

# The impact of outdoor learning on attainment

Recent years have seen a growing bank of evidence that outdoor learning has a positive impact on children's development. In this briefing we look at the impact of outdoor learning on pupil attainment, and particularly on the attainment of pupils from disadvantaged areas.



## What is outdoor learning? The curricular context

The [Institute for Outdoor Learning](#) defines outdoor learning as:

*"a broad term that includes: outdoor play in the early years, school grounds projects, environmental education, recreational and adventure activities, personal and social development programmes, expeditions, team building, leadership training, management development, education for sustainability, adventure therapy ... and more".*

Within a curricular context, [Scotland's Curriculum for Excellence](#) states that :

*"any form of learning which takes place outdoors, ranging from reading a book outside through to a life-changing four week expedition abroad with a large variety of outdoor experiences in between can be considered as outdoor learning".*

The national curriculum for England [specifies that](#) from Key Stage 2 (KS2), pupils should "take part in further outdoor and adventurous activities" which increasingly present both physical and intellectual challenges that require them to work individually and as part of a team, with the aim of building skills including trust and problem solving.



In Wales, the Government [sees itself as a leader](#) in the UK of the development of learning outdoors, particularly during the Foundation Phase. Its [Framework for Children's Learning for 3 to 7-year-olds](#) states that the Foundation Phase environment should promote discovery and independence with a greater emphasis on using the outdoor environment as a resource for children's learning.

The Northern Irish curriculum also places an importance on outdoor learning during the early years, and specific requirements are set out under its [Physical Development and Movement learning area](#).



## What constitutes outdoor learning?

In their 2005 report, [Education outside the classroom](#), the House of Commons Education and Skills Committee described outdoor learning as an activity that can "take place on school trips, on visits in the local community or in the school grounds". In the same year, the National Foundation for Educational Research (NFER) [adopted the definition](#) of the outdoor classroom as "those spaces where students can experience familiar and unfamiliar phenomena beyond the normal confines of the classroom".

Their research also identified the range of potential foci for outdoor education as including:

- > Learning about nature, for example, in an ecological or horticultural study.
- > Learning about society, for example, in community-based gardening initiatives or conservation projects.
- > Learning about nature-society interactions, for example, in visits to outdoor nature centres or areas of outstanding natural beauty.
- > Learning about oneself, for example, in personal fulfilment through challenging adventure education or working with animals.
- > Learning about working with others, for example, in small-group fieldwork or residential experience.
- > Learning new skills, for example, through fieldwork or practical activities in school grounds.
- > Learning about practical conservation, for example, through focused activities in the countryside or on city farms.
- > Learning about influencing society, for example, by campaigning on controversial issues or working with disadvantaged groups.
- > Learning research skills, for example, through action research on field or school grounds work.

[Education Scotland recommends](#) taking a ‘whole school approach’ to outdoor learning, i.e. involving parents, school support staff and outside organisations. This could take the form of catering staff growing vegetables on school grounds to be used in lunches, or inviting parents to take part in outdoor learning experiences both on- and off-site.

### 3 Forest School

One form of outdoor learning that has become popular in Britain in recent years is the Forest School approach. [Originating in Scandinavia](#), the Forest School is a teaching technique that places emphasis on children having contact with nature

## The benefits of Forest School for early years education

The [Forest of Avon Trust](#) is a local charity in Bristol that works with groups including schools with the aim of connecting more people to trees and woodlands through activities such as tree planting.

An [evaluation of the projects](#) they have led with a number of pre-school groups found that the most significant changes for the participating children included:

- > Increased self-esteem and confidence.
- > Development of physical skills.
- > Demonstration of an improved relationship with and understanding of the outdoors.
- > Increased levels of creativity and imagination.
- > Increased levels of motivation and concentration.
- > Development of language and communication skills.

A [project with primary school age children](#) also found similar outcomes, alongside an improvement in children's ability to work with each other in groups.

from an early age. [The Forest Education Network in England](#) defines the Forest School as “an inspirational process that offers children, young people and adults regular opportunities to achieve, and develop confidence and self-esteem through hands-on learning experiences in a woodland environment”.

The Network (originally the Forest Education Initiative) was set up in 1992 and is a partnership between the Forestry Commission, Woodland Trust, Tree Council, British Trust for Conservation Volunteers, Groundwork, ConFor, Timber Trade Federation, Community Forests, and Field Studies Council. Forest Schools in the UK are usually organised through the Network, through a private provider or with the support of local education authorities. The support of a local education authority has been described as “[crucial](#)” for an effective Forest School.

An [evaluation of Forest School in England](#) described a number of features which set it apart from other outdoor learning experiences:

- > The use of a woodland setting that is framed by strict safety routines and established boundaries that allows the flexibility and freedom for child-initiated learning and other innovative approaches to learning to take place in a low-risk environment.
- > A high adult to pupil ratio allows for children to undertake tasks and play

activities that challenge them, but do not put them at undue risk of harm.

- > Learning can be linked to the national curriculum and foundation stage objectives whilst setting those objectives in a different context, and it is not focused just on the natural environment.
- > The freedom to explore using multiple senses is fundamental for encouraging creative, diverse and imaginative play.
- > Regular contact for the children over a significant period of time at least one morning, afternoon or day per week or fortnight from two to twelve months or more.



The evaluators of this intervention, [and others](#), note a range of benefits of participation not only for pupils, but for teachers and other stakeholders including parents. Findings from Forest School sessions in England [have shown](#) improvements in children's confidence, social skills, language and communication, motivation and concentration, physical skills and knowledge and understanding.

Forest School has also been identified as an important means of allowing children to access nature and become familiar with it, in an age of high concern over safety and risk. While it must be acknowledged that any behaviour change observed cannot be seen in isolation, it would appear to be significant enough to support schools placing an importance on long-term engagement with the outdoors.

## 4 Early years

The [Early Years Foundation Stage \(EYFS\) Curriculum](#) places a particular importance on the importance of children having access to outdoor learning opportunities from an early age, stating that

*"Providers must provide access to an outdoor play area or, if that is not possible, ensure that outdoor activities are planned and taken on a daily basis (unless circumstances make this inappropriate, for example unsafe weather conditions)".*

The [Council for Learning Outside the Classroom](#) outlines a [series of arguments](#) in favour of increasing the amount of time children spend outside:

- > Learning outside the classroom supports the development of healthy and active lifestyles by offering children opportunities for physical activity, freedom and movement, and promoting a sense of well-being.
- > Learning outside the classroom gives children contact with the natural world and offers them experiences that are unique to outdoors, such as direct contact with the weather and the seasons.
- > Playing and learning outside also helps children to understand and respect nature, the environment and the interdependence of humans, animals, plants, and lifecycles.

- > Outdoor play also supports children's problem-solving skills and nurtures their creativity, as well as providing rich opportunities for their developing imagination, inventiveness and resourcefulness.
- > Children need an outdoor environment that can provide them with space, both upwards and outwards, and places to explore, experiment, discover, be active and healthy, and to develop their physical capabilities.
- > The outdoor environment offers space and therefore is particularly important to those children who learn best through active movement. Very young children learn predominately through their sensory and physical experiences which supports brain development and the creation of neural networks.
- > For many children, playing outdoors at their early years setting may be the only opportunity they have to play safely and freely while they learn to assess risk and develop the skills to manage new situations.
- > Learning that flows seamlessly between indoors and outdoors makes the most efficient use of resources and builds on interests and enthusiasms.

- > Anyone who takes children outside regularly sees the enjoyment, and sense of wonder and excitement that is generated when children actively engage with their environment.

Evidence suggests that children who are provided with regular access to outdoor opportunities experience a [range of positive impacts](#) in terms of education, health and wellbeing, and personal and social skills. The latest evidence, [published by Plymouth University](#) in July 2016, indicates an additional positive impact in terms of sense of place and pro-environmental behaviour.

The research also highlights the significance of a 2004 [review of research on outdoor learning](#) carried out by the National Foundation for Educational Research (NFER) and King's College London, which found that "substantial evidence exists to indicate that fieldwork, properly conceived, adequately planned, well taught and effectively followed up, offers learners opportunities to develop their knowledge and skills in ways that add value to their everyday experiences in the classroom". It also found "strong evidence" that the benefits of outdoor education can be found not only in the short term, but also in terms of longer term gains.



## 5 Barriers to outdoor education opportunities

Despite this, recent years have seen a [decline in the number of children engaging with nature](#) and the outdoors, which can be largely attributed to the cultural shift towards an increase in predominantly sedentary activities thanks to technological advances. The latest edition of Natural England's [Monitor of Engagement with the Natural Environment](#) (MENE), carried out during 2013-15, found that while nine million (88% of children in England) children reported visiting the natural environment at least once in the preceding 12 months; however 12% (1.3 million) hadn't visited at all.

In March 2016, [Learning Through Landscapes](#) published the [findings of a survey](#) of 400 stakeholders in the early years sector on the state of outdoor play. The findings highlight a range of concerns in terms of children's access to outdoor experiences, with many providers struggling to provide adequate, or any, access to outdoor space.

This is partly due to the fact that – unlike in the schools sector – there is little guidance and no statutory requirement for the minimum outdoor space per child. As many providers reported that they were unsure of what is specifically required of them in terms of outdoor learning provision, this suggests that official clarification is required ahead of the implementation of the government's plans to expand the provision of free childcare for working parents from 15 to 30 hours.

## 6 The impact on attainment

The most recent evidence highlights the positive impact of outdoor learning on attainment. This is key as government – both national and devolved – are placing an emphasis on the improvement of attainment levels, and those of disadvantaged pupils in particular. Announcing a range of measures to tackle the attainment gap in Scotland, where students in more affluent areas are twice as likely as those in poorer areas to attain at least one Higher qualification, [First Minister Nicola Sturgeon stated that](#) she wished her term to be judged on the success of these interventions.

A [report published by the RSPB](#) in February 2016 presents the findings of

a survey of 775 children which aimed to understand the extent of the association between the children's connection to nature and the specific benefits of this for educational attainment, health and wellbeing, pro-environmental behaviour; and pro-nature behaviours. While the survey found a weak link between connection to nature and life satisfaction, positive correlations between pupils' connection to nature and their educational attainment, particularly with regards to English, were identified.

Pupils who exhibited the highest levels of connection to nature were found to perform significantly better than their peers in English Key Stage 2 (KS2) tests. Recent evidence from the [University of Reading](#), on the outcomes of longer term exposure to outdoor learning experiences through a residential course, also indicated a statistically significant impact on educational attainment, with participants showing a marked increase in comparison with a control group of their peers.

The report concludes by suggesting that the findings of this research, and others, raise important considerations for educational policy and practice, and particularly for the educational attainment of students from poorer socio-economic backgrounds. As the [most recent progress reports](#) indicate that the attainment gap persists despite a string of interventions, the University of Reading's suggestion that it may be time to consider whether the classroom should be the only primary site of learning is one that policymakers may wish to acknowledge.



## Natural Connections Demonstration Project

The [Natural Connections Demonstration project](#) was a four-year initiative carried out between 2012 and 2016, funded by the Department for the Environment, Food and Rural Affairs (DEFRA), Natural England and Historic England and delivered in South West England by Plymouth University.

Hubs were established in areas of multiple deprivation in Bristol, Cornwall, North Somerset, Plymouth and Torbay. The project's key aim was to help school children – particularly those from disadvantaged areas – experience the benefits of the natural environment by empowering teachers to use the outdoors to support everyday learning.

Evidence commissioned by Natural England to inform the project identified that the fundamental challenges to learning outside the classroom in the natural environment (LINE) in schools were local and revolved around a lack of teacher confidence in teaching outside.

The initiative was delivered across 125 schools, engaging with 2,531 teachers, 2,492 teaching assistants and 40,434 students. The LINE model implemented in schools as part of the initiative was used across all curriculum areas, and most regularly and consistently in the core subjects of science, English, maths and PE.

Evaluation of the project identified a range of positive impacts on both teachers and parents, with 79% of participating schools reporting a positive impact on their teaching practice. 57% of schools also indicated a direct positive impact on pupil attainment, and a significant increase in the amount of maths classes taken outside was also highlighted.

In addition, Ofsted inspections of participating schools also found benefits in terms of pupil progression, enjoyment of learning, and spiritual, moral, social and cultural development.

## Further reading

**Student outcomes and natural schooling: pathways from evidence to impact report 2016.** Plymouth Institute of Education, Plymouth University (2016) [https://www.plymouth.ac.uk/uploads/production/document/path/6/6811/Student\\_outcomes\\_and\\_natural\\_schooling\\_pathways\\_to\\_impact\\_2016.pdf](https://www.plymouth.ac.uk/uploads/production/document/path/6/6811/Student_outcomes_and_natural_schooling_pathways_to_impact_2016.pdf)

**Natural Connections Demonstration Project, 2012- 2016: final report.** Natural England (2016) <http://publications.naturalengland.org.uk/file/5883452499427328>

**Monitor of Engagement with the natural environment: a pilot to develop an indicator of visits to the natural environment by children - results from years 1 and 2 (March 2013 to February 2015).** Natural England (2016) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/498944/mene-childrens-report-years-1-2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/498944/mene-childrens-report-years-1-2.pdf)

**Making gains: the impact of outdoor residential experiences on students' examination grades and self-efficacy.** Institute of Education, University of Reading (2016) [http://www.lotc.org.uk/wp-content/uploads/2016/07/The\\_outdoors\\_and\\_exam\\_grades\\_-\\_Carol\\_Fuller\\_Uni\\_of\\_Reading\\_research\\_paper\\_-\\_07\\_June\\_2016\\_2.docx](http://www.lotc.org.uk/wp-content/uploads/2016/07/The_outdoors_and_exam_grades_-_Carol_Fuller_Uni_of_Reading_research_paper_-_07_June_2016_2.docx)

**Provision for learning outdoors for under 5s: state of the nation survey.** Learning Through Landscapes (2016) <http://www.ltl.org.uk/pdf/EY-Outdoors-Final-Report1458052184.pdf>

**The impact of children's connection to nature: a report for the Royal Society for the Protection of Birds.** University of Derby (2016) [http://www.rspb.org.uk/Images/impact\\_of\\_children%E2%80%99s\\_connection\\_to\\_nature\\_tcm9-414472.pdf](http://www.rspb.org.uk/Images/impact_of_children%E2%80%99s_connection_to_nature_tcm9-414472.pdf)

**The existing evidence-base about the effectiveness of outdoor learning.** Blagrave Trust (2015) <http://www.outdoor-learning.org/Portals/0/IOL%20Documents/Blagrave%20Report/outdoor-learning-giving-evidence-revised-final-report-nov-2015-etc-v21.pdf>

**Statutory framework for the early years foundation stage: setting the standards for learning, development and care for children from birth to five (2014)** Department for Education [http://www.foundationyears.org.uk/files/2014/07/EYFS\\_framework\\_from\\_1\\_September\\_2014\\_with\\_clarification\\_note.pdf](http://www.foundationyears.org.uk/files/2014/07/EYFS_framework_from_1_September_2014_with_clarification_note.pdf)

**Maths in the garden: a tool for increasing students' mathematics achievement.** Winston Churchill Memorial Trust (2014) <http://www.wcmt.org.uk/sites/default/files/report-documents/Blondel%20E%20Report%202014%20Final.pdf>

**Connecting with nature: finding out how connected to nature the UK's children are.** Royal Society for the Protection of Birds (2013) [http://www.rspb.org.uk/Images/connecting-with-nature\\_tcm9-354603.pdf](http://www.rspb.org.uk/Images/connecting-with-nature_tcm9-354603.pdf)

**Engaging children on the autistic spectrum with the natural environment: teacher insight study and evidence review.** Natural England (2013) <http://publications.naturalengland.org.uk/file/5492760660410368>

**Changing young lives: engaging NEET young people in the natural environment.** Natural England (2012) <http://publications.naturalengland.org.uk/file/6611256916049920>

**Outdoor learning: practical guidance, ideas and support for teachers and practitioners in Scotland.** Education Scotland (2011) [http://www.educationscotland.gov.uk/Images/OutdoorLearningSupport\\_tcm4-675958.pdf](http://www.educationscotland.gov.uk/Images/OutdoorLearningSupport_tcm4-675958.pdf)

**A review of the Forest Education Initiative in Britain.** Forestry Commission (2011). [http://www.forestry.gov.uk/pdf/FEI\\_review\\_2011.pdf/\\$file/FEI\\_review\\_2011.pdf](http://www.forestry.gov.uk/pdf/FEI_review_2011.pdf/$file/FEI_review_2011.pdf)

**Every child outdoors.** Royal Society for the Protection of Birds (2010) [http://www.rspb.org.uk/Images/everychildoutdoors\\_tcm9-259689.pdf](http://www.rspb.org.uk/Images/everychildoutdoors_tcm9-259689.pdf)



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