develop agency and a sense of belonging (Dunlop et al., 2022). This project therefore aspired to give agency to pupils to develop their own nature-connected curriculum.

1.2 THE PROJECT

The desire to develop this curriculum project was rooted in supporting pupil wellbeing in a connected and informed way. Educators are aware of the rapidly changing world, and how it is having an impact on pupil wellbeing. Research shows how pupils are suffering from anxiety when seeing images of the climate crisis; the feeling of helplessness plays a part in this sense of anxiety (Coffey et al., 2021; Lutz et al., 2023; Pihkala, 2020). This project aimed to address this problem at a local level to understand how pupils could be supported in developing a bespoke, nature-connected curriculum in a primary school in England to support their wellbeing and help shape their understanding of how to connect with nature. The project further aspired to shape future habits with pupils to support the development of sustainability skills.

A range of activities were curated to support pupils to connect with nature across one academic year. These activities enabled pupils to reflect on their feelings of being out in nature, how this made them feel and what ideas they could take forward to develop a curriculum that would support pupils across the school to connect with nature to enhance wellbeing.

The project aimed to create a legacy whereby the work carried out through the academic year could be sustained, enhanced and further developed with pupils. The project also supported teachers to see how the school's estate could be used to enhance curriculum delivery in a nature-connected way.

The physical living sculpture formed part of the legacy of this project. A resident artist was invited to spend a week at the school to create a living willow sculpture in the shape of a 'bee'. This further helped the year 5 pupils to understand how a living sculpture can support biodiversity, create awe and wonder for the natural world, and therefore encourage using and being in the natural environment.

1.3 LITERATURE REVIEW

Climate change is the defining issue of our time. There is a real urgency in supporting young people to build resilience and to develop sustainable habits. In England, the government strategy on sustainability and climate change in education and children's services (DfE, 2022) sets out ambitions for building climate literacies. However, it does not go far enough to address the need to reimagine curricula to incorporate climate change and sustainability education in an authentic and sustained way (Dunlop & Rushton, 2022).

1.3.1 Eco-anxiety

Eco-anxiety is becoming a prominent term to explain the distress faced by an individual because of the rapidly changing climate. A recent systematic review and meta-analysis of research on the phenomenon of eco-anxiety by Coffey et al. (2021) has revealed that, broadly speaking, eco-anxiety is a personal response to the changing climate. The response is experienced by individuals whose landscape and living conditions are fluctuating due to the changing climate. However, the research literature indicates that individuals also experience a sense of eco-anxiety when they are not directly affected by the changing climate (Clayton et al., 2017). For pupils in primary schools, eco-anxiety is acutely felt on a daily basis, and research indicates

that pupils are very concerned about the changing climate and how it will impact on their lives (Majid, 2022). Recent work on eco-anxiety indicates that it can be seen as a state of mind that can change depending on the context, suggesting that interventions such as being outside in nature and building sustainable habits that pupils can easily replicate may help to reduce eco-anxiety (Lutz et al., 2023). Supporting pupils to understand how they can manage these feelings could therefore lead to long-term sustainable habits.

1.3.2 Nature connectedness and the arts

In a rapidly changing world, with technological advances and increased screen time, research indicates that young people are spending less time in nature (Price et al., 2022). However, studies also indicate that the benefits of spending time in nature can support the mental wellbeing of young people (Barton et al., 2016; Birch et al., 2020; Piccininni et al., 2018). Therefore, careful consideration could be given to how schools can support young people in making meaningful connections with nature to enhance their wellbeing, not just for the duration of their formal education but also for these habits to be sustained for long-term benefits.

Figure 1.1

Early on in the project pupils went on a nature walk in the local area and explored the concept of nature connection.



Richardson and Butler (2022, p. 5) define connecting with nature as follows:

‘Nature connection is about our relationship with nature – how we think about, feel about, and experience nature. When we feel very close to nature, we recognise ourselves as part of the natural world, and value our relationship with it. We notice nature, seek it out, and feel happy when we are in it.’

The school curriculum does not explicitly provide opportunities to incorporate the natural environment within curriculum delivery, but with careful consideration links can be made in all subjects, and art-based subjects provide an opportunity to build such links. A recent systematic review of research literature found 11 studies, totalling 602 participants, on the intersection of arts-based learning and nature. The review, undertaken by Moula et al. (2022), highlights the benefits of an arts-based approach to support pupil wellbeing and enabling creative ways to connect with nature. This research project aimed to incorporate the arts to help pupils connect with nature and develop habits that they could use beyond the boundaries of formal schooling to support mental and physical wellbeing.

1.3.3 Eco-capabilities

The concept of eco-capabilities, from the research of Walshe et al. (2022), was used to understand whether connecting with nature through the arts supported pupils to develop a set of eco-capabilities.

The idea of eco-capabilities is framed within welfare economics and economist Amartya Sen’s theory of human capabilities. Broadly speaking, Sen (1993) emphasised that for humans to thrive, individual wellbeing must be an integral part of human flourishing. Walshe et al. (2022) build on this work to look at the notion of capabilities that can be developed through connecting with nature to achieve wellbeing and sustainability. There are eight eco-capabilities, developed by Walshe et al. (2022), that this research project drew upon to understand whether the participants showed the development of eco-capabilities through the course of the research. The eight eco-capabilities are presented in table 1.1.

Table 1.1

The eight eco-capabilities (adapted from Walshe et al., 2022, pp. 10–11).

Eco-capability	Description
Autonomy	To have ownership or agency over aspects of one’s life.
Bodily integrity and safety	To have good bodily health, and protection from physical risk or danger.
Relationality: human	To be able to live with and toward others, to recognise and show concern for other humans, to engage in social relations, to be treated with respect and dignity.
Relationality: nonhuman	To be able to live with a concern for and in relation to animals, plants, and the world of nature.
Senses and imagination	To be able to use senses and imagination, involving freedom of expression.
Mental and emotional wellbeing	To love and care for those who love and care for us and to grieve at their absence. To be able to articulate/express all emotions and not have emotional development harmed by fear and/or anxiety. To be mentally healthy.
Spirituality	To be concerned with the spirit or soul, including but not exclusively related to religion.
Identity	The qualities, beliefs, personality and expressions that characterise an individual.

2. The innovation

This project's innovation lay in building on the research of Walshe et al. (2022), through empowering pupils to use the ideas they developed by connecting with nature to conceptualise a new curriculum that supported nature connectedness through the arts. The project further aspired to understand which eco-capabilities pupils demonstrated and developed during the project.

The organic approach used to immerse pupils in the work across an academic year, via a range of art-based activities, supported the development of ideas over time. Further innovation stemmed from supporting pupils to develop sustainable habits in an implicit way – through being part of nature and thus developing ways to support and enhance the use of natural spaces, enhance their local biodiversity, and be local and global 'changemakers'.

This has been an important project that aspires to add to the emerging body of work where young people are leading and co-creating innovative ideas to reshape the debate around climate and sustainability education. The project will continue beyond the scope of the funding provided by BERA and will be embedded for future generations of pupils in the school through the 'leaders in nature connectedness' approach. Further aspirations include sharing the work widely through local and national events.

Figure 2.1
Pupils learned the skills of working with living willow.



3. Method

3.1 SAMPLE

The participants were a year 5 cohort. They had undertaken carbon literacy training in year 4 and therefore had an enhanced insight into climate change and sustainability issues. The total number of pupils taking part in the project was 93. The class teachers supported the development of the work alongside the school’s art subject lead, who was one of the three year 5 class teachers. A selection of activities were undertaken with the pupils to build their capabilities to connect with nature to develop their thinking around how these connections made them feel and what kind of activities they could create as part of their nature-connected curriculum for the project.




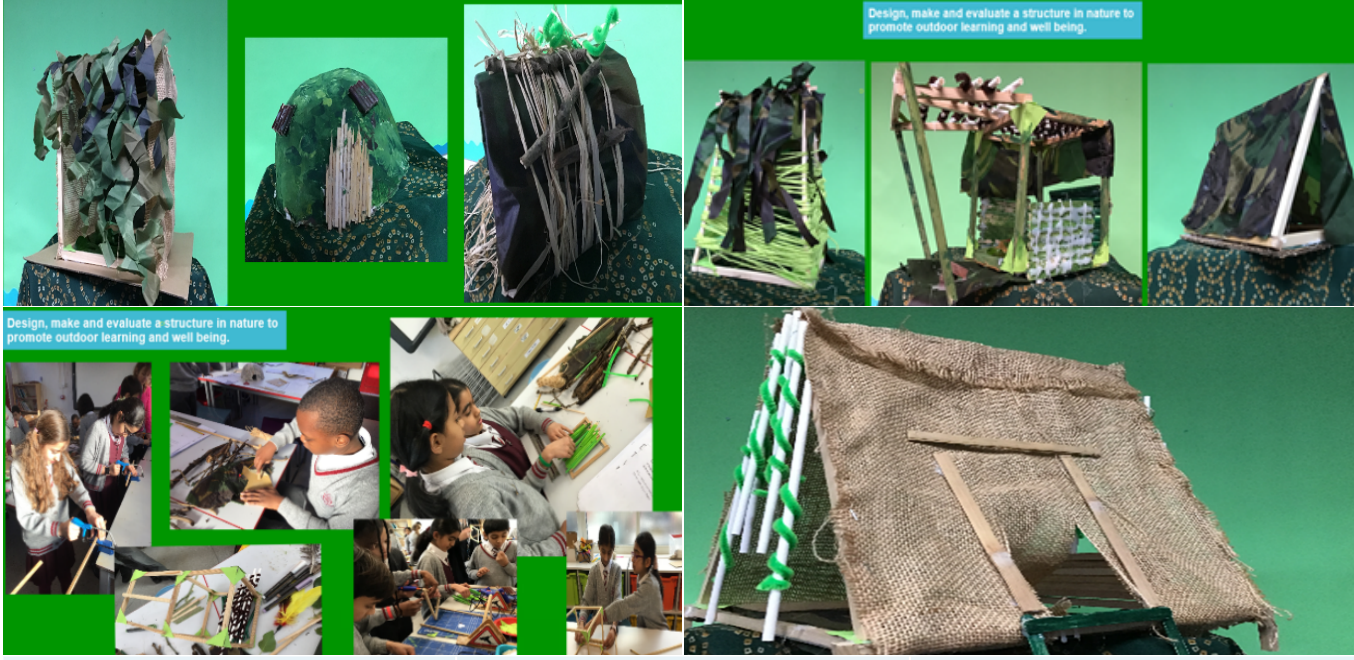


Table 3.1 shows the chronology of data collection through the range of activities undertaken with the pupils across the academic year.




The range of bespoke methods used to collect the data across the span of this project are shared in table 3.1. The mosaic approach used in this project supported the pupils to look at nature with a range of lenses. Clark and Moss (2011) explain the mosaic approach to data collection as a set of ‘tiles’ that when put together help develop further understanding of the area being researched. The activities undertaken across the academic year helped the research team to understand how year 5 pupils made connections with nature, how this made them feel and what skills they developed to incorporate nature connectedness into their own curriculum content.

Table 3.1

Chronology of data collection across the academic year and photographs showing the activities that took place during different parts of the project.

Time of year	Activity	Skill development
Autumn 2022	<ul style="list-style-type: none"> Nature-connectedness presurvey Nature walk 	<ul style="list-style-type: none"> Photography (composition/light) Class discussion to explore detail in photographs Use of descriptive language

Time of year	Activity	Skill development
Autumn 2022 	<ul style="list-style-type: none"> • Mind map from nature walk using the senses 	<ul style="list-style-type: none"> • Observation: heightened attention to detail through engagement with senses in natural spaces • Team building: communication as this activity was in table groups 
Autumn 2022	<ul style="list-style-type: none"> • DT project: designing a structure to support outdoor learning 	<ul style="list-style-type: none"> • Measuring • Sawing • Joining
		
Spring 2023 	<ul style="list-style-type: none"> • Focus group with pupils • Parent meeting • Living sculpture development over one week • 'Twigtwisters' • Nature photography competition • Cassiobury Park trip: orienteering/river study • Landscape painting 	<ul style="list-style-type: none"> • Planting • Knots • Weaving • Teamwork • Photographing landscapes (light, colour, composition) • Colour mixing and matching to natural environment • Geographical skills: map work, measuring river speed and depth of river bed 

Time of year	Activity	Skill development
	<ul style="list-style-type: none"> • Observational drawing • Natural sculpture designs • Creating instructions/films of mini projects • Working with pupils from across the school on individual projects • Instructional videos/folders created for every year group • Research presented at continuing professional development (CPD) for all staff • Nature-connectedness postsurvey 	<ul style="list-style-type: none"> • Observational drawing skills (tone, pattern, texture) • Writing instructions • Directing films • Editing films using iMovie
<p>Summer 2023</p>		<ul style="list-style-type: none"> • Year 6 leaders to be appointed to lead on projects and promote nature connectedness • Folders distributed to different year groups • Staff CPD
<p>Autumn 2023 & onwards</p>	<ul style="list-style-type: none"> • Leadership skills • Public speaking: delivering CPD to teachers • Communication skills: developing activities in an accessible way for all learners 	

3.2 INNOVATION

The project was dynamic and was led by the pupils and the environment around the school. The sequence of activities began with an autumnal walk along the River Pinn, focusing on the senses and simply enjoying being in nature. During this nature walk, various natural items such as sticks and leaves were collected alongside pupils using an iPad to take photographs from different perspectives. Scaffolding the discussion back in the classroom and using the senses enabled the pupils to think about how being outside made them feel and how authentically connecting with the natural environment could be used to create art. The research team planned activities linked to a range of curriculum areas (mathematics, science, geography, art and DT) and began to think about how being connected to nature would allow pupils to develop skills in these areas as well as promoting wellbeing. Much of the work carried out was focused on the seasons and the effect of light and weather conditions. This inspired the pupils to carry out a tree study and take photographs as well as paint landscapes which considered changes in light and colour (inspired by Monet's series paintings).

For the project to have a legacy, a permanent natural structure was planned where outdoor learning could take place. This would also be a place where pupils

could relax at playtimes and carry out informal nature-connected activities. In February 2023, the pupils worked with 'Twigtwisters' (twigtwisters.co.uk/gallery) to create a living willow sculpture (see figures 3.1 and 3.2). The design of the sculpture was linked to a DT project, where pupils made their own nature structures. However, the final design was largely an organic process which was inspired by the school values and 'bees'! The teachers and pupils named it 'Just Bee'.

Once this structure was in place, the pupils considered a range of activities that could be done with pupils of all ages across the school within this structure and the surrounding area (see figure 3.3). Independently, pupils created instructional videos for a range of different activities, some with a curriculum focus while others connected with the school's own sustainability goals. Here are links to three of the videos:

- How to make a twig sculpture: <https://bit.ly/3Qhq4Gd>
- How to make a wind decoration: <https://bit.ly/3tUdDIU>
- Mandala tutorial: <https://bit.ly/3SkuOIP>

Finally, the project aspired to understand how pupils can be supported to connect with nature to develop their own eco-capabilities (Walshe et al., 2022). These capabilities have the potential to be part of their lives beyond the scope of the project and their formal schooling.

Figures 3.1 & 3.2

The new willow sculpture 'Just Bee' has become a den for pupils to relax in at playtimes and lunchtimes and also a hub for nature-inspired activities.

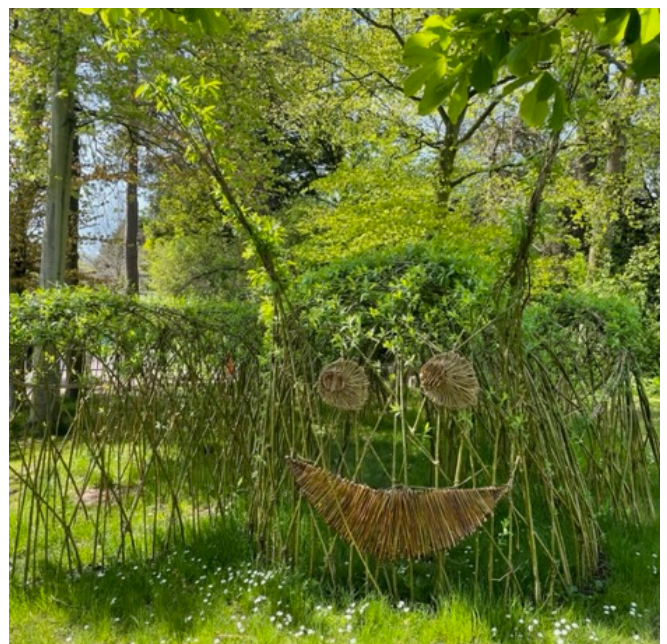


Figure 3.3

Pupils collaborated to design the new nature-inspired outdoor art activities.



3.3 IMPACT MEASURES

The impact of the work was measured through a presurvey and postsurvey with the pupils. The pupils were surveyed in the autumn term and spring term to make comparisons between any differences in their attitudes towards being in nature.

Impact was also measured in how pupils were seeing the natural space over the lifespan of the project and whether there was a difference in the detail the pupils were picking out from nature. This was tested through the range of data collection tools highlighted in table 3.1, for example, photographs taken by pupils in the autumn term were compared with those taken in the spring to understand what details they were capturing and how they described the imagery. This approach supported teachers to infer and deduct changes in pupil thinking over time. Additionally, pupil voice was captured through focus groups, mind mapping and descriptive writing to understand how they developed their connections with nature over time. Therefore, the process of connecting with nature as well as the outcomes of these connections were captured over the academic year.

3.3.1 Staff professional learning and development

In the autumn term, CPD focused on enabling staff to understand the climate and ecological crises, the actions that the school is taking in response to these crises and the aims for the academic year 2022–23. One of these aims was to understand that we are in an ecological crisis as well as a climate crisis and that the nature-connectedness project was in part a response to this, with the aim of enabling pupils to gain a much

greater appreciation of the natural world and their place in it. The presentation for that CPD session can be found here: <https://bit.ly/48CpgDX>. Opportunities for the year 5 team to share the ongoing impact of the project throughout the year at meetings with year group leaders and at wider leadership team meetings enabled staff across the school to see the impact that spending more time in nature was having on the cohort – this included pupils with additional needs, specifically social, emotional and mental health needs. As the year progressed a significant number of pupils were requiring less pastoral support and were able to access the curriculum much more confidently due to the positive impact of the project design. This had a knock-on effect in enabling more year groups to start learning outside. In the summer term, the year 5 team led a CPD session (see the presentation here: <https://bit.ly/3FB77jw>) outlining the impact of the project, which has led to a further review of curriculum areas across the school. The review will be guided by the work of this project, including gaining insight from the pupils leading the ‘nature connectedness’ work.

3.3.2 Future curriculum planning

In the art curriculum, each term is linked to one of the key themes (drawing, painting and craft) and has an activity that considers nature connection, for example, observational drawing from nature, nature weaving, and tie-dye using dyes made from berries and leaves. These links will continue to build on the work of developing eco-capabilities (see figure 3.4).

- **Autonomy and individuality/identity:** A feature of the project has been enabling pupils to have greater ownership of the direction of their learning and express their personality. This will be further developed by the revised art curriculum.
- **Mental and emotional wellbeing:** It is clear from surveys and observation that the pupils have enjoyed spending time in nature and that this has led to lifestyle changes, impacting positively on mental health. This will be further developed by the revised art curriculum.
- **Senses and imagination:** Using various senses has been a key aspect of the project, leading to a greater understanding and appreciation of the natural world. Thinking carefully about textures, fabrics and other materials, visual representation, smells and sounds when working on different aspects of the art curriculum will continue to develop this eco-capability.
- **Relationality:** Through observational drawing, pupils are tasked with really noticing changes in colour,

tone, patterns, shadow, composition, and effect of light. Embedding nature-connected activities in this aspect of the art curriculum will further develop the eco-capability of relationality.

- **Spirituality:** Incorporating nature connection within the art curriculum more explicitly will help develop the eco-capability of spirituality through a greater sense of awe and wonder.

The DT curriculum has been further developed to incorporate a project linked to sustainability within each year group. This will build on the work of the project by using the willow sculpture as an inspiration.

A sustainable citizen passport, linked to the United Nations' Sustainable Development Goals (UN, 2015), has been developed, including a section on nature connection for each year group across the school. This will be further embedded in the curriculum during the academic year 2023–24. The passport can be viewed here: <https://bit.ly/3ZjXZeT>. There is also an annual whole-school nature photography competition (see figure 3.5).

Figure 3.4
Nature-inspired activities now form part of the redesigned art curriculum. A mind map reflection poster followed the work on creating the willow sculpture.



As a result of this project, a review of outdoor learning spaces within the school estate has taken place throughout the summer term in consultation with School Outdoor Learning (www.schooloutdoorlearning.com), and plans have been drawn up to develop more accessible outdoor learning spaces to enable teaching staff across the school to take learning outside much more easily. These additional spaces will be created during the autumn term of 2023–24.

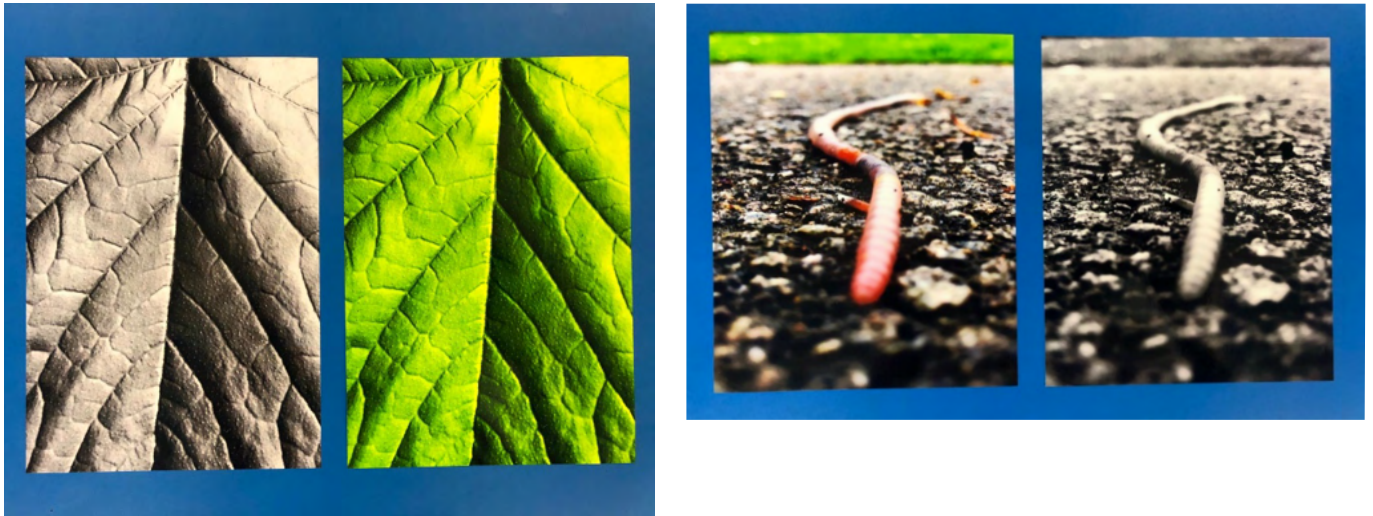
3.4 ANALYSES

The range of data collected using the mosaic approach (Clark & Moss, 2011) supported the researchers in understanding how a collection of activities could be used to build pupils' understanding of connecting with nature through the arts and hence the impact of such connections. The year-long project provided a selection of opportunities for data collection across the seasons. This enabled rich, authentic data collection which fostered an understanding of how the pupils developed their approaches to connect with nature through art-based activities. Furthermore, the data collected highlighted how pupils conceptualised a nature-based curriculum to support pupils across the school to engage with nature.



Figure 3.5

Examples of nature photography from the nature photography competition.



An inductive approach, based on the framework of Srivastava and Hopwood (2009), was used to capture the trends in the data sets. The researchers aimed to understand what skills pupils developed as a result of their involvement in this project. The skills were further compared with the work conceptualised by Walshe et al. (2022) on eco-capabilities to determine whether this project supported the development of any of the eight eco-capabilities highlighted in that work. The data were analysed iteratively using Srivastava and Hopwood's (2009) framework to understand the themes emerging. The framework is underpinned by three main questions, namely: 'What are the data telling me?', 'What is it I want to know?', and what are the interconnections 'between what

the data are telling me and what I want to know' (Srivastava & Hopwood, 2009, p. 78). This approach enabled insight into pupil engagement with the project, how they developed meaning while being immersed in nature through art-based activities and how this immersion in nature helped pupil wellbeing. This process also supported the researchers in highlighting any eco-capabilities (Walshe et al., 2022) emerging from the data sets. Furthermore, using an iterative framework from Srivastava and Hopwood (2009) supported the researchers in working with the pupils on using their newly acquired knowledge and skills to develop ideas for a nature-connected curriculum within their school grounds.

4. Results

The results illustrate the positive impact that the project has had on pupils' perception of nature, their willingness to spend time outdoors and the impact that this has had on their wellbeing (see table 4.1). The results suggest that all eight eco-capabilities have been developed, as indicated in section 4.3 (impact measures). The staff involved in the project have witnessed first-hand the positive impact on the pupils' wellbeing and their enjoyment of school and its natural space.

The results of the pre-project and post-project pupil surveys illustrate the positive impact of the project across a range of different areas (see figure 4.1, figure 4.2 and table 4.1). Pupils are more likely to spend time outside, with a greater number using the outdoor space to support their wellbeing, for example, if they are feeling sad, and a larger number of pupils indicating that being outside lifts their mood. Feeling connected to nature through their various senses is now a concept that pupils are familiar with and a greater number of pupils feel that they can connect with nature.

The results of the pre-project and post-project pupil surveys are outlined in table 4.1.

Several pupil quotes also indicate the positive impact of the project in terms of helping pupils to connect more positively to nature and the accumulative impact that this has on their wellbeing (see figure 4.3). Pupils further indicated an improved relationality to the impact of being out in nature.

'Now I understand why my gardener is smiling all the time.'

'It made me feel like I should be in nature because it makes me feel so much happier.'

'The difference the project will make to my life will make me love nature much more.'

'I have already started spending more time in nature than before and I will continue to.'

'The project helps me to feel calm and focus on the things that matter most.'

Figure 4.1

This image highlights some of the key words and comments that came from the post-project pupil survey.



Table 4.1
Pre-project and post-project pupil survey results.

Pupil survey results		
During the week, how many hours, on average, do you spend outside EACH DAY?		
	Pre	Post
< 2 hours	47	36
> 2 hours	36	49
During the weekend, on average, how many hours do you spend outside EACH DAY?		
	Pre	Post
< 2 hours	36	25
> 2 hours	46	62
When I feel sad, I like to go outside and enjoy nature.		
	Pre	Post
Disagree or strongly disagree	25	17
Agree or strongly agree	43	52
Being outdoors makes me feel happy.		
	Pre	Post
Disagree or strongly disagree	6	4
Agree or strongly agree	64	75
Being outside lifts my mood.		
	Pre	Post
Disagree or strongly disagree	13	7
Agree or strongly agree	59	66
I connect with nature through touching it.		
	Pre	Post
Average rating*	4.14	4.53
I connect with nature through hearing it.		
	Pre	Post
Average rating*	4.36	5.29
I connect with nature through seeing it.		
	Pre	Post
Average rating*	5.47	5.86
I connect with nature through smelling it.		
	Pre	Post
Average rating*	3.67	4.14

*Pupils were asked to give a rating on a scale of 0–6.

Figure 4.2

Example charts from some of the questions on the pupil survey.

Being outside makes me feel Happy

● strongly disagree	3
● disagree	3
● neither	13
● agree	32
● strongly agree	32



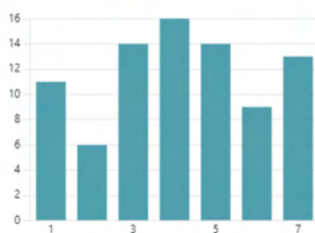
● strongly disagree	1
● disagree	3
● neither	8
● agree	45
● strongly agree	30



I connect with Nature through touching it



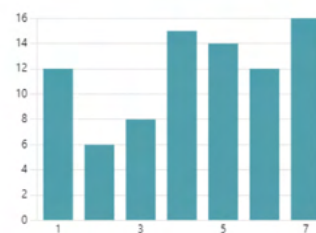
4.14
Average Rating



I connect with Nature through hearing it



4.36
Average Rating



4.53
Average Rating



5.29
Average Rating

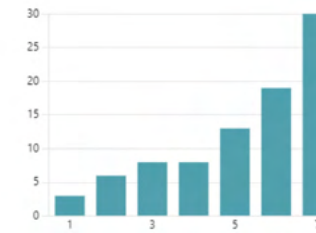


Figure 4.3

Quotes from the post-project survey highlighting the impact that the project has had on changing pupils' perception and behaviour.



5. Discussion & conclusion

This section will highlight the gains made by the pupils by discussing the outcomes of the project through the research questions posed.

How can pupils in primary school be supported to develop a sense of connecting with nature through the arts to enhance their wellbeing?

The project has demonstrated the positive impact that spending time in nature can have on pupils and how using the arts as a bridge to enable pupils to connect with nature can alter perceptions and lead to lifestyle changes. Creating time and space within the curriculum and loosening some of the perceived restrictions that prevent teachers from taking pupils outside will be important in ensuring the long-term impact of this project. This might include giving staff greater autonomy over timetabling so that they can take advantage of optimum moments to be outside that may link to specific objectives. The gains experienced by pupils in this project also indicate the measurable impact that connecting with nature using the arts has on wider learning.

The results of the project highlight the changes in the pupils' relationship with nature, relating back to the Richardson and Butler (2022) definition of connecting with nature: 'Nature connection is about our relationship with nature – how we think about, feel about, and experience nature.'

What scaffolding can schools provide to pupils to support them in the development of an art-based curriculum to connect with nature?

Careful thought needs to be given to curriculum planning and an overarching curriculum framework that will enable teachers to plan outdoor learning and nature-connection opportunities across the curriculum. Opportunities have been created in the art curriculum and through the sustainable citizen passports – these opportunities need to be more widespread in the future and more space created within the curriculum to enable staff to feel less pressure to be inside and to feel that they have greater autonomy to take learning outside. Developing staff awareness, confidence and skills is important to build on the successes of this project.

Furthermore, the findings suggest that using a range of activities to expose pupils to the outdoors and help them to understand their connection with nature enables them to develop their own portfolio of activities to shape curriculum design and delivery. This suggests that pupils can be given further agency in curriculum design and be part of this process with teachers and school leaders. The instruction sheets and videos developed for pupils across the school showcase the curriculum design and how the 'leaders in nature connectedness' will develop this work in the new academic year.

How many of the eight eco-capabilities did the pupils develop by the end of the project?

Pupils have developed the following eco-capabilities during the project: autonomy; bodily integrity and safety; individuality/identity; mental and emotional wellbeing; relationality: human/nonhuman relations; senses and imagination; and spirituality. These capabilities were developed through extended and repeated arts-in-nature sessions, enabling the pupils to engage and explore through the different senses; providing time and space within the curriculum for pupils to connect with nature; providing opportunities for pupils to express their creativity and personality through a variety of different media; and allowing pupils to be 'in charge' of the direction of the project and certain elements, for example, creating instructional videos.

What role do teachers and school leaders play in enabling pupils in the development of a nature-connected curriculum?

Building staff confidence in taking learning outdoors is a key facet of enabling pupils to experience a more nature-connected curriculum. This project has demonstrated the positive impact that spending time connecting with nature can have on pupils, which is important for encouraging staff who are lacking in confidence and/or reluctant to take learning outside. Teachers can be signposted to the gains achieved in pupil wellbeing and how this can add value to pupils' engagement with wider curriculum activities.

The impact of the project on the year 5 cohort can be seen in the data presented in section 4. The data from the presurvey and postsurvey indicate that, as a result of the project, pupils are more inclined to spend time in nature and being outdoors in nature has a positive impact on wellbeing. Also, the pupils indicated that they felt more able to connect with nature through their different senses. This had a positive impact on their wellbeing and these results also suggest that pupil concentration improved in classroom lessons.

Pupils in the cohort who have struggled with social, emotional and mental health problems have shown a marked improvement in their ability to access learning across the curriculum. They feel more encouraged to come to school and have shown improved attendance and improved school refuser tendencies. They spend more time in lessons and this has reduced the need for pastoral support and time spent in the school's pastoral space, 'The Nest'.

6. Dissemination & sustainability

The work will continue to be shared widely within the local school networks and through opportunities to share the work within the local authority and beyond. Pupils and staff will showcase and highlight the findings of this project at the BERA event, *Education and the climate crisis: A curriculum for sustainability*, scheduled for November 2023. In the coming academic year the work will continue to be shared via the school's Instagram and X (formerly Twitter) accounts and on the school website, which highlights the ongoing development of nature connection through the arts and across the whole curriculum.

The development of a more coherent approach to outdoor learning across the curriculum and of a more cohesive sustainability curriculum will ensure this work can be embedded and sustained in the long term.

West Lodge will be hosting an eco-conference in September – YES Fest – which will be bringing together schools from across the country and focusing on three key elements of developing a sustainability curriculum: nature connection, climate action and supporting biodiversity. The aim of the conference is to empower primary school pupils to take the lead and become changemakers in their own school settings. The schools taking part will form an ongoing partnership to encourage and inspire each other with this important work.

West Lodge has developed a partnership with Simon Braidman (Harrow Nature Hero) and with his support the school will extend its regular community gardening mornings to include developing wildlife and biodiversity at the local park as well as on the school estate.

The school intends to work annually with Chris Holland – a leading inspiration in the field of nature connection and creative outdoor learning.

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British Educational Research Association, 9–11 Endsleigh Gardens, London WC1H 0EH
T 020 7612 6987 | E enquiries@bera.ac.uk | @BERANews

www.bera.ac.uk