

## **Beyond barriers to learning outside the classroom in natural environments**

Contact with the natural environment affords a wide range of benefits, from educational to health and from cultural to social. However, research has found that children are losing their connection with the natural environment and that children in urban environments are particularly disadvantaged<sup>1</sup>. 10% of children play in the natural environment compared to 40% of adults when they were young<sup>2</sup>. This 'extinction of experience'<sup>3</sup> has a detrimental long-term impact on environmental attitudes and behaviours.

*... childhood participation in "wild" nature [...] as well as participation with "domesticated" nature such as picking flowers or produce, planting trees or seeds, and caring for plants in childhood have a positive relationship to adult environmental attitudes. "Wild nature" participation is also positively associated with environmental behaviors<sup>4</sup>*

More than ever, schools have a role to play in providing all young people with opportunities to experience a wide range of natural environments. Working together, the Natural Environment sector and schools have the potential to inspire and enthuse young people, to provide them with memorable experiences and to empower them to make the most out of the natural spaces and places locally and further afield.

This information sheet aims to extend and develop our understanding of the nature of the barriers to learning outside the classroom (LOtC) in natural environments. It was commissioned by Natural England on behalf of the Natural Connections project Management Group.

### **Key Findings**

- (i) Several barriers exist to the effective delivery of learning in natural environments. These barriers can be grouped into those that challenge the Natural Environment sector and those that challenge schools.
- (ii) The challenges facing the sector include a lack of a coordinated effective approach to working with schools at a local level.

<sup>1</sup> Thomas, G. and Thompson, G. (2004), A child's place: Why environment matters to children

<sup>2</sup> England Marketing (2009), Report to Natural England on childhood and nature: a survey on changing relationships with nature across generations

<sup>3</sup> Pyle, R.M. (1978), The extinction of experience

<sup>4</sup> Wells, N.M & Lekies, K.S. (2006), Nature and the life course: Pathways from childhood nature experiences to adult environmentalism,

(iii) The challenges facing schools include those frequently mentioned such as the risk of accidents, cost and curriculum pressures. However, another set of challenges exists, at local, institutional and personal levels. These challenges include teachers' confidence, self-efficacy and their access to training in using natural environments close to the school and further afield.

### **Recommendations**

The Natural Environment sector should take action to:

- (i) provide schools with a compelling rationale for LOtC in natural environments that sets out the evidence for impact and shows how barriers, both institutional and individual, can be overcome.
- (ii) support staff in schools locally to develop their capacity to integrate activities and resources that promote LOtC in natural environments within their vision of effective education.
- (iii) develop working practices that provide schools with coherent and effective services for LOtC in natural environments, which overcome barriers and facilitate collaboration between providers as well as reflecting local needs and opportunities.

### **Key terms**

The term 'learning outside the classroom in natural environments' encompasses a range of provision, including:

- activities within a school's or college's own buildings, grounds or immediate area;
- educational visits organised within the school day; and
- residential visits that take place during the school week, weekends or holidays<sup>5</sup>.

Natural environments are those which, in contrast to the built environment, contain living and non-living material. They include rivers, lakes, forests, the atmosphere, coastlines, caves and mountains.

Fieldwork, for the purposes of this briefing refers to all teaching and learning activities that are carried out in natural environments.

### **Learning outside the classroom**

The UK has a long tradition of using the natural environment for school education and a wide range of providers offer high quality and reasonably-priced experiences. The Learning Outside the Classroom Manifesto<sup>6</sup> and the Learning Outside the Classroom Quality Badge scheme have both raised the profile of LOtC. However, it has been clear for some time that children's access to LOtC still depends far too much on where they go to school and who teaches them. 97% of teachers believe that schools need to use outside spaces effectively to enhance their pupils' development. However, 82% do not agree that their own school is making 'as much use as it can of this valuable resource'<sup>7</sup>.

### **The benefits of learning outside the classroom**

<sup>5</sup> Ofsted (2008), Learning outside the classroom: how far should you go?

<sup>6</sup> DfES (2006), Learning Outside the Classroom Manifesto

<sup>7</sup> Learning Through Landscapes (2010), Research shows benefit of outdoor play



The evidence for the benefits of LOtC locally and further afield is compelling and continues to accumulate. In 2004, Rickinson *et al.*'s literature review of outdoor learning concluded 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'<sup>8</sup>. Since the publication of that review, more evidence has emerged to support that conclusion. For example, in 2008, Ofsted noted that 'When planned and implemented well, learning outside the classroom contributed significantly to raising standards and improving pupils' personal, social and emotional development'<sup>9</sup>.

These views are echoed by the natural environment sector. The English Outdoor Council, for example, claims that 'learning outside the classroom raises educational standards' and that 'it offers for many their first real contact with the natural environment'<sup>10</sup>. A survey by the Countryside Alliance Foundation reported 'huge enthusiasm for outdoor education among children and teachers' with 85% of children and young people wanting to take part in countryside activities with their school<sup>11</sup>.

Reasons for the popularity of LOtC are not hard to find. Research shows that LOtC can contribute to increased creativity and to language development<sup>12</sup> as well as to a sense of care for the natural environment<sup>13</sup>. In a comparative study in the USA, students who had taken part in conservation action 'performed significantly better on achievement tests' and that pupils 'expressed high interest and well-being and low anger, anxiety, and boredom' than students who had been taught using more traditional methods<sup>14</sup>. A study in Australia found that hands-on contact with nature in primary school 'can play a significant role in a cultivating positive mental health and wellbeing'<sup>15</sup> The evidence also suggests that the benefits accruing from using the grounds of secondary schools are broadly speaking identical to those found with any outdoor learning<sup>16</sup>.

*... high quality, out-of-classroom learning ... influenced how children behave and the lifestyle choices they make. It shows the potential [...] not just to change individual lives, but the lives of whole communities.*

Peacock, 2006<sup>17</sup>

An evaluation of the impact of the London Challenge Residential Initiative<sup>18</sup> which involved schools from five relatively deprived London boroughs sending groups of 11-

<sup>8</sup> Rickinson *et al.* (2004), A review of research on outdoor learning

<sup>9</sup> Ofsted) (2008), Learning outside the classroom. How far should you go?

<sup>10</sup> English Outdoor Council (2010), Time for change in outdoor education

<sup>11</sup> Countryside Alliance Foundation (2010), Outdoor education: the countryside as a classroom

<sup>12</sup> O'Brien, L. & Murray R. (2006), A marvellous opportunity for children to learn: a participatory evaluation of Forest School in England and Wales

<sup>13</sup> Coskie *et al.* (2007), A natural integration

<sup>14</sup> Randler, C., Ilg, & Kern, J. (2005), Cognitive and emotional evaluation of an amphibian conservation program for elementary school students

<sup>15</sup> Maller, C. (2005), Hands-on contact with nature in primary schools as a catalyst for developing a sense of community and cultivating mental health and wellbeing

<sup>16</sup> Chillman, B. (2003), Do school grounds have a value as an educational resource in the secondary sector?

<sup>17</sup> Peacock, A. (2006), Changing minds: the lasting impact of school trips

<sup>18</sup> Amos, R. & Reiss, M. (2006), What contribution can residential field courses make to the education of 11-14 year-olds?

14 year-olds to field centres found that ‘pupils surpassed their own expectations of achievement during the courses, and both pupils and teachers felt that the general levels of trust in others and the self-confidence shown by the pupils on the courses were higher than in school subjects’. Existing schemes such as the Field Study Council’s ‘Eco Challenge’ encourage schools to work with local organizations to develop their own grounds or local community spaces in the context of living sustainably.

Such is the strength of the evidence base that the Teaching and Learning Research Programme (TLRP)<sup>19</sup> concluded as one of its ten principles for effective teaching and learning that learning in informal contexts ‘such as learning out of school, should be recognised as at least as significant as formal learning and should therefore be valued and appropriately utilised in formal processes’.

## Barriers and challenges to teaching and learning in natural environments

*There is a lot written about the problem of declining opportunities for outdoor education in this country ... There is, however, considerably less published research into the factors (both real and perceived) that might help to explain such trends.*  
Rickinson *et al.*, 2004

Two groups of barriers to LOtC in natural environments can be identified. One set of barriers challenge the sector and the other set challenges schools and teachers.

### Barriers and challenges to the Natural Environment sector

#### *A common vision of LOtC in natural environments*

The Natural Environment sector contains a substantial number of groups and organizations providing a diverse range of materials, training, resources and experiences. Although the diversity of the sector is a strength, in that schools can choose providers, resources and the level of support that they need, a lack of a common vision of the value of LOtC and a tendency to work in isolation means that the diversity may also be a weakness.

#### **Recommendation 1**

The Natural Environment sector should provide schools with a compelling rationale for LOtC in natural environments that sets out the evidence for impact and shows how barriers, both institutional and individual, can be overcome.

Developing such a rationale might provide an opportunity for the sector to develop its own vision for LOtC in natural environments within school grounds, in nearby locations, such as parks, and further afield.

#### *Continuing Professional Development (CPD)*

Tabbush and O’Brien note that ‘schools and teachers cannot be expected to take total responsibility for environmental and outdoor education’<sup>20</sup> and the role of providers in providing coherent CPD must not be neglected. Developing teachers’ confidence and competence as well as their self-efficacy and awareness of LOtC requires high quality CPD which will probably be school-based and mainly organised during the five statutory

<sup>19</sup> Cambridge Primary Review (2008), Learning and teaching in primary schools: insights from TLRP

<sup>20</sup> Tabbush, P. & O’Brien, L. (2003), Health and Well-being: trees, woodlands and natural spaces. Edinburgh: Forestry Commission

inset days, after-school and at weekends and in school holidays. Reviews of research into teacher CPD have established that it takes about 30 hours to make a substantial difference in pedagogy<sup>21</sup>. To be effective, CPD must be focused on strategies for teaching inside and outside the classroom and involve coaching and feedback<sup>22</sup>.

### **Recommendation 2**

The Natural Environment sector needs to support staff in schools locally to develop their capacity to use activities and resources that promote LOtC in natural environments within their vision of effective education.

Teachers are more receptive to changing their pedagogy if they are dissatisfied with some aspect of their teaching<sup>23</sup>. A recent survey found that although 97% of teachers believed that schools needed to use their outside spaces effectively to enhance their pupils' development, 82% did not agree that their own school was making as much use as it can of this valuable resource<sup>24</sup>. The survey also found that only 12% of respondents saw lack of support for LOtC from senior management as a major issue in their schools. Training for LOtC needs to focus on developing the confidence and competence of all teachers not just those who are already committed.

### **Challenges to schools**

The House of Commons Education and Skills Committee's report 'Education outside the classroom (Second report)'<sup>25</sup> identified five groups of barriers to LOtC: risk and bureaucracy; teacher training; schools; cost; centres and operators.

#### *Risk*

The risks of LOtC have been exaggerated over many years<sup>26</sup>. They form part of what has been called 'a prevailing social trend, not only towards making things safer, but also towards seeking compensation for acts or omissions that result in personal injury'<sup>27</sup>. Schools and providers need to ensure that they inform parents about outdoor activities and reassure them that adequate safety procedures are in place.

*Many of the organisations and individuals who submitted evidence to our inquiry cited the fear of accidents and the possibility of litigation as one of the main reasons for the apparent decline in school trips. It is the view of this Committee that this fear is entirely out of proportion to the real risks.*

House of Commons Education and Skills Committee, 2005

#### *Teacher training*

*While in-service training has been very effective in recent years, we are not convinced that initial teacher training does a good enough job in terms of giving trainee teachers the confidence they need to take their pupils out of the classroom.*

House of Commons Education and Skills Committee, 2005

<sup>21</sup> Adey, P. *et al.* (2004), The professional development of teachers: practice and theory

<sup>22</sup> Joyce, B. & Showers, B. (1995), Student achievement through staff development

<sup>23</sup> Davis, N. T. (1996), Looking in the mirror: teachers' use of autobiography and action research to improve practice

<sup>24</sup> Learning Through Landscapes (2010), Research shows benefit of outdoor play

<sup>25</sup> House of Commons Education and Skills Committee (2005), Education outside the classroom

<sup>26</sup> Gill, T. (2010), Nothing Ventured... Balancing risks and benefits in the outdoors

<sup>27</sup> Harris, I. (1999), Outdoor education in secondary schools: what future?

The evidence supporting the Select Committee statement that ‘in-service training has been very effective’ has to be put into context: teachers continue to report that their access to professional development is very limited<sup>28</sup>. A wide-ranging survey<sup>29</sup> of initial teacher training (ITT) institutions published in 2006 found ‘substantial variation’ in the amount of training for LOfC across courses and institutions. The three main factors that respondents felt had hindered training were funding, curriculum changes/pressures and the demands/expectations of the ITT course. However, the variation between the best and the worst providers cannot easily be explained by those factors.

### *Schools*

The Select Committee concluded that LOfC was most effective ‘where it is well integrated into school structures, in relation to both curriculum and logistics (for example, the organisation of timetables and supply cover where necessary)’. The question, though, is why is it that the most effective schools are able to integrate LOfC into school structures? The Select Committee commented that ‘Positive and reliable evidence of the benefits of outdoor activities would help schools determine the priority to afford to such work’. However, that evidence exists but what is not clear is why some schools prioritise LOfC while others do not. Part of the problem might be that no reliable mechanism for measuring the full impact of LOfC activities exists as yet. Work needs to be done to establish the full value of LOfC to learners, schools and the broader community.

### *Costs*

Though frequently mentioned as a barrier to LOfC, the Select Committee noted that ‘we do not believe that cost alone is responsible for the decline of education outside the classroom, or that simply throwing money at the problem would provide a solution’. There are many examples of schools with relatively restricted budgets providing exemplary LOfC and relatively well-funded schools doing very little.

*This conclusion is supported by evidence from the DfES London Challenge programme. As part of this initiative, the Field Studies Council offered full funding to schools to support an off-site educational visit. **One third of schools did not take up this offer despite it being effectively free of charge.** It seems therefore that an increase in funding alone would not be enough to persuade schools to change their behaviour...*

House of Commons Education and Skills Committee, 2005

### *Centres and operators*

Provision for LOfC varies for a range of historical, geographical and other reasons. Some local authorities (LAs) have outstanding levels of provision of service while others offer very little support. In the latter cases, private sector and voluntary sector organisations provide access to LOfC. A small number of LAs have increased their support over the years and have found that demand often exceeds supply. Again, children’s access to LOfC depends far too much on where they live and often those children in the poorest parts of the country have the least access to LOfC<sup>30</sup><sup>31</sup>. A recent survey<sup>32</sup> reported that over 60%

<sup>28</sup> Wellcome Trust (2006), Believers, seekers and sceptics

<sup>29</sup> Kendall, S. *et al.* (2006), Education outside the classroom: research to identify what training is offered by initial teacher training institutions

<sup>30</sup> Thomas, G. and Thompson, G. (2004), A child’s place: Why environment matters to children

<sup>31</sup> Power S. *et al.* (2009), Out of school learning: variations in provision and participation in secondary schools

of children polled felt they did not learn enough about the countryside at school.

*This disparity of opportunity is ... particularly tragic in that most disadvantaged pupils have potentially most to gain from the transformative impact that outdoor education has for many young people.*

While the Select Committee noted that 'any attempt to raise the quantity and quality of outdoor education depends crucially on the skills and motivation of the teachers involved' it neither addressed the issue of what constitutes effective CPD nor the issue of teacher motivation to take part. It is evident, particularly within the emerging picture of school funding, that if LOtC is to be more accessible to more students that the focus of efforts needs to be on teachers' needs, motivations and pedagogies.

*I think we all recognise that whatever bureaucracy emerges or whatever curriculum changes emerges, what funding emerges, we have had to take the teaching profession with us.*

Andy Simpson, Head of Education, RSPB, 2005

The variation between teachers and schools in terms of commitment to LOtC is partly explained by perceptions of risk, cost of activities and curriculum pressures. There is no doubt, for example, that much of the difference between provision between primary and secondary schools can be explained by systemic factors. However, another set of barriers must exist to explain the differences between individual teachers and schools. These barriers are centred around the following factors:

- Teachers' view of the nature of their subject<sup>33</sup>
- Teachers' views of the role of education<sup>34</sup>
- Teachers' views of effective pedagogy<sup>35</sup>
- Teachers' self-efficacy<sup>36</sup>
- Teachers' working practices (planning, teaching and evaluation)<sup>37</sup>
- Teachers' and school leaders commitment to school-community links<sup>38</sup>
- The relationship between schools and providers<sup>39</sup>

Teachers who see their subject as primarily laboratory-based may be less likely to exploit LOtC in their teaching than those who see it as involving fieldwork. Teachers who see the role of education as being to engage students with the outside world are more likely to value LOtC and to see fieldwork as effective pedagogy than those who see

<sup>32</sup> Countryside Alliance Foundation (2010), Outdoor education: the countryside as a classroom

<sup>33</sup> Akerson, V. *et al.* (2009), Fostering a community of practice through a professional development program to improve elementary teachers' views of nature of science and teaching practice

<sup>34</sup> Stevenson, R.B. (2007), Schooling and environmental education: contradictions in purpose and practice

<sup>35</sup> Lotter, C. (2007), The influence of core teaching conceptions on teachers' use of inquiry teaching practices

<sup>36</sup> Carrier, S.J. (2009), The effects of outdoor science lessons with elementary school students on preservice teachers' self-efficacy

<sup>37</sup> Vescio, V. *et al.* (2008), A review of research on the impact of professional learning communities on teaching practice and student learning

<sup>38</sup> Sosu, E.M. *et al.* (2008), The complexities of teachers' commitment to environmental education. A mixed methods approach

<sup>39</sup> Nicol, R. *et al.* (2007), Outdoor education in Scotland. A summary of recent research

the purpose of education somewhat more narrowly. Teachers' self-efficacy may well be higher when they using familiar methods of teaching than when they are faced with novel situations, for example, in unfamiliar environments. Teachers who plan lessons collaboratively and who watch each other teach may be more likely to try out new pedagogies than other teachers. Schools that know and value their local communities may be more likely to value LOfC than other schools. Finally, those providers who build relationships with schools and teachers and who share common purposes are more likely to find that they are valued and that the relationship grows.

For LOfC to become mainstreamed for all pupils, there must be a greater awareness that without teacher commitment and adequate CPD, there will be no progress. Given the current funding arrangements and the levels of resources available to schools, the onus for prioritizing CPD for LOfC will fall on schools and, specifically, on their senior management teams. Consequently, the Natural Environment sector will need to work more closely together to provide a coherent message to school leaders, and services more likely to meet their needs. Schools should be able to see how their provision compares with the leading schools in terms of LOfC and they need to see a clear framework of provision matched to learning and other outcomes.

*It was apparent that some schools and subgroups/departments within schools had developed quite sophisticated and effective professional development learning communities, others just as clearly had not.*  
Hustler et al. (2003)<sup>40</sup>

Despite a range of initiatives over a long period of time, the use of school grounds and local parks for LOfC remains very variable. Schools with seemingly poor provision have made the most of their limited space while other schools have done very little. The focus for future developments including CPD will probably start with the immediate environment.

*... well-designed school grounds could make outdoor learning a daily possibility. However, the continued rarity of such use in the secondary sector, partly due to the inadequate design of grounds as well as the classroom-biased philosophy prevalent in most schools, means that there is no evidence into the effect of sustained use of the school grounds for learning*  
Barbara Chillman, Sussex University/Learning Through Landscapes<sup>41</sup>

#### *Sources of information*

There is no shortage of advice for teachers about using the outdoors. Sources of information include websites, practitioner journals and external providers. Much of the advice on offer would tally with research findings, for example, 'Effective field trips require planning, preparation, and follow-through upon returning to school as well as coordination between the host site, school, and chaperones'<sup>42</sup>. What teachers do not have is a lot of time to keep up-to-date with new and existing resources. A mechanism needs to be found to make access to such resources quick and easy.

<sup>40</sup> Hustler, D. et al. (2003), Teachers' perceptions of continuing professional development

<sup>41</sup> Chillman, B. (2003), Do school grounds have a value as an educational resource in the secondary sector?

<sup>42</sup> Fredericks, A.D. & Childers, J. (2004), A day at the beach, anyone?



### **Recommendation 3**

The Natural Environments sector should develop working practices that provide schools with coherent and effective services for LOfC in natural environments, which overcome barriers and facilitate collaboration between providers as well as reflecting local needs and opportunities.