

Natural Connections: Learning About Outdoor-Based Learning



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1 Introduction

In this chapter we introduce the Natural Connections Demonstration Project (NCDP) and discuss the evaluation methodology embedded in the project from its outset. We then draw on data from 24 case-study visits to describe the imaginative and innovative work undertaken by schools participating in the project. We conclude by discussing the importance of continuing professional development (CPD) for staff who are taking children's learning outside.

2 The Natural Connections Demonstration Project

The long-term aims underpinning the Natural Connections Demonstration Project were outlined in The Natural Choice White Paper (2011), produced by the UK Coalition Government of the time. This White Paper emerged in response to public and political concerns about a disconnection with nature across the population. Funding was set aside in the White Paper for a demonstration project, which would be large enough to enable testing of a variety of approaches to explore the most effective ways of enabling school-age children in England to benefit from learning experiences in their local natural environments. The resulting project—NCDP—was seen as the first phase in realising a long-term ambition of embedding outdoor curricular learning into schools: if successful in both stimulating and meeting the apparent

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latent demand in schools, Natural Connections would be replicated and amplified more widely, with subsequent phases having different foci, such as outdoor play or health outcomes (an ambition, we feel a decade on, that is struggling to be realised due to current UK Government priorities that are focused elsewhere).

From the outset, therefore, the purpose of Natural Connections, being a *Demonstration* Project, was to investigate effective ways of engaging primary, secondary and special schools with learning outside the classroom in the natural environment (LINE). This was achieved by establishing NCDP as both a practical (delivery-focused) and as a research (evidence-focused) project. After a national tendering process, NCDP was awarded to the Plymouth Institute of Education, University of Plymouth and, as a consequence, the schools recruited to the project, the project management team, the research team, external providers and volunteers attached to the project were all based in the South West region of England. The project ran from 2012 to 2016, and was managed at the national level by Natural England, on behalf of the Department for the Environment, Food & Rural Affairs (DEFRA; the main funders). Other project funders were Natural England and English Heritage.

NCDP worked in areas of high multiple deprivation in the region, both urban (Plymouth, Torbay and Bristol) and rural (Cornwall and North Somerset), with the aim of supporting primary, secondary and special schools in these areas to investigate the potential of LINE for curriculum delivery. To overcome the acknowledged challenges of transport costs and time (Dillon & Dickie, 2012), NCDP focused on schools accessing green or spaces within walking distance of school, including (but not limited to) school grounds, municipal parks, nature reserves, food producers, 'blue' (i.e. water-related) spaces and local woodland.

While NCDP was a large-scale project involving 125 schools and 5,000 teaching staff, it was also important to work with each school to shape interventions and activities to meet individual needs and priorities, and to provide teachers with the most effective ways to offer inspiring and successful curricular learning in local green and/or blue spaces. In order to realise this targeted support, clusters of schools were provided with expert, independent advisers to help them access the range of quality LINE opportunities, resources, volunteers, community partners and outdoor providers that were available locally. These experts—called 'hub leaders' (see below)—offered face-to-face advice to build awareness, understanding and confidence in LINE, helped establish networks of teachers and schools, and supported volunteering opportunities in schools. This delivery model was designed to also embed a sustainable change in practice, both in how schools approached LINE and in the nature of the services available to them, to ensure a legacy beyond the life of the project.

In order to achieve these objectives, four core elements of the project were established:

- an independent brokerage model. This consisted of five 'hub leaders', one for each of the five geographic areas. These education experts were contracted by the central NCDP team (based at University of Plymouth) to manage relationship-building between schools, and between schools and providers, at the sub-regional level.

- a volunteer development programme was set up to test the role that volunteering might play in assisting schools initiate, diversify, extend and improve their LINE activities.
- a web service to publicise the services offered by outdoor providers and to distribute free LINE teaching resources.
- an evaluation programme to establish the effectiveness of the delivery model.

Overall, the purpose of the demonstration project, therefore, was to establish and test the effectiveness of these four elements in achieving the project's aims and objectives, and to provide clear recommendations for future activity and development.

The University of Plymouth devised a distributed model of responsibility that operated at four levels: the central team → hub leaders → beacon schools → cluster schools. The concept was to build local networks in which the local brokerage agencies ('hub leaders') would first recruit and enhance the work of schools that were already successful in LINE ('beacon schools'). These would, in turn, lead and support a local network of other schools ('cluster schools') in developing their LINE practices. The vision behind the model was a 'needs-led' approach, building sustainable LINE that was responsive to local circumstances, enabling participation, skills sharing and collaboration among schools, each of whom, to varying degrees, had both something to offer and to learn about outdoor learning. The ambition was that these networks of schools would become autonomous after project funding ceased.

The central team's initial task was to recruit hub leaders in five locations with areas of high multiple deprivation (Bristol, Cornwall, North Somerset, Plymouth and Torbay) who would undertake the work at the local level. Once recruited, the five hubs located beacon schools. A person—a LINE lead—was selected within each beacon school to become the main contact for the project. Each LINE lead aimed to build a 'LINE team' of up to seven people, including senior management, a governor, parent, teachers and other staff to ensure that LINE responsibility was shared and that, should the LINE lead leave the school, expertise and momentum would not be lost. Supported by the hub leader, the LINE team subsequently recruited four to eight cluster schools that had limited experience of LINE at the time of recruitment, and helped organise collaboration and sharing of expertise at the local level.

The intention was that the beacon schools would demonstrate success in and benefits from teaching and learning across the curriculum through LINE. This would then encourage other schools to take part and create mutually supportive communities focused on outdoor learning, which could be responsive to local priorities, needs and strengths. Over time, as cluster schools developed their own expertise, the aim was that they might become beacon schools and provide support for other local schools willing to engage with LINE. The intention, therefore, was that this approach would develop a sustainable, rhizomatic model that would expand both internally throughout each school and externally across schools as the clusters grew in confidence. Overall, the aim was to create an infrastructure that would, over three years, see a cultural shift in participating schools towards embedding LINE in their policies and embracing LINE as part of their everyday practice. The rhizome metaphor reflects the idea that support and growth were intended to be diverse, symbiotic and

horizontal rather than top-down, leading to innovation and independent development of LINE at a local level, with transfer of information and learning across all levels.

3 Natural Connections Demonstration Project Evaluation

As this was a demonstration project, evaluation of Natural Connections was complex and wide-ranging. It was central to informing delivery and to capturing project outputs and outcomes, and was designed to:

- offer iterative feedback throughout the project to shape and inform the delivery model
- capture and report on outputs and outcomes
- evaluate the effectiveness of the structures and processes in meeting the aims of the project
- monitor the impact of the project on participating schools, organisations and individuals
- monitor the financial sustainability of the project model, including targets related to income generation
- make evidence-based recommendations for the design of future outdoor learning programmes.

In practical terms, it had two overarching aims: to evaluate whether and, if so, how the project was successful in stimulating LINE activity in project schools over three years; and to assess the impact of the project on participants. This would allow return of evidence-led conclusions about the model and its replication, and was balanced with the need for the evaluation to be manageable and realistic for schools. The research was embedded from the start of the project and designed around a framework of key evaluation questions that would enable the central team to monitor the key project processes, the relative success of each project element, and degrees of change in LINE activity at school level. These different elements would provide a comprehensive understanding of project development as a whole.

The evaluation framework enabled each of the four core project elements (brokerage, web service, volunteering and evaluation) to be systematically tested against a number of underpinning assumptions. The complexity of the project, that had three aims, four core elements and a distributed model of responsibility in five areas across the South West of England meant that a mixed method approach was most appropriate (Pommier et al., 2010). Mixed methods generated quantitative and qualitative data, thereby facilitating investigation and demonstration of the project's scale, scope, impact and processes (see Waite et al., 2016, 25).

Baseline surveys measured LINE activity levels at the start of the project, and activity logs (a subset of the surveys) captured a snapshot of activity in June and November to understand longitudinal and seasonal change. Other data collection instruments included reflective surveys ($n = 3,083$) which were employed with LINE leads, LINE providers, volunteers, pupils and parents to elicit their views of LINE

activities, developments and impact. Semi-structured interviews were conducted with central team staff ($n = 16$) and hub leaders ($n = 35$), and 24 case-study visits involved semi-structured interviews with school staff ($n = 119$), volunteers ($n = 11$) and pupils ($n = 167$). The project's final report (Waite et al., 2016), which can be found on the Natural England website, includes full details of project organisation, implementation and evaluation.

Case study context

The 24 case-study visits were spread over the project lifetime and across the five hubs. The aim initially was to cover as wide a range of geographical, school and cluster-beacon models as possible in order to capture the full range of schools' experiences in the project. As NCDP progressed, however, these plans shifted to accommodate developments within the project; the Bristol and North Somerset hubs worked increasingly closely together and the distinction between beacon and cluster schools became blurred. All five hubs adopted a more democratic approach which meant that, rather than a hierarchical model of 'beacons' and 'cluster' schools, the hubs preferred to create a more horizontal, collaborative network system in which learning and expertise were pooled and shared. As a result, and following hub leader recommendations or through our own knowledge from the evaluation, schools at different stages of embedding LINE in their everyday curricular activity from across the region were invited to participate in the case-study phase of the research, regardless of their cluster/beacon status. The 24 case studies were divided across the hubs as follows: in Bristol and North Somerset, we visited six schools; in Plymouth six; in Cornwall five; in Torbay six. The final case-study visit was to a school in North Devon, which had joined NCDP through the Naturally Healthy Devon Schools project (see Waite et al., 2016, 30 for details). Altogether we visited 18 primary, two secondary and four special schools, reflecting the proportion of school sectors recruited to the project.

Schools generally responded positively to the invitation to participate as they felt that they had something positive to show, were committed to the idea and practice of promoting LINE, and were willing to share the ways in which they were trying to do this. Beyond this commonality we found that schools were motivated by different factors related to the community they served, and that they had a wide range of different approaches to LINE. The whole offered a rich tapestry of imaginative practices that provided inspiration at local, hub and project levels.

Researchers usually visited for a full school day, which enabled them to see a variety of LINE activities and talk to staff, pupils and, when possible, volunteers. Interviews with the headteacher or LINE lead set out the LINE vision for each school, and subsequent interviews with staff and pupils enabled us to discover the types of activities that were undertaken, their aims and perceived impact. Exploring the school grounds, sometimes with staff and at other times without, helped us to put the views expressed into context and to understand the affordances and/or limitations of each site. Following ethical clearance from the Plymouth Institute of Education for the project, all participants were assured of voluntary participation, their right

to withdraw and secure data storage and management. Interviews were recorded with permission, and transcribed onto a template devised to facilitate evaluation against the project assumptions, aims and objectives. While case-study schools were named with permission in different fora (see, for instance, the Council for Learning Outside the Classroom blog <https://learningoutsidetheclassroomblog.org/category/case-studies/>), individual contributions remained anonymous.

The English education system

England has a fragmented educational system in which school choice, school autonomy and diversity of provision have been fundamental principles, aimed at raising standards, since the early 1990s. Some schools are obliged to follow the National Curriculum (see <https://www.gov.uk/government/collections/national-curriculum>), but others are not; some are managed by independent Multi-Academy Trusts (that have between three and 40 schools in their Trust) and others by the local authority (local education administration). In addition, there are special schools for pupils with special educational needs, although inclusion is part of mainstream education.

The common educational framework has three elements; the examination system, in which pupils take compulsory external examinations at the ages of seven, 11 and 16; the inspection system of Ofsted, which is scheduled to visit each school every three to four years; and the so-called ‘league tables’ in which schools are ranked according to their pupils’ examination performance. This “tyranny of testing” (Mansell, 2007), in which pupil performance affects school recruitment and therefore funding levels, can have the effect of “compounding the disadvantages of the already socioeconomically disadvantaged” (Passy & Ovenden-Hope, 2020, 225) by failing to take into account the children’s socioeconomic or familial background, or the efforts a school can make to support disadvantaged students in accessing their education. The testing regime can also have an inhibiting effect on teachers’ willingness to experiment with new ideas and approaches. This was particularly the case with outdoor-based learning at the start of NDCP; taking learning outdoors was often regarded as a risky approach in which time might be ‘wasted’ outside rather than focusing on specific curricular requirements in a managed environment indoors (e.g. Passy, 2014). We therefore welcomed hub leaders’ reports that LINE meetings generated both excitement and a sense of reassurance among project participants; there was excitement in the sense of discovering new approaches, and reassurance for participants who realised that there were others equally committed to LINE.

NDCP was, for all of us, a novel and exciting opportunity to learn about and to share the ways in which LINE and curricular learning were compatible. It was fundamentally an experimental project in which different approaches to LINE promotion and development were tried and tested at hub and school level, and in which we were finding ways of working with the grain of the educational system to offer children regular outdoor educational experiences. In schools that were confident or gaining confidence in their practice, we found that teachers were encouraged to experiment with different ways of engaging their pupils with curricular LINE. Those schools

that lacked confidence learned from practices shared at network events and were supported by the hub leaders who found that continuing professional development (CPD) was central to the dynamic, rhizomatic process of learning and sharing across schools, clusters and hubs. The central team, too, engaged in this process by setting up CPD sessions as part of their delivery remit, and learned about new methods and approaches as part of their evaluation. As a result, the project was witness to much imaginative and innovative practice in participating schools.

In what follows, we draw on the qualitative data generated over two and a half years to discuss the types of outdoor-based learning that was undertaken in the case-study schools.

4 Imaginative and Innovative LINE Practice

Case-study visits showed that each school's vision for LINE was both active and reactive; it was partially constructed from staff members' ideas of what outdoor-based learning should or could provide, and partially made in response to the pupils' perceived needs. As the project progressed, we saw increasing numbers of teachers demonstrate their understanding of the importance of an holistic approach to learning that took account of children's physical, cognitive and socio-emotional development (e.g. Passy & Gilchrist, 2021) and that created a fuller educational experience than that prescribed by the cognitive-heavy National Curriculum demands of the time. As a result much LINE activity was aimed at fulfilling curricular requirements, but at the same time almost all case-study schools engaged with different types of investigation or experience that were designed to support different aspects of their pupils' development. Almost all case-study schools used variations of a Forest School approach with some or all of their children.

Below we have divided the case studies into three broad approaches to LINE that demonstrate the *whys* and *hows* of LINE in case-study NCDP schools. All quotations are unattributed to maintain interviewee anonymity.

Approach 1: the right to experience nature

The majority of case-study interviewees believed that today's children have less access to the natural environment than they had—a belief supported by research evidence (e.g. Hunt et al., 2016; Moss, 2012)—and were keen to offer children the chances to go outdoors. Often this was a form of nostalgia in which school staff regretted the increased use of electronic devices and/or wanted children to have similar experiences to their own childhoods, but several headteachers saw the lack of opportunity to engage with the natural world as a deeper issue. Knowledge that pupils lived in urban areas with little or no green space around them, and/or had little opportunity to visit green or blue spaces, fuelled these headteachers' argument that it was the school's responsibility to take children outdoors; as one commented, it is a “fundamental right for any child ... [to] have that entitlement and opportunity ...

for their spiritual growth, the personal growth ... [and] appreciation of the world". He argued that being outdoors.

connects children to something at a very deep human, almost animal level that being in the classroom may not ... it awakens the senses; fresh air, sunshine, blue sky ... Experiencing the elements, it's just a natural experience ... that is energising for anyone and particularly children.

Linked to this conviction was a belief that children should come to understand more about the natural world and to become aware of their surroundings as they undertook different tasks and activities. Examples of activities in these schools were:

- primary and secondary pupils working together to build hedgehog houses in the school grounds; making bat shelters
- making a squirrel 'assault course', in which squirrels jumped onto different ledges for food; pretending to be a squirrel and hiding conkers for winter 'food'
- having a carousel of pupil-led activities that included making bug hotels; making clay creatures; sketching; writing a poem inspired by listening to natural sounds
- appointing children as Wildlife Champions, whose task was to protect and encourage wildlife in and around the school grounds.

Participating in low-key activities such as these gave children the space to experience the natural environment in their own time; to make discoveries, to explore links and to have (often) new sensory experiences. But part of the reason for introducing children to the natural world was to awaken an interest in and sense of responsibility for the health of the planet or, as one headteacher put it, to learn about dealing with 'Mother Nature's Trustfund'. This idea of a bounteous but limited natural world is close to that of One Health, an inter-disciplinary approach which contends that the health of human, animal and planetary life is interconnected, and that we need to work together to optimise the health of all (Stadtländer, 2015) if we are to avoid a climate catastrophe. Here activities such as making bird boxes, composting, anti-plastic pollution campaigns, digging out ponds and planting trees, in some schools complemented by work on food production and food miles, were cited as activities designed to support learning about the importance of the natural environment.

Approach 2: providing horizon-broadening experiences

Headteachers and teachers in particularly economically-deprived areas often spoke of their pupils' narrow horizons, and of their school's responsibility for introducing young people to the widest range of experiences possible. There were multiple reasons given by interviewees for such an approach: that it enabled children to see beyond the "present and the particular" (Bailey, 1984) and imagine a range of possible interests, hobbies and/or occupations; that dealing with new situations encouraged confidence and resilience; that it provoked children's curiosity; that children enjoyed such outings. Here a teacher speaks about the effect that trips of all kinds can have on literacy and vocabulary:

Lots of these children are from quite deprived backgrounds and they don't get many opportunities to go to places. And that's really clear in their literacy ... A child from a family where

the adults would read to them and take them to places will have millions of ideas to relate to one word, 'forest', because they'll have seen it in so many different books, and they'll have been to the forest lots of times on different occasions, whereas a child that hasn't been read to and taken to those places won't ... We did a beach topic last year and we spent loads of time at the beach, because that was the best thing for developing their language, because they had experience of that ... [the writing afterwards was] hugely different and more inspired.

At least two schools initiated a form of 'experience passport', loosely based on the National Trust's idea of '50 things to do before you are 11¾' (see <https://www.nationaltrust.org.uk/features/50-things-to-do-before-youre-11-3-4>) and that included such activities as local walks, building a shelter, exploring the outdoors on a wintery day, identifying ten wildflowers and visiting a farm.

Some teachers were more ambitious in the trips that they planned for their pupils, and two schools with secondary aged pupils (11–16) encouraged a team to participate in the annual Ten Tors walk across Dartmoor (see <https://www.tentors.org.uk/>), with one teacher commenting that this challenging walk had multiple aims and benefits:

... to give an awareness and inspire of the beauty of Dartmoor and wilderness areas ... To get children confident at walking in the outdoors. Those kinds of things ... the survival, the map work, the compass, the team work. Organisation of equipment and looking after self.

Other outdoor-based learning trips included visiting farms, local woods, other schools, parks; orienteering on Dartmoor; camping trips on Dartmoor and other local places; and water-based activities such as sailing and kayaking.

Some schools, with perhaps less available funding, used imaginative ways to introduce new experiences in the school grounds, such as:

- Secondary-aged pupils undertaking a 'manhunt', with some hiding in the woods and others 'finding' them. Each then drew on this experience to write a story about what it would be like to be a spy, and this was followed by pupils bringing their work into the dance studio where they created movement material around their stories.
- Re-creating the Cornish rebellion of 1497. Pupils imagined participating in the rebellion and marched around the school grounds, shouting slogans. The aim was to encourage them to have a sense of and to question the historical accuracy of events; for instance, how long could they keep up the marching and chanting before becoming tired and disillusioned?

Approach 3: understanding others and making a contribution

A third approach was to encourage pupils to be aware of, develop empathy for and contribute to different local communities. There were three main rationales for this. The first was to encourage pupils to understand the challenges that individuals and/or communities could face during their lives, with examples such as:

- Carrying water from the bottom to the top of a steeply-sloping part of the school site to appreciate the practicalities of water shortages in some African villages.

- Building a refugee camp on the school site in an attempt to understand the challenges that follow natural disasters such as floods or volcanoes.
- Blindfolding pupils outdoors so that they could listen without distraction to an ex-marine telling the story of how he and some fellow marines were lost at sea for three days, and how finding a log saved their lives. The cold weather intensified the impact of the story, and both teachers and pupils described it as “very powerful”.

The second rationale was to encourage pupils to see that their contribution mattered or made a visible difference, a perception reinforced possibly via newspaper articles or their own internal school newsletter. One school undertook an annual John Muir Award week (see <https://www.johnmuirtrust.org/john-muir-award>) in which Year 6 pupils (aged 10–11) worked with staff and student teachers on the four challenges of Discover, Explore, Conserve and Share in their school grounds. The ‘Conserve’ phase was used to repair, maintain and renew different parts of this extensive area that contained boardwalks near the river, a pond, different paths, bird boxes and vegetable-growing areas. This week was regarded as the highlight of the year for Year 6 pupils, and ensured that the grounds were maintained at minimum cost for all to enjoy during the rest of the year. Another school gave children the responsibility for developing projects on the school farm, and these included installing water pipes for the farm area, building a donkey shed, investigating the farm budget and selling farm-produced meat.

The third rationale was to have new experiences that would alert pupils to global issues outside of school. One headteacher argued that for some students school learning can be abstract and without a clear purpose, and suggested that learning “in real life allows some children to see that there is a greater purpose to what they are doing”. Examples of such practical, community-based learning included:

- Growing vegetables in the school garden and donating them to local foodbanks
- Planting trees in collaboration with the Woodland Trust and the local council (municipal authority). The aim of this project was to commemorate fallen soldiers from the local area, and to involve their families in planting the trees and making and placing plaques in memory of their relatives. The school has pledged to look after the trees.
- Collecting rubbish from the beach, most of which was used later in an arts-based project.

These different projects and activities offered children a wide range of experiences, enabling them to engage in different ways with different topics while—as one headteacher put it—“varying the diet” by taking the learning outside. In the final section, we discuss the challenges that undertaking these activities present for teachers and the importance of continuing professional development (CPD) for school staff.

5 Discussion: NCDP and Continuing Professional Development

These case studies have highlighted a number of innovative and creative LINE practices and for some readers the range, scale and scope of these ideas may seem daunting. In support of colleagues who want to initiate more outdoor learning activities in their setting, we now discuss practical ways to introduce Natural Connections approaches into everyday practice. As found in many other studies, teachers in the NCDP faced a number of challenges in making learning outside the classroom a more regular, embedded feature of school life. The main barriers tend to be teacher confidence, changing pedagogy (i.e. why, when and how to adapt teaching skills and approaches to the outdoor environment), integrating outdoor environments into the demands of the school curriculum, creating effective outdoor-indoor learning opportunities, and then demonstrating that learning is actually taking place and impacting on children's progression and attainment (Rickinson et al., 2012; Nicol et al., 2007; Thorburn & Allison, 2013; van Dijk-Wesselius et al., 2020). The Natural Connections central team and hub leaders were alert to these challenges and collated examples of good practice that highlighted ways to overcome these issues. These research and practice-based resources were made available to schools and guided the project's professional development strategy.

Studies of in-service teacher education have argued that professional development is an on-going process with, ideally, each teacher being supported with a personal "learning journey" (Guskey, 2002; Kennedy, 2005) where "change is primarily an experientially based learning process for teachers" (Guskey, 2002, 384). What the Natural Connections project set out to do, in response, was to overcome the varied barriers to LINE by offering diverse, enjoyable, blended and sustained professional development opportunities that not only enabled teaching staff to be more effective and comfortable when operating in outdoor environments, but were tailored to the needs of teachers and their desire to see a change in student learning outcomes. Establishing this, particularly at the start of a school's engagement in the project, took time. The hub leader needed to understand the needs of individual staff and LINE teams, and the priorities and ethos of each school in order to respond with an appropriate, engaging professional development plan for the individual schools. The central team, in line with its role of project strategic oversight, organised sub-regional or regional level professional development opportunities, as well as developing a web-site of teaching resources. Although time-consuming at first, this collective strategy was critical to the success of NCDP.

The CPD programme was core to the cultural change in schools we wanted to instigate and it was, therefore, important to base this programme on a thorough understanding of key elements of effective in-service professional development and the actual issues teachers face that thwart delivery of high-quality LINE. In response, NCDP created a range of informal and formal development opportunities. These included regular peer-to-peer sharing, in which network events saw teaching staff meeting to discuss a pre-agreed topic, such as 'Science in the School Garden' or

‘Teach on the Beach’, often led by a teacher who wanted to share their own practice. CPD events also involved external experts, such as marine biologists, garden designers, story-tellers or artists, who gave practical advice and low-cost ideas. The location of the events varied: sometimes they were held at a school so improvements to the school-grounds could be viewed or a class could be observed learning outside; at other times teaching staff met at a nearby natural location to explore its affordances for learning, such as a woodland, nature reserve, riverside walk or city farm. The emphasis throughout was on teachers physically being outside and learning through investigation, exploration, debate and ‘hands-on’ outdoor experiences—they were ‘in the shoes’ of children for a few hours and embodied the learning. Subsequently hub leaders facilitated group reflections on these experiences and teachers discussed how this learning could be implemented in practice (and at little cost) in the green spaces immediately around their school setting. In addition to these more informal approaches, more traditional training opportunities were made available to staff, such as having an experienced outdoor learning mentor, attending training days and conferences, taking Master’s Level modules at Plymouth University, hearing from national and international outdoor learning practitioners, and having access to the latest research and best practice.

Taken together, this broad, dynamic approach to professional development aimed to increase the skills, confidence and ‘can do’ attitude of the participants as they came to recognise the multi-faceted and creative possibilities of LINE. Consequently, by seeing LINE in practice—seeing the enthusiasm of respected colleagues and observing pupils deeply engaged in and excited about curriculum learning—teachers’ attitudes to outdoor learning shifted; they acknowledged LINE’s potential value and they saw gains for their pupils from their successful implementation of the learning from the CPD activities. NCDP also acknowledged that professional development needs to be enjoyable, practical and should lead to greater professional satisfaction, and it was rewarding to hear that 79 per cent of teachers who benefitted from NCDP reported a positive impact on their teaching practice (Waite et al., 2016, 76). As part of a project that spanned three years, these structured, flexible, regular professional development opportunities had a cumulative, enduring effect on those involved which, we believe, has resulted in a sustained, transformative impact on their teaching and has led to cultural shifts in the schools well beyond the life-time of NCDP. To conclude, the importance of regular, high-quality, well-thought-out, varied and tailored continuing professional development (CPD) for embedding LINE into schools should not be underestimated.

Recommended further reading

1. Waite, S., Passy, R., Gilchrist, M., Hunt, A. & Blackwell, I. (2016). *Natural Connections Demonstration Project, 2012–2016: Final Report*. Natural England Commissioned Reports, NECR215. <http://publications.naturalengland.org.uk/publication/6636651036540928>

2. Passy, R. & Gilchrist, M. (2021). Child Development and Outdoor Learning. In: Maisey, D. & Campbell-Barr, V. (eds), *Why do teachers need to know about Child Development? Strengthening Professional Identity and Well-Being*. London: Bloomsbury, pp.43–57.
3. Cutting, R. and Passy, R. (eds.) (2022) *Contemporary Approaches to Outdoor Learning: Animals, the Environment and New Methods*. London: Palgrave Macmillan.

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