SCOTTISH NATURAL HERITAGE

COMMISSIONED REPORT

Commissioned Report No. 225

Young people's interaction with natural heritage through outdoor learning

(ROAME No. F06AB03)

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COMMISSIONED REPORT

Summary

Young people's interaction with natural heritage through outdoor learning

Commissioned Report No. 225 (ROAME No. F06AB03)
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Background

Funded jointly by Scottish Natural Heritage and Learning and Teaching Scotland, this research forms part of a two-year research and development programme entitled *Outdoor Connections*. A key aim of the programme is to research the current state of outdoor education in Scotland for 3–18-year-olds. *Outdoor Connections*, in turn, is seeking to understand how outdoor learning can be harnessed to address the aims of the current national curriculum development initiative: *A Curriculum for Excellence* (hereafter ACfE). The research comes at a time when formal outdoor learning is broadening its scope beyond adventure and field studies activities to include a wider range of activities across the whole curriculum thereby potentially connecting learners with their environment, their community, their society and themselves. The report analyses two sets of data. The first comes from a survey of schools' and pre-school centres' provision of formal outdoor learning. The second set of data comes from interviews with young people themselves (ages 3–16) about their outdoor experiences more generally. The report analyses these data to show how different types, durations and locations for outdoor learning provide different kinds of opportunities for interaction with nature and different learning outcomes.

Main findings

- Surveyed schools and pre-schools offered very variable durations of formal outdoor learning over the survey period. There were differences within sectors and between sectors in terms of duration, locations used, and the types and focus of outdoor learning activity. Within some individual schools some pupils were in receipt of outdoor learning provision while others received none.
- Across all sectors, relatively few outdoor learning events took place in local areas.
- Interviews with young people suggest they valued outdoor experiences that were fun, less inhibiting, authentic and contingent. Outdoor experience was also valued because of the ways in which three dimensions inter-related: the social aspect, the activity itself and the outdoor location.
- Some types of formal provision and some non-formal outdoor experience afforded learning about nature, natural processes and human-environment interactions (for example, species identification, understanding habitats, threats to biodiversity), learning how to engage in activities (such as sailing or canoeing), and an appreciation of or disposition towards nature (appreciating the environment, valuing

time outdoors, developing a relationship with nature). Some young people engaged in learning that was 'for' the environment (for example, habitat restoration, tree planting).

- Young people stated they wanted more outdoor provision from schools, though some young people did not see schools as well-placed to facilitate the sorts of outdoor experiences they valued mainly because of concerns with 'health and safety'.
- Outdoor learning *in nature* was an essential though not sufficient for the development of knowledge and understanding of natural heritage, natural processes or a caring relationship for the environment. This kind of learning and understanding tended to arise when it was the explicit focus of concern rather than incidental to the activity.

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Overview of sections

The report is broken down into eight sections.

Section 1	Introduction
Section 2	Research questions and research strategy
Section 3	Literature review
Section 4	The survey of schools and pre-school centres
Section 5	Focus groups with young people
Section 6	Focus group findings
Section 7	Connections with *A Curriculum for Excellence*
Section 8	Recommendations

Section 1 provides a brief and accessible summary of the research. Section 2 lays out the research questions and the overall design of the study. Section 3 provides a context for the work synthesizing selected literature from intersecting fields of concern. Section 4 deals with the design, execution and findings from the survey while Section 5 does the same for the focus groups. Section 6 provides an in-depth look at the evidence from the focus groups. Section 7 makes links between *A Curriculum for Excellence* and the research while Section 8 provides a list of recommendations based on the findings as a whole.

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1 INTRODUCTION

Background

This research, conducted by University of Stirling, was commissioned by Scottish Natural Heritage and Learning and Teaching Scotland. It forms part of the Scottish Executive's *Outdoor Connections* initiative[1]. At the same time as young people seem more separated from naturalized places researchers and professionals from a range of disciplines are drawing attention to the value of young people's interaction with nature. Formal and informal outdoor learning are regarded as ways of addressing this. The report analyses two sets of data. The first comes from a survey of children and young people's participation in formal outdoor learning[2] through pre-school and school. The second set of data comes from interviews with young people themselves (ages 3–16) about their outdoor experiences more generally.

Findings: Provision by pre-school centres and schools

Pre-school centres

- Twenty pre-school centres were surveyed over two separated weeks (one week in May and one week in June). 13 were randomly selected. Seven were non-randomly chosen. As with the non-random primary and secondary groups, these were chosen for comparison purposes with the expectation that these would be a more active and interesting sub-group.
- All activity outdoors on and off site was accounted for in the survey period. 91% of all events happened on site in the pre-school centres' grounds. During outdoor learning events, pre-school centres focussed on play. Rural and town based pre-schools did not go off site at all.
- For random pre-school centres, the average proportion of the day spent outdoors was 23%. Across all pre-schools surveyed, the range was wide with 7%–71% of the day being spent outdoors.

Primary schools

- Sixteen primary schools were surveyed. Eight were randomly chosen and 8 non-randomly chosen. The survey captured all formal outdoor learning activities over an eight-week period in May and June. This survey excluded break times and track and field games but included residential and non-residential events in the school grounds and beyond.
- The average time spent on outdoor learning by randomly chosen primary schools was 19 minutes per pupil per week. Across all primary schools surveyed, the range was very wide with a maximum provision in one school of 772 minutes per pupil per week.
- Almost all primary schools engaged the entire school roll in some of the outdoor programming during the survey period.

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[1] This other research with the Outdoor Connections programme will look at teachers' attitudes and approaches, the role of the local authorities, and examples and models of good practice.

[2] For the report, we consider formal outdoor learning as that which takes results from formal outdoor education. This can take place outdoors (in school grounds, in local areas, in centres, wild areas etc) as a formal part of an educational programme or extended hours curriculum. Informal outdoor, in contrast, learning can occur in break time and as a part of out-of-school time and leisure time and may or may not involve adults.

- During outdoor learning events, primary schools focussed on fieldwork and nature.
- The randomly selected primaries spent 15% of their outdoor learning time on residential trips. In contrast, the non-randomly selected primaries spent 45% of their outdoor learning time on residential trips. The majority of residential events happened in more remote or 'wild' areas.

Secondary schools

- Fifteen secondary schools were surveyed. Nine were randomly chosen and 5 non-randomly chosen.
- The average duration spent on outdoor learning by randomly chosen secondary schools was 13 minutes per pupil per week. Across all secondary schools surveyed, the range was very wide with a maximum provision in one school of 98 minutes per pupil per week.
- Four out of the 9 randomly chosen secondary schools surveyed offered an outdoor learning experience to no more than 15% of each of their rolls during the 8 weeks.
- During outdoor learning events, secondary schools emphasised adventure activities where the focus was mostly on practical skills, working with others and personal development.
- The randomly selected secondary schools spent 31% of their outdoor learning time on residential trips. In contrast, the non-randomly selected secondary schools spent 65% of their outdoor learning time on residential trips. The majority of residential events happened in more remote or 'wild' areas.

Type, location, and focus

- Across all sectors, of the four main 'types' of outdoor learning (school grounds, local areas, field studies and adventure), relatively little time was dedicated to the 'local area' type: 15% of the time for random primary and 3% for random secondary schools.
- The percentages of the outdoor learning time random primaries spent in the following five locations were: 'wild' areas (42%), school grounds (25%), urban areas (16%), parks/gardens (12%), farms (4%).
- The percentages of the time random secondary schools spent in the following five locations were: 'wild' areas (40%), urban areas (32%), farms (12%), school grounds (10%), parks/gardens (5%).
- School grounds were a popular location for outdoor learning at primary level. The grounds of pre-school centres were by far the main location for their provision. In comparison, few secondary schools used their grounds to any significant extent.
- For random primaries, pupils spent the greatest proportion of their time in wild or naturalised areas (mostly for engaging in field work), followed by work in school grounds and urban areas. Random secondaries spent the bulk of their time off site in wild or naturalised areas engaging in adventure type activities as well as in urban locations.
- Across all sectors, the bulk of the events focussing on 'nature' came from outdoor learning that was of three types: school grounds, local area work and fieldwork studies. Adventure type activities (often in 'wild' areas) provided much less of a focus on nature.
- There is very varied practice between schools with regard to going away residentially. Residential trips tended to involve adventure type activities in wilder areas but the survey showed these did not focus on environmental education concerns in the main. Instead, the focus was primarily on practical skills, working with others and personal development.

Findings: Young people's views and experience

- The outdoors provided a distinctive learning environment for all young people interviewed. In young people's accounts, it was apparent that the outdoor experiences they valued were characterised as fun, uninhibited, authentic and contingent (see 6.1).
- We infer from the analysis of the qualitative data as a whole, that outdoor experience was also valued because of the ways in which three dimensions inter-related: the inter-personal dimension, the activity dimension and the spatial dimension (or outdoor location) (see 6.2).
- In the main, while young people wanted more outdoor provision from schools, they did not see schools as well-placed to facilitate the sorts of outdoor experiences they valued mainly because of concerns with 'health and safety'.
- For most young people interviewed, less-formal outdoor experience (that mediated by family members, clubs and with friends) and some outdoor learning delivered through centres and awards schemes was more commonly associated with providing more sustained, purposeful outdoor experiences and learning tailored to their interests and needs. Family contexts appeared to catalyse some of the richest forms of learning about, in and for the environment; when families did manage to get out and about, many seemed to provide a purposeful and meaningful social context for outdoor learning and environmental awareness.
- Less-formal outdoor experience (that mediated by family members, clubs and with friends) and some outdoor learning delivered through centres and awards schemes were mentioned more commonly than those provided by schools themselves. Fun, informal, learning activities and those that were less inhibiting and afforded choice were generally experienced as more meaningful.
- Young people were reticent about talking about having a 'relationship with nature' or could not find the language for it. Young people's learning about conservation, sustainability, environmental management and 'action for the environment' tended to be associated with programmes where this was an explicit aspect of the teaching or the explicit focus of experience.
- Simply being outdoors was not a sufficient element when it came to outcomes relating to nature. Young people more commonly demonstrated an enhanced understanding of nature and natural processes, and ethic of care and active concern for the environment if programmes they had experienced specifically sought to address environmental concerns in an explicit and active manner or if there were significant adults in their lives who sought to impart this.

Implications and recommendations

Enhancing provisions

- Surveyed schools and pre-schools offered very variable durations of formal outdoor learning over the survey period. There were differences within sectors and between sectors in terms of duration. Within some individual schools some pupils were in receipt of outdoor learning provision while others received none. Young people were strong on advocating that they would like to see an enhanced provision. To that end, we recommend that provision needs to be a *more regular* feature of programming and be delivered in a *more inclusive* manner to all pupils in schools and pre-school centres. Depending on the desired purposes and foci, school may also want to consider the types of provision being offered and their locations.

Focusing on outcomes

- Our findings show that each sector emphasizes the use of different types of outdoor learning in different types of location with different foci for this learning. This suggests that we need to further investigate the *outcomes* of specific types, locations and foci on learning outcomes across the age range. This would allow us to better determine the appropriateness of the use of these outdoor learning types, in diverse locations, with different foci. With this information, the policy makers, curriculum designers and practitioners would be better able to engage in a debate on the emerging role of outdoor learning across the curriculum.

Balancing scope and focus

- The survey indicates that nature-related foci (nature and nature-related foci: 'conservation', 'nature-society', 'influencing change') were not emphasized equally across the different sectors (pre-school, primary and secondary), or across the different types and locations for outdoor learning. We recommend that we have a debate nationally among policy makers, planners, and practitioners about the balance of outdoor learning in terms of its focus, location and type across the three sectors.
- We recommend that all schools and pre-school centres, be better supported in developing their grounds in meaningful ways for their different age groups. For schools and pre-schools whose grounds remain under developed and under used, and for the secondary school sector in particular, this would potentially render their outdoor learning provision more rounded in terms of the location and focus, more regular across year and more inclusive of all pupils on the roll.

Outcomes relating to natural heritage

- Evidence from focus groups indicated that learning about nature and developing an ethic of care for nature more commonly emerged from formal learning if programmes they had experienced specifically sought to address these concerns in an explicit and active manner. Taken together, analysis suggests that much provision is not likely to be addressing outcomes relating to nature (understanding about nature, natural processes, human-environment interactions and the development of a relationship with nature) in an explicit manner. We recommend, that if outcomes related to nature are required from outdoor education programmes, that they may need to make these an explicit focus of their work, making time for young people to reflect on experience, and providing contexts and language for young people to express their feelings in relation to nature as well as opportunities to air their more cognitive understandings of natural processes and human-nature interactions.
- In particular, the survey showed that the substantial amount of time being spent on adventure type activities in wild areas currently focuses mainly on practical skills, working with others and personal development. If outcomes relating to nature are desired from outdoor adventure type activities, they are likely to need to alter their focus to deal with these concerns more explicitly. Once-off visits to engage in adventure activities with their current focus on personal development and skill acquisition, may not be sufficient for developing a relationship with natural heritage.
- Young people's valued outdoor experiences often related to places that had special significance to them or places that they had the opportunity to visit regularly. The survey shows us that sites such as school grounds, parks, gardens and farms were associated with stronger focus on nature and similarly afforded the opportunity for repeated trips. These findings suggest that local places are likely to be important in

any shift towards outcomes relating to nature (for example, knowing and understanding about natural processes, biodiversity and the generation of an ethic of care for places). On this basis, we recommend that we take a more locally situated approach to curriculum design and development that allows scope for schools to take advantage of their local contexts.

Understanding young people's views

- Young people valued outdoor experiences and the associated learning which accrued tended to be characterised by enjoyment, lack of inhibition, authenticity and contingency. The interacting dimensions of valued experiences were also central to what led to the experiences being valued: the activity dimension, the social dimension and the spatial dimension. The research indicates that it would be fruitful to investigate further the ways in which the programming of outdoor learning could take these characteristics and dimensions into account. We recommend that in their work with young people, practitioners, providers and planners consider the relevance of young people's own experience and learning.
- We recommend that relevant bodies (educational, environmental and others) inquire further into and respond appropriately to the possible 'image problem' associated with young people spending time outdoors and discussing their relationship with nature.

2 RESEARCH QUESTIONS AND RESEARCH STRATEGY

2.1 Research questions

Three research questions were posed:

Q: What quantifiable measures (duration, frequency and type) can be given to children and young people's experience of formal outdoor education through school and pre-school in Scotland?

Q: What forms of outdoor learning do children and young people value most in terms of it being:
(a) 'fun' or enjoyable;
(b) providing a worthwhile learning experience on their own terms;
(c) offering other benefits;
(d) affecting their relationship to their natural heritage?

Q: How and in what manner were these activities mediated and arranged?

2.2 Research strategy

Two overarching methods were used to conduct the research: (a) a sustained survey of all outdoor learning in selected pre-schools and schools over eight weeks and (b) focus groups with children and young people using photographs as stimuli.

The methodology employed has been *participatory* to some degree involving young people and stakeholders in appropriate aspects of the design of the methods. For survey work, we received advice from teachers and other specialists during the design phase. For focus group work, stakeholders helped identify some key issues that were later included as topics for discussion with young people. We met with young people and received specific feedback on the different approaches and tools. Some comments from young people during piloting were influential in how we sequenced the interview activities and what the photographic prompts contained.

This is a *mixed-method* study combining *qualitative and quantitative* approaches. The survey allowed us to collect a large number of records of outdoor learning in a sustained way, event-by-event. In tandem, the focus groups, using photographic prompts, allowed us to collect rich evidence in the form of opinions and stories about outdoor experiences. The mixed method approach, with a survey of schools alongside focus groups with young people both in and out of school, meant we could consider the effects on children and young people of both formal and informal outdoor experience, mediated by teachers, other professionals and families.

3 LITERATURE REVIEW

3.1 Policy and research contexts

In this section, to provide a context for the research questions and to embed this report in current policy and research, we synthesize what selected literature in the field is indicating with respect to children and young people's access to the outdoors, outdoor learning and the natural heritage. We take a broad brush-stroke approach to describing some of the evidence across disciplines on outdoor experience and natural heritage. We begin by taking a look at the Scottish policy context. Thereafter, we look at young people's access and activity levels outdoors, young people attitudes to the environment, outdoor learning as a field of inquiry, and some theoretical concerns regarding how we understand and research person-environment interaction. Some readers may prefer to go directly to the summary (sub-section 3.2).

3.1.1 Key terms

For this research, 'Natural Heritage' refers to the wildlife, the habitats, the landscapes and natural beauty of the land and sea. This construct was explored sensitively with children and young people in focus group work using visual prompts (see Section 6 and Appendix F).

Outdoor education comprises many different forms and includes a range of activities. It has been harnessed to address different purposes over time including character building and for leadership development. The current discourse sees connections between children and young people's health, personal and social development, transferable skills for employment and generating understanding and concern for the environment.

3.1.2 Scottish policy context

This research comes at a time when there is evidence that children and young people's experience of the outdoors is being increasingly constrained with particular effects when it comes to their relationship with the natural world. In 2005 a research and development programme for outdoor education called *Outdoor Connections* was launched to address the provision of outdoor learning in schools. This initiative is designed to make connections with outdoor learning across a range of current and emerging education priorities and policies such as *A Curriculum for Excellence, Integrated Community Schools, Health Promoting Schools, Active Schools, Determined to Succeed, Education for Citizenship* and *Choosing our Future*. In addition to making connections between policy, programmes and people, year one will develop research into the current state of outdoor education in Scotland and year two will develop and disseminate resources. In addition to this baseline study there are projects on teachers' views, local authority practice, award schemes and programme design, and providers' views. This suite of research and development projects feeds into a wide policy nexus but in particular, *Outdoor Connections* addresses the curricular reform development, *A Curriculum for Excellence*. *Outdoor Connections* is sponsored by SEED and managed by *Learning and Teaching Scotland*.

The *Outdoor Connections* initiative seeks to broaden the scope, the focus and the location of formal outdoor learning. This resurgence of interest looks at outdoor experiences more holistically than the earlier traditions of 'adventure' activities conducted solely in 'centres'. Instead of outdoor learning as being provided on an *ad hoc* basis by some passionate individuals in selected schools, it is hoped it will be seen as a mainstream

activity for all pupils to be found in many different subject areas across all age ranges with clear progression for learners. In terms of the focus, outdoor education is no longer seen as just about adventure or field studies activities or be the remit of geography or biology teachers. With a broadened scope, the possible locations of outdoor learning for schools will include the schools' grounds, urban spaces, rural or city farms, parks, gardens, woodlands, coasts, outdoor centres, wilderness areas and more. In this context, outdoor education is as much a teaching approach for all teachers as a discrete provision by specialists. As such, it is seen as a way of enhancing and integrating a wide range of topics and activities across the whole curriculum thereby potentially connecting learners with their environment, their community, their society and themselves. A central tenet of effective outdoor learning is that it engages and motivates learners through first-hand experiences and renders knowledge and understanding more relevant.

Outdoor education is also gaining renewed attention because it can easily be seen to support the central aims of the initiative *A Curriculum for Excellence* (ACfE). The aim of the new initiative is that schools will facilitate the development of successful learners, confident individuals, responsible citizens and effective contributors. Drawing on a literature review by Rickinson *et al.* (2004), the *Outdoor Connections* initiative web site makes the following links between effective outdoor learning and the aims of ACfE:

Successful learners:

- Outdoor learning develops knowledge and skills in ways that add value to learners' everyday experiences in the classroom.
- It has a positive impact on long-term memory.
- It reinforces links between the affective and the cognitive, with each influencing the other and providing a bridge to higher order learning.
- It fosters the development of specific academic skills, as well as improved engagement, achievement and stronger motivation to learn.

Confident individuals:

- Outdoor learning impacts positively on young people's attitudes, beliefs and self-perceptions, for example independence, confidence, self-esteem, locus of control, self-efficacy, personal effectiveness and coping strategies.
- It yields benefits in the promotion of positive behaviour and improved physical self-image and fitness.

Responsible citizens:

- Outdoor learning has a positive effect on social development and greater community involvement.
- It raises learners' attainment, improves attitudes towards the environment, and creates more positive relationships with each other, with teachers and with the wider community.
- It renews learners' pride in their community and fosters a greater sense of belonging and responsibility.

Effective contributors:

- Outdoor learning impacts positively on young people's interpersonal and social skills, such as social effectiveness, communication skills, group cohesion and team work.

The policy context is also suggesting that there are strong connections between outdoor learning and education for sustainability in broad terms. Education 'for' a range of issues such as environmental concern, citizenship, personal and social health and development, community development and economic growth also emerge as convergent themes. Scottish Executive's (2005) biodiversity initiative – a case in point – suggests we must moderate our patterns of development. Because people need to have the necessary knowledge, awareness, understanding and skills to play their part in making a response to unprecedented challenges (for example through climate change), learning for sustainability is seen as a key response. The policy's desired outcome for 2030, includes the hope that there will be a "sense of responsibility for and stewardship of biodiversity [...] in Scottish culture" and that "many more people [will] recognise and enjoy the complexity and beauty of their environment and take steps, through actions small and great in their daily lives, to conserve and enhance it". The potential value of outdoor experience and firsthand learning about biodiversity in people's local open spaces around them (parks and golf courses, sports fields, transport corridors, green and brown-field sites) is noted in this policy.

Choosing our Future: Scotland's Sustainable Development Strategy (Scottish Executive, 2005) similarly identified learning for sustainability as a major strand of Scotland's approach to sustainable development. Along with initiatives such as the Eco Schools Programme, the role of ACfE is seen as an opportunity to strengthen the contribution that education for sustainable development can make to a Scotland where:

- learning for sustainable development is a core function of the formal education system;
- there are lifelong opportunities to learn;
- the sustainable development message is clearly understood.

Choosing Our Future (Scottish Executive, 2005) highlights the need for Scotland's citizens to learn new approaches and attitudes for improved use of our planet's limited resources; we need to get much better at thinking about, and acting on, the long-term consequences of actions at local, national and global levels. Learners, it argues, will need new skills through action learning and participation in 'real' activities is seen as important in achieving this. With the hope that schools will make the best possible use of our natural heritage as an *outdoor* classroom, three key skills have been identified as integral to learning for sustainable development:

- *joined-up thinking:* the ability to identify and understand links between the issues being addressed and other relevant issues;
- *participative working*: involvement in decision making, setting priorities and action plans;
- *reflective practice*: being able to look back, identify lessons learned and apply them in the future.

Working out the implications for learning and education system, the Scottish Executive provided further guidance in *Learning for Our Future* (Scottish Executive, 2006). This document provides an action oriented 5-year plan for taking in support of the United Nations decade of education for sustainable development (which began in 2005). It noted the importance of taking an integrated approach, the use of natural heritage as an important outdoor classroom as well as the role of schools themselves in generating whole-school responses to sustainable development challenges via initiatives such as Eco Schools and partnership working with organizations like SNH.

In summary, the policy context in relation to outdoor learning and natural heritage offers multiple possible connections between learning, children and young people's health, transferable skills for employment and environmental concerns. The provision of outdoor learning potentially addresses many of these related policy concerns.

3.1.3 Research contexts: less active, less outdoor

Renewed concern over young people's access to outdoor learning is well founded. In recent years there has been a steady decline in formal outdoor education provision through schools, delivered as part of the curriculum by dedicated staff. The Education and Skills Committee's (2005a) commissioned report noted there was a decline in outdoor education provision. The Education and Skills Committee's (2005b) response to the report notes that there is no factual supporting evidence that education outside the classroom is in decline but recommends that the benefits should be researched and that it offers unexploited potential. Now, very few schools have a member of staff with outdoor education responsibilities at secondary level and hardly any at primary level (Higgins, 2000). At the same time, there has been a rise in people's *spending* on outdoor recreation activity among the young worldwide. The private sector and charitable trusts involved in this industry are to some extent filling a gap but little is known about the impact of these trends on children and young people's participation in outdoor learning and how this relates to their relationship to their natural heritage.

Alongside the perceived decline in formal outdoor education, there has been a slow demise of after-school activities facilitated by teachers that began well before the 1980s (see Henderson, *TES – Scotland*, 2006). In society at large we have seen a general decline in volunteering (Putnam, 2000) which also has knock-on effects for children and young people's out-of-doors leisure time beyond school timetabling. The barriers for adults facilitating or engaging in outdoor activity with children and young people are many. There are signs that staff and schools managers are becoming more risk averse with respect to outdoor and 'adventure' activities because of a perceived litigation culture as well as perceived 'dangers' associated with the activities. Children's social and recreational activities are being increasingly more adult-supervised, fuelled by parental anxiety (Valentine and McKendrick, 1997). There is evidence that the general public now perceive much of the publicly accessible outdoors to be a dangerous place for unaccompanied young people. Our roads are busier, children are becoming more car-dependent (Hillman *et al.*, 1990) and across the UK fewer children are walking to school (though this may not be such a problem throughout Scotland to the same degree). While young people's leisure and consumption patterns have changed, the rise in opportunities for outdoor leisure and recreation provided by the private, public and voluntary sectors do not appear to be meeting all children's needs for activity. There is evidence of a sharp decline in both adult and young people's levels of physical activity with effects for the current and future well-being of young people's fitness levels and incidence of obesity[3]. These factors combined, all mean there is simply less opportunity for self-initiated experience of the outdoors, less organized outdoor activity and a reduction of outdoor activity for young people overall (with more stark statistics for particular sub-groups).

There is a social inclusion issue here too. Sociologists have noted that children of less well-off parents cannot spend as much on leisure opportunities and are therefore disadvantaged (Zeijl *et al.*, 2001). School children

[3] The DHSSPS (2005) reports that obesity among children is at 22% in Britain. Two in 10 children undertake less than 30 minutes activity per day. It is recommended that children and young people should achieve a total of 60 minutes of at least moderate intensity physical activity each day.

living in the most deprived neighbourhoods are half as likely to attend cultural facilities at least once every couple of months (21%) than are those living in the least deprived areas (40%) (YouthLink Scotland, 2005). This disadvantage is likely to apply to outdoor leisure and learning opportunities as much as any other.

3.1.4 'Non-carers' and 'non-doers'?

There are specific concerns related to the provision of experiences in *natural* environments and experiences of our natural heritage. The evidence about global warming and environmental degradation in general is now leading governments towards a widespread agreement that we need to restructure human-environment relations. Worryingly, studies show there is a lack of understanding among the public at large about the natural heritage. In an SNH study of attitudes, fewer young people appeared to feel that "learning about nature is time well spent"[4] and a relatively high proportion of the younger people (16–30) are described as the 'Non-carers and Non-doers' with respect to their natural heritage (George Street Research, 2005). Another study revealed that only 52% of children and young people surveyed felt they had a responsibility towards the environment (Save the Children, 2004). For young people, this evidence suggests levels of awareness and concern are generally less than for other sectors of the population. In response, policy is shifting to reposition public awareness as a key aim alongside conservation to some degree. SNH's policy on National Nature Reserves (NNRs) identifies raising national awareness as a key purpose through providing opportunities for people to visit these sites and understand them better.

Other studies suggest that contact with nature is imperative for young people's development. Young people themselves also indicate there is a lack of activity in their lives. While we cannot say from other surveys that access to outdoor environments *per se* is what children and young people appear to be seeking, a recent questionnaire to some 16,000 young people in Scotland (SCCYP, 2006) revealed that their top three priority issues they wanted addressed were 'things to do', 'bullying' and 'safer streets'. Teenagers appear too pre-occupied with other activities and other issues to regard environmental problems as something to be concerned about 'just now'. There is also the sense among some teenagers that the natural environment is somehow 'boring' or 'not cool' (SNH, 1999). Given teenagers and children are excluded from much civic decision making at large, we should not perhaps be surprised to find that teenagers also report that they think they cannot personally make a difference to environmental problems. In terms of children's citizenship, there would also appear to be some way to go.

An international perspective may be helpful here. Takano's (2004) study of programmes in North America, Canada and the UK[5] indicated that:

> … for the indigenous groups in North America, being 'on the land' was 'life' itself, and was tied strongly to their identity and well-being, whereas for the groups in the UK, people visited 'wild places' primarily for recreational enjoyment. The UK programs studied aimed to cultivate a caring attitude towards the environment chiefly through conservation work. However, in contrast to the North American cases, the experience was largely divorced from daily life and paid little attention to cultural and historical heritage (page 12).

[4] Only 49% of the under 31s strongly agreed that learning about nature was 'time well spent', compared with 67% of 31–45 year olds, 71% of 46–60 year olds and 85% of the over 60s. Although most of the respondents at least slightly agreed that it was time well spent, 11% of the under 31's actually disagreed that it is time well spent.

[5] The UK field work was conducted mainly in Scotland: she looked at The John Muir Award (JMA), The Green Team (GT) programme and a Trailblazer Camp of the National Trust for Scotland (NTS).

Takano argues that for a programme of outdoor learning to be meaningful, there is a need for it to connect to the real everyday lives and identities of participants. Also, this comparative study indicated that outdoor education programmes in Scotland are currently comparatively decontextualised experiences that are not sensitive to Scotland's own culture, history and landscape.

3.1.5 Commercialization and informal learning

As with the commercialization of children's worlds and their playtimes, children's access to outdoor environments is increasingly likely to be 'sold' to them and be managed more by commercial agencies. The voluntary and public sector organizations concerned with developing the learning opportunities will be in competition for the attention of young people. At the same time, we have begun to recognize the importance of informal learning as part of leisure time for children and young people in many contexts (through the use of ICT, for example). There is evidence that leisure and learning contexts are blurring at the edges. There are differences between social groups here in terms of their leisure capital. Next we take a closer look at some of the evidence relating to experience in the outdoors and impacts on children and young people's attitudes and values with respect to the natural world.

3.1.6 Outdoor learning outcomes

Studies have shown the benefits that accrue to people who visit areas of natural beauty for their restorative effects and the effect of enhanced cognitive abilities. Other studies have shown that time spent in the outdoors as children can have long-lasting lifestyle and attitudinal effects later in life. A classic piece of research (Palmer, 1992) provides a retrospective adult view at the impact of experiences which were formative in their development of personal concern for the environment. Here it was found that the largest response was recorded under the 'Outdoors' category and within this the subcategories of 'Childhood outdoors' and 'Outdoor activities' were the highest. Memorable experiences as a child of the countryside, of playing in the open air and of holidays have a profound and long term impact.

Rickinson *et al.* (2004) grouped outdoor learning outcomes under four headings in their literature review:

- cognitive/affective impacts: encompassing attitudes, values, beliefs and self perceptions, interpersonal/social impacts – including communication skills, leadership and teamwork;
- physical/behavioural impacts – relating to physical fitness, physical skills; and
- personal behaviours and social actions.

This literature review looked specifically at fieldwork, adventure programmes and school grounds developments. They indicated that there is plenty of evidence for the benefits of different forms of outdoor learning across these types. Their study showed that *fieldwork* offers learners opportunities to develop their knowledge and skills in ways that add value to their classroom-based learning and can have a positive impact on long-term memory due to the memorable nature of the setting. Other impacts from fieldwork include individual growth and improvements in social skills, reinforcement between the affective and the cognitive domains of learning. But opportunities such as these are severely restricted these days especially for girls. *Outdoor adventure programmes* were seen to distinctively impact positively on attitudes, beliefs and self-perceptions and less on cognitive and physical/behavioural benefits. *School grounds developments* appear to have the capacity to provide links between curriculum areas and between the school and the community. Moore (1986) advances the cause of enriching grounds as a place of play and learning with

an emphasis on (among other things) variety, diversity, and natural elements. Malone and Tranter (2003) summarize the field of study on school grounds well indicating that through play in naturalized school grounds much can be learned by children. Mannion's (2003a, b) research on school grounds initiatives in Scotland found that to involve children in *changing* the school site created the need for new relationships to be forged between schools, adults and children, local authority officials, planners and designers, researchers, and other voluntary, environmental and parents' bodies.

Dillon *et al.* 2005 indicate that there is a need to understand better how different kinds of outdoor learning arise out of different approaches and purposes and produce different outcomes. If schools do get children outdoors and experiencing their natural heritage then it is not always effective. For effective experiences, research suggests it will need to be integrated into other curricula in schools, be carefully planned, involve pre-visit preparation, purposeful activity and post-visit follow-up work with students. The research in children's participation indicates that their involvement in decision making about and engagement in changing, caring for and improving outdoor environments is likely to be an important component in effective outdoor learning 'for the environment'.

Non-formal outdoor learning is less easily researched in a coherent manner due to the need to collect data directly from young people's own contexts – where adults are often not present – across a wide range of times and places. Hart's (1977) classic study indicated that local naturalised places away from the gaze of adults were important to young people in middle childhood. Moore (1986) notes that children often prefer places that are beyond the gaze and control of parents. We know that children can and do develop environmental knowledge themselves often through play and that these activities are likely to be important in children and young people's identity formation. Yet, empirical evidence (while thin on the ground) suggests children's non-formal learning is not drawn upon in school contexts. This renders the curriculum on 'the environment' in broad terms often irrelevant to children's everyday lives but this need not be so. Barratt and Barratt Hacking's (2006, forthcoming) small-scale study of children's local knowledge in relation to the school curriculum revealed that teachers did not acknowledge or legitimise children's local knowledge, that children had little opportunity to discuss their ideas for changing their local environment. This relates to young people's sense of a lack of 'say' or agency in how local environments are managed and changed.

3.1.7 Theoretical concerns

Theoretical work from various fields such as education, geography, and environmental psychology are enhancing our understanding of the concepts of place, space and people's interaction with space. Activity theory reminds us that activities, people and contexts are interacting systems and that people learn in contexts. But contexts are not mere backdrops to the action but part of the action itself (Massey, 1992). A transactional or dialectical view of person-environment is gaining currency; here a false dichotomy between person and environment is dismantled. Kytta (2003) suggests that child-friendly environments provide children with possibilities for independent mobility and opportunities to make the most of what environments offer[6]. Other work in psychology suggests that changing and interacting in environments leads to attachments to these places over time. Taken together, these perspectives are similarly inspired by the view that person, place, and learning are interactive, co-emergent, and co-dependent processes. These

[6] Some of this work is based on Gibson's (1979) notion of affordance. Affordances are defined as properties of the environment that are perceived by the individual. These perceptions lead to *opportunities* for action as well as constraints on action. At the level of individual action in places, people must learn to interact in ways that lead to a better 'fit' between person and place through activity.

developments point us towards a transactional view of outdoor learning where both places and people are transformed in a co-mingling of the outdoor activity, the people involved and the materials and places being visited, explored or used. The person engages in an environment and changes it and, in turn, the person is changed.

Taking a cultural and subjective view of terms such as 'nature' or 'wilderness' also leads us to see these as socially constructed and fluid rather than static.

> It is also a mistake to separate the cultural environment from the natural environment, as if there were a world of mental products distinct from the world of material products. There is only one world, however diverse, and all animals live in it, although we human animals have altered it to suit ourselves. We have done so wastefully, thoughtlessly, and, if we do not mend our ways, fatally. (Gibson, 1979, p. 130)

There is a paucity of research on how people develop relationships with nature. In relation to outdoor learning for children and young people, definitions or explanations of the 'affective domain' in particular are inconsistent and vague on this topic or are defined in terms of the inter-personal rather than in terms of human-nature relations. Martin (2004) is an exception in that his work addresses relations with nature as a focus. He identified different modes of expression used by students of a degree of outdoor education to communicate their relationships with nature. These modes were characterized as (1) Traveling through Nature, (2) Caring for Nature and (3) Integrated with Nature. Martin concludes that outdoor education can help people develop a relationship with nature as it can provide the language, the direct experience, specific relationships with places, and relevant skills and competencies. However, to develop deeper relationships with a place requires multiple visits, in a diversity of seasons for participants to explore the multiple dimensions of a place through different approaches (ecology, natural history, human stories) and through time spent with others and alone. Interestingly, he suggests decreasing the amount of adventure and the technical aspects of activity may not be a useful response for all learners. Adventure activities can be used as a tool for ensuring that participants develop a sense of dependence on nature for their wellbeing.

3.2 Summary and analysis of selected literature

The picture emerging about children and young people's experience of and in outdoor and natural environments is concerning. This short overview of selected literature indicates that there is a general lack of large-scale and longitudinal studies that would help us understand the nature of the interaction of young people with the natural heritage in both formal and non-formal contexts. There is also a lack of qualitative studies of the relationship between young people and natural environments and how we might theorise this. Formal outdoor learning is receiving some attention of late from researchers. Less well-researched are the impacts on environmental learning of non-formal, leisure-related outdoor unsupervised experiences though there is sufficient evidence to suggest that young people's access to such experience is less than in the past.

How can we synthesize what we currently know about children and young people's access to and experience of learning from the outdoors in Scotland? If there are perceptible trends, it would appear that these are not towards getting children outdoors more. Taken together, there are four general 'moves' suggested by a summary reading of the evidence in the literature.

1 The move indoors. Children are playing indoors more now than ever before, and they are cycling and walking less than in the 1970s.

2 The move away from casual outdoor experience. There is a trend away from unsupervised and non-formal activity in the outdoors.

3 The move towards commercialized and supervised access to outdoor activity.

4 The move towards informal learning and the blurring of leisure and learning domains.

We note that these social changes are warrantable only as trends and are not all empirically well understood in the Scottish context for children of all ages and backgrounds. While these trends are not always replicated across all genders, social groupings or even across the UK in an even manner, we can draw out some of the probable implications of the trends if children are to be re-connected with their natural heritage. We might now consider that:

- unless children's un-supervised access to local outdoor experiences of natural heritage changes, adults' roles (both professional and non-professional) in enabling children's access to outdoor places will be increasingly more critical for children from all social backgrounds (though lower socio-economic groups are more likely to face disadvantage);
- schools need targeted assistance and new support structures to enhance their outdoor provision – if outdoor experience is to be relevant and effective for learning about and 'for' the environment, some key messages from research on these forms of learning are worth attending to;
- schools will not be able to meet these challenges alone – out-of-school experience outdoors through formal and informal learning experiences delivered by state funded initiatives, corporate and charitable sectors will need to be part of the enhanced menu of opportunities;
- the role of children and young people's leisure and lifestyle choices now and in the future are going to be critical in determining their experience, their health and their development.

Natural heritage organizations, such as SNH, have every right to be concerned with the effects and impacts on children and young people of decreased access to outdoor environments and formal outdoor education in the broad sense and in particular their relationships with the environment. Because it is likely that young people now have ever reducing access to outdoor areas on both a formal and informal basis, the enhancement of outdoor experiences and outdoor education may be a more vital aim than ever before. In this context, the SNH strategy of getting children and young people out and about and caring for their more local environments is also likely to be appropriate. Outdoor learning offers some potential in this regard. It also offers the possibility for addressing many of the aims of *A Curriculum for Excellence* through making better connections between subject areas, between academic and practical subjects, and between learning undertaken at different ages. It offers the opportunity for challenge and personalization, and a broadening of the curriculum through the different sorts of visits and activities that are possible. Some of the skills learned are part of the personal development, citizenship and employability portfolio, the so-called 'soft', transferable or 'life skills'. However not every outdoor experience in the natural heritage is likely to be as effective without a focused approach. We need also to bear in mind that outdoor education's main focus has been on the personal and social aspects of young people's development though there is potential to harness it to address environmental concerns holistically while at the same time addressing social and economic ones. Outdoor education literature attaches more importance to outcomes relating to personal and

social education outcomes than environmental ones (Nicol, 2002) though organizations such as the *Institute for Outdoor Learning* have made a strong case for reconnecting young people with nature through outdoor learning, arguing that outdoor education can contribute to sustainability (Cooper, *Institute for Outdoor Learning*, web site). There is also the question of children's lack of opportunity for participation in decision-making about local issues generally (Barber & Naulty, 2005) and the planning and conservation of natural heritage sites and species.

Lastly, there are emerging, cross-fertilized perspectives from a number of fields which add to our understanding of how people connect to places in meaningful ways. There is a shift towards seeing person-environment-activity as a co-joined focus. This approach means we need to be more sensitized (in research and in practice) to the socio-cultural and situated aspects of learning, the manner in which people gain a relationship with nature *per se*, get attached to places, express this attachment, and how people and places change together. Taking a more interactional view offers the hope that we will understand how places, identification processes, social activity and understanding co-emerge.

4 THE SURVEY OF SCHOOLS AND PRE-SCHOOL CENTRES

Q: What quantifiable measures (duration, frequency and type) can be given to children and young people's experience of formal outdoor education through their schooling in Scotland?

For the research question posed, above, we felt teachers and schools were best placed to self-report on formal outdoor education. The design of the survey is distinctive in that it required schools and pre-school centres to provide on-going records *for each individual outdoor learning event* both on and off school/pre-school centre sites. This research is therefore set apart from other studies of outdoor learning where once-off questionnaire-type approaches have been used; these are limited to practitioners' accurate reporting on their work generally or their reflections on past events. Taking an event-by-event approach has its challenges in that it meant running a sustained survey across some 50 organisations, collecting accurate records across all sampled schools and pre-schools but it has proved worthwhile because of the depth of understanding that this approach brought.

For the purposes of the survey we took outdoor education to mean formally delivered experiences designed to enhance learning that took place outside the school building (a term that allows for activity in the school grounds). Some of these events pertained to learning in, for or about natural contexts but not all. Urban studies, mostly based in urban environments, featured in the survey as we shall see but this is a topic that receives little attention in this report given the focus on natural heritage in the research questions.

In order to provide a useful set of baseline measures, we have collected data from teachers via a survey on the entire range of experiences of formal outdoor education delivered by sampled schools and pre-school centres. The survey instruments (see Appendix B) have provided data on the different types of outdoor education (field studies, adventure, school grounds and other local areas), their associated purposes and the duration of these events. The survey data provided an understanding of the scope and range of formal outdoor experiences arranged by schools and pre-school centres over time-limited albeit seasonally affected windows: for schools this comprises almost all of the entire summer term (7–8 weeks) while for pre-school centres, this comprises of two discrete weeks, one in May and one in June. This approach allows for a replicable study to be conducted at a future date to afford comparison.

4.1 Sampling

Two samples were generated: a random sample and a smaller non-random sample for the three sectors: pre-school, primary and secondary. We used different criteria to generate these samples. The random sample of pre-schools and schools was generated taking into account two criteria: school size and location of schools. We used key informants to help us choose the schools and pre-school centres for the non-random sample: these were pre-school centres and schools presumed to be more active with regard to outdoor learning. Further details on how this process was executed are given in Appendix A.

The purpose of collecting data in this manner was in part to enhance our understanding of the possible range of provision across schools and pre-school centres. The non-random group were expected to offer more outdoor learning in more varied locations and the figures bear this expectation out across the board. As such, the non-random groups provide a form of exemplar of what is possible at least in some circumstances. As a comparator, the non-random group functions as a foil to more 'mainstream' provision found in the

random groups. Whether the practices of the non-random schools is seen by readers as the sort of practice that would be more desirable or regarded as better practice in all contexts would be an issue for debate and evaluation. For the purposes of the research, the non-random groups are there to demonstrate some differentiated practice.

The size of the random sample means we cannot extrapolate findings here as representative of the entire population of Scottish schools and pre-school centres in Scotland from this limited data set. We would have needed data from approximately 10% of all schools and pre-schools to be nationally representative. For this reason, we use the data as *indicative evidence of the range of provision within and between sectors in terms of duration, location*. The difference between sectors is of note as is the durations associated with different locations and types of outdoor learning.

A very small number from the independent sector were included in the survey. They were specifically chosen for inclusion in the non-random samples because they were noted by practitioners as likely to be 'active'. The following schools were represented in statistics presented below for non-random schools: 1 non-boarding primary, 1 non-boarding secondary and 1 pre-school centre. One other boarding independent secondary participated and was not included in the statistical analysis because of the likelihood that their 'after hours'/extended curriculum would skew the statistics unduly. This report cannot offer measures for these schools or pre-schools individually[7]. However, we note that the independent pre-school and independent schools were in line with or above averages for the non-random samples. Given these scores are for a very small number of carefully selected pre-schools and schools, no further comment on what sort of provision is being offered across the board by independent schools is possible.

4.2 Surveying pre-school centres and schools

Surveying pre-school centres in particular posed interesting challenges and opportunities. Pre-school centres use their grounds as a core part of their daily programme and children often are free to filter in and out of the grounds. In contrast, schools' grounds are seen as a place for a recreational break from formal learning. To take account of this, we decided to record all the outdoor activity for pre-school centre-age children but not survey break times at school level. As a result, we needed to devise different sorts of instruments for pre-school centres and schools. For pre-school centres, a daily record was requested of each block of time spent outdoors for two five-day periods. For schools, records for all outdoor learning events for the 7–8 week period were requested. This difference reflected a concern that pre-school centres would not be able to sustain a survey period longer than this given the complexity possible. For pre-school centres we used two types of record: an 'Off-site' and an 'On-site' version. For schools, we constructed 'Residential' and 'Non-residential' versions. We used the same list of foci for the activities undertaken in both pre-school centre and school levels so that these would be broadly comparable across sectors. Schools were asked not to record track and field games or sports except for adventure sports. Other advice on what to survey and what to include and exclude was given to schools at the onset of the survey. Schools were free to phone us with queries as the survey proceeded. More details regarding the management of the survey are found in Appendix A.

[7] Looking at individual schools is problematic because very specific factors can impinge, for example problems with reporting, seasonal differentiation.

4.2.1 Reflections on the methodology

We used a questionnaire at the end of the survey period wherein we asked participants to respond to a series of questions about their sense of the quality of the materials we sent out and their sense of the reliability and accuracy of the data they sent in. The feedback from questionnaires to survey respondents was very positive. We had 16 returns from a possible 50. Fourteen said they found the information provided and the event records were easy to use and understand. Seven found the distribution, collection and return of event records was problematic to some degree; they mostly said they had to chase people. Fourteen considered the data they provided were accurate and complete. These figures suggested we had some issues with our materials but that broadly speaking they were working. In terms of supporting school-based staff in collecting and returning data, more support would have been desirable. In any replication of this study, researchers may need to be more proactive in communicating with schools on a weekly basis, perhaps being ready to provide face-to-face contact. This approach would be more desirable if time consuming.

Another aspect of the research process related to our use of inducements (book vouchers for school-based co-ordinators) and prizes (one for schools – a day trip to an outdoor education centre, and one for pre-school centres – a digital camera). We received some feedback from many of those in receipt of book vouchers and from those lucky enough to have won prizes (one school and one pre-school centre). The prizes and vouchers seemed to work both as inducements to participate and as rewards for having taken part to some degree with some participants. While we sensed that schools and pre-schools in the survey perhaps felt there was little chance they would win, the somewhat tokenistic nature of the prize seemed to add value to the project, buying it some respect in terms of its authenticity and providing opportunity for researchers on the phone to chat about this fun side to the project. The book vouchers were also taken as a small but valued appreciation of their 'work' in collating and sending in the data. The symbolic aspect of these inducements and prizes was therefore important and worthwhile.

In hindsight, we would note that greater lead-in time and time for the survey work itself would have been advantageous. If survey work was to be conducted over an additional time window (say the autumn term) with a greater number of schools and pre-school centres participating (say 10% of the schools and pre-school centres), data analysts would be better placed to provide more comprehensive and representative findings. More time would have allowed us to bring local authorities on board and to provide greater support to respondents allowing this sustained survey to run in a smoother manner.

The survey instruments may need further refining. In particular, the requirement to note down a subject area (rather than the invitation to do so) might have been revealing. At pre-school centre level, the use of this more complex instrument in a sustained manner needs more support and explanation to respondents than those we used with schools.

4.3 Survey findings[8]

In this section we draw out meaningful measures of duration of engagement in formal outdoor education for children in pre-school centres, and pupils in primary and secondary sectors. Because pre-school centre-age children often learn through play, we have captured data on *all* outdoor activities inclusive of 'play' as a form of outdoor education for this age range; for schools (primary and secondary) we excluded break time events but included learning events in the school grounds that were part of the formally timetabled day.

[8] An example of an advice sheet to schools and all survey instruments used with pre-school centres and schools are provided in Appendix B.

In addition, we provide an analysis of the location, type and foci of outdoor learning as reported in the event records. Requiring practitioners and teachers to self-report on each outdoor learning event separately meant we collected records of over 1200 events across more than 50 schools and pre-schools.

The data needs to be read with sensitivity to the timing of the survey. For schools, we were surveying for all events for 8 weeks of the summer term (broadly from the 'Easter' break to Summer holidays). During this period, a couple of seasonal factors may influence data: one factor is the weather which is generally good at this time of year[9]. Given this fact, we would expect pupils to be out more than say in spring, winter or autumn. Another factor is that most schools would have been affected by examinations or testing; other incidental factors include the possibility that some schools may have a more active autumn term outdoors. For pre-school centres, one of the two survey weeks (in May) was quite wet in parts of Scotland, which may have brought figures down a little. We can only speculate as to how the data would look at other times of the year, though one would expect on the whole that children and young people would be out less.

In terms of accuracy, we could expect some degree of under reporting because some schools were quite large and ensuring all data were collected may have proved difficult. Conversely, some schools may have been 'inspired' to go out more during the survey period because they were made more aware of outdoor learning through participation. Overall, respondents reported being content their schools' data were broadly as accurate as possible and in the analysis data appeared to produce expected patterns giving the data some additional face validity.

Some particular areas of analysis have proven to be important: the proportion of time spent outdoors at the pre-school centre, the duration per week per pupil for schools, the type and location of events, and the foci nominated by practitioners for these events. We have compared these measures across the two groups: a random and a non-random set of pre-school centres and schools.

4.3.1 Pre-school centres

A total of 20 pre-school centres took part in the survey. Thirteen were randomly selected pre-school centres and the remaining 7 regarded at the start of the selection process as *top-end* or *active* pre-school centres. Respondents at pre-school centres were asked to provide information on the group size and duration of sessions separately for morning and afternoons. This was additional to the time and numbers carrying out outdoor learning. Using this information, we can estimate outdoor learning time as a percentage of time at the pre-school centre. A total of just over 8,000 child hours were spent on outdoor learning activities across the twenty pre-school centres compared to over 28,000 'at pre-school hours'. Table 1, below, illustrates how this varies across random and non-random pre-school centres. Our identification of active pre-school centres has been borne out by the data with our randomly selected pre-school centres spending 23% of their day on outdoor learning and non-random schools spending 39%[10].

[9] Mean daily sunshine figures reach a maximum in May or June in Scotland most years. In May 2006, rainfall was above average and sunshine was average. In June 2006, sunshine was above average and it was the driest June since 1996. Source: Met Office.

[10] All percentages are rounded to the nearest whole percentage.

Table 1 Total time spent on outdoor learning as a percentage of total 'at pre-school centre' hours over two separated weeks

	Random	**Non-random**
Outdoor learning hours	3245.7	5464.25
At pre-school centre hours	14104.5	14170.5
Percentage of day	**23%**	39%

The percentage of a child's time spent on outdoor learning activities varies quite considerably by pre-school centre, ranging from a low of 7% to a high of 71%. This latter figure is from a perceived top-end or non-random pre-school centre. The highest randomly selected pre-school centre had a much lower figure of 45%.

We can also look at the percentages of *events* rather than the percentage of durations of events. The vast majority of events occurred, as one would expect, in the pre-school centre grounds (91%). (Readers should bear in mind we surveyed all outdoor activity for this sector). It is only among pre-school centres in large urban or other urban areas that off-site outdoor learning events occur. Rural and town pre-school centres did not make a single off-site visit. Off-site visits for pre-school centres were to a range of locations: 5% were in urban/industrial spaces, 3% in wild areas, <2% in parks/gardens and the remainder on farm visits.

4.3.2 Primary schools

At primary and secondary levels, the survey did not request teachers to report on break time as this was not considered valid data on *formal* outdoor learning. The survey of outdoor provision did not include track and field games (though clearly, adventure sports were included). The survey ran for 8 weeks of the summer term in 2006. It captured data from 16 primary schools: 8 were randomly selected and the remaining 8 regarded at the start of the selection process as likely to be more active in outdoor education.

Table 2 (below) provides the figures for the outdoor activity for the primary schools surveyed. In total, the 16 schools spent nearly 16500 pupil hours on outdoor education. The non-random schools accounted for most of this with more than 13000 hours. A more meaningful measure is offered by considering time outside per pupil. To derive this measure, the 'pupil hours' were divided by the totals for school rolls. The randomly chosen schools provided an average of 19 minutes per pupil per week, with a wide range: from 1.4–49 minutes per pupil per week. Non-randomly sampled schools (those perceived to be active with respect to outdoor learning) provided on average more than one hour (more accurately 68 minutes) of outdoor experience per pupil per week. The range here was also wide: 20–772 minutes per pupil per week. Because these figures are averages 'per pupil', some individual pupils will have experienced more than these durations while others will have experienced less. Double counting aside (some pupils were on more than one event), it looks as though all primary children in 14 of the 16 surveyed schools did receive some outdoor learning.

Table 2 Minutes per primary pupil per week spent on outdoor learning events

	Random	**Non-random**
Outdoor learning pupil hours	3390.3	13090.5
Roll	1343	1459
Average hours per pupil per week for 8 week term	2.52	8.97
Minutes/pupil/week	**19**	68

4.3.2.1 Durations across three types of location

Table 3 (below) provides a breakdown of this measure for duration in terms of three location types: in school grounds, beyond school grounds (that is off-site events that were non-residential) and residential.

Table 3 Minutes per primary pupil per week spent on outdoor learning events in three location types

	Random	**Non-random**
Within school grounds	11	10
Beyond school grounds	5	27
Residential	3	31
Minutes/pupil/week	**19**	68

These durations show how the time was spent across sites. Non-random do not reduce their time in school grounds but boost the duration spent on off-site visits in particular, residential trips.

4.3.2.2 Residential and non-residential experiences

Table 4 (below) shows figures for residential and non-residential experience in terms of percentages of the total outdoor learning time. It shows that around 45% of non-random schools' outdoor learning was residential. This contrasts with only 15% at randomly selected schools.

Table 4 Percentage of time spent on residential and non-residential outdoor learning (random and non-random primary compared)

	Random	**Non-random**
Residential	**15%**	45%
Non-residential	**85%**	55%

The randomly selected primaries spent the majority of their time (85%) on non-residential trips with the bulk of these events being in school grounds. Of the non-residential time across groups, approximately two thirds of the time was spent in primary school grounds. The difference between residential and non-residential duration for non-randomly chosen schools was less marked (45% and 55%).

Data show that the more active non-random schools spent more time outdoors both residentially as well as non-residentially. Also, we should notice that these more 'active outdoors' schools spent a greater *proportion* of their outdoor education time on residential trips than random schools (45% compared to 15% for random schools). Furthermore, it is significant that the bulk of the 55 residential events for which we have records, took place in 'wild' or naturalised areas (80%).

4.3.3 Secondary schools

For secondary schools, the survey of outdoor provision also ran over 8 weeks of the summer term in 2006 and used data gathered for 15 secondary schools. Nine of these were randomly selected and the remaining 6 were regarded at the start of the selection process as more likely to be active in outdoor learning. Again, we remind readers that this survey excluded track and field games and break time and that the following figures are averages, so some individual pupils will have experienced more than these durations and others less. As with primary schools, each secondary school's outdoor learning hours were divided by the school roll to derive a measure of the time spent outside per pupil.

As can be seen in Table 5, pupils in randomly selected schools have spent an average of one and three quarter hours in outdoor educational pursuits over the 8 week period of the survey or 13 minutes per pupil per week. The non-random schools, as expected, have a higher average per child: 39 minutes per pupil per week.

To shed light on this data we should note that these figures are averages – some pupils will have participated more than these durations while others will have had less experience. Further, if we sum the numbers of pupils participating in events for all secondary schools (random and non-random), we found that *at best* 70% of the total of secondary school rolls took part in some event leaving 30% of secondary pupils having had no outdoor education at all over the 8 week period. We say 'at best' here because there is the possibility that we were counting the same pupils more than once – some pupils may have been on more than one event. Even with the possibility of double counting, only 3 of the 15 secondary schools provided all children in their school with some outdoor learning. This is striking given that 6 of these schools were schools deemed to be active outdoors. If we take the random secondary schools separately, we find that at best they offered an outdoor learning programme to less than half (44%) of their rolls.

The range across secondary schools was great. One non-random school provided just over 98 minutes per pupil per week while other random secondaries offered less than the 13 minutes per week.

Table 5 Minutes per secondary pupil per week spent on outdoor learning events

	Random	**Non-random**
Outdoor learning pupil hours	13052	20784
Roll	6884	4822
Hours/pupil/8 week term	1.7	5.2
Minutes/pupil/week	**13**	39

4.3.3.1 Residential and non-residential split

Taking both sub-samples together, a total of just over 33800 pupil hours of outdoor learning were carried out across 264 residential and non-residential events. Table 6 (below) shows how the pupil hours overall were split. Random secondary schools spent about a third of their total time doing outdoor learning while away on residential trips whereas non-random schools spent about two thirds. As with primary schools, the more active schools do more outdoor learning per pupil and this is accounted for in no small part by the fact that they appear to go away on more residential trips.

Table 6 Residential and non-residential secondary pupil hours as a percentage of total time

	Random	**Non-random**
Residential	**31%**	65%
Non-residential	**69%**	35%

4.3.4 Special and independent sector schools

One special school (non-boarding) was surveyed and not included in the reporting so far. This school had both primary and secondary pupils attending. Its provision was very extensive, well above the average for the random sample. We also visited this school for interviewing purposes. It would appear the high levels of activity were reached in part as a result of the staff-pupil ratio (and perhaps because they had small numbers on roll), the school ethos and commitment in this regard, and in part as a result of the range of regular outdoor activities that are not incidental but are built into the regular timetable in an inclusive manner. These included on and off-site events including gardening in the grounds, horse riding, adventure activities etc.

4.4 Type, location and focus

In the following section, we look at primary and secondary school data comparatively in terms of the type of learning, its location and focus.

4.4.1 Type of outdoor learning

The records of outdoor events provided interesting data on the *types* of activities pupils spent their time learning outdoors.

Table 7, below, shows the proportion of time spent on four broad *types* of outdoor education. We note the relative importance of school grounds and fieldwork activities at primary level and adventure type activities for secondary school. Secondary schools were more likely to weight their provision in favour of adventure activities. We also note that the more active primary schools were the more likely to engage in outdoor adventure activities.

Table 7 Percentage of total time by sector spent on different *types* of outdoor learning: random primary and secondary schools[11]

Type	**Random Primary**	**Random Secondary**
School Grounds	25%	10%
Local Area	15%	3%
Fieldwork	55%	24%
Adventure activities	5%	63%

[11] The typology used here is based on that found in the literature review by Rickinson *et al.*, (2004). We separated school grounds from 'local area' in order to allow the data to reflect the interest in this space as a learning environment discretely.

Non-random primaries divided their time somewhat differently by spending proportionally more time on adventure activities and proportionally less time in school grounds and doing fieldwork though clearly were more active overall. Non-random secondaries also spent proportionally more time on adventure activities and proportionally less time in grounds.

4.4.2 Location of outdoor learning

We also coded the data for five different locations: school grounds, urban or industrialised areas, farms, parks or gardens and wild or naturalised areas. Table 8, below, allows us to consider the relative importance of these locations in terms of the proportion of time spent there.

Table 8 Percentage of total time by sector spent in different locations on outdoor learning events: random primary and secondary schools

Locations	**Random Primary**	**Random Secondary**
School Grounds	25%	10%
Urban or Industrialised Area	16%	32%
Farm (urban or rural)	4%	12%
Park or garden	12%	5%
Wild or naturalised area (not grounds)	42%	40%

For random primaries, pupils spent the greatest proportion of their time in wild or naturalised areas (mostly for engaging in field work it would appear), followed by school grounds and urban areas. Secondaries spent the bulk of their time off site in wild or naturalised areas as well as in urban places.

Non-random primaries spent more of their time in wild and naturalised areas than random primaries and were more likely to go residentially to these sorts of places.

4.4.3 Focus of outdoor learning

As part of the survey, respondents were asked to rank the three most important foci for each submitted record of outdoor learning events. We derived these 'foci' from various lists offered by Dillon *et al.,* (2005). They note that the foci of outdoor education can include learning about: nature; society; nature-society interactions and oneself. They also suggested working with others, developing new skills, undertaking practical conservation and influencing society as ways of engaging in outdoor learning, while the intended outcomes of such experiences could encompass knowledge and understanding, attitudes and feelings, values and beliefs, activities or behaviours, personal development and social development. As such the derived list of foci are a meld of purposes, skills and expected outcomes all of which were deemed relevant as viable foci for learning.

It is worth noting here that the survey data do not provide evidence about whether these outdoor learning events were successful in helping young people gain skills or achieve these implicit outcomes. In other words, the foci are indicative of intentional purposes, aims and outcomes associated with events. Also, we should note these foci were nominated and recorded mainly by schools-based staff and pre-school practitioners, not outdoor educators based in centres or other sites.

In constructing these charts, because a sizeable proportion managed to select three foci but did not rank them, we summed the numbers of first, second and third rankings, treating them in effect as equal 'first'.

In Figure 1, (below) because we found there was not much difference between the data for random and non-random schools in terms of focus, we use data from both school types thereby enhancing the breadth of records we could draw from and the reliability of the data.

Figure 1 The foci of outdoor learning

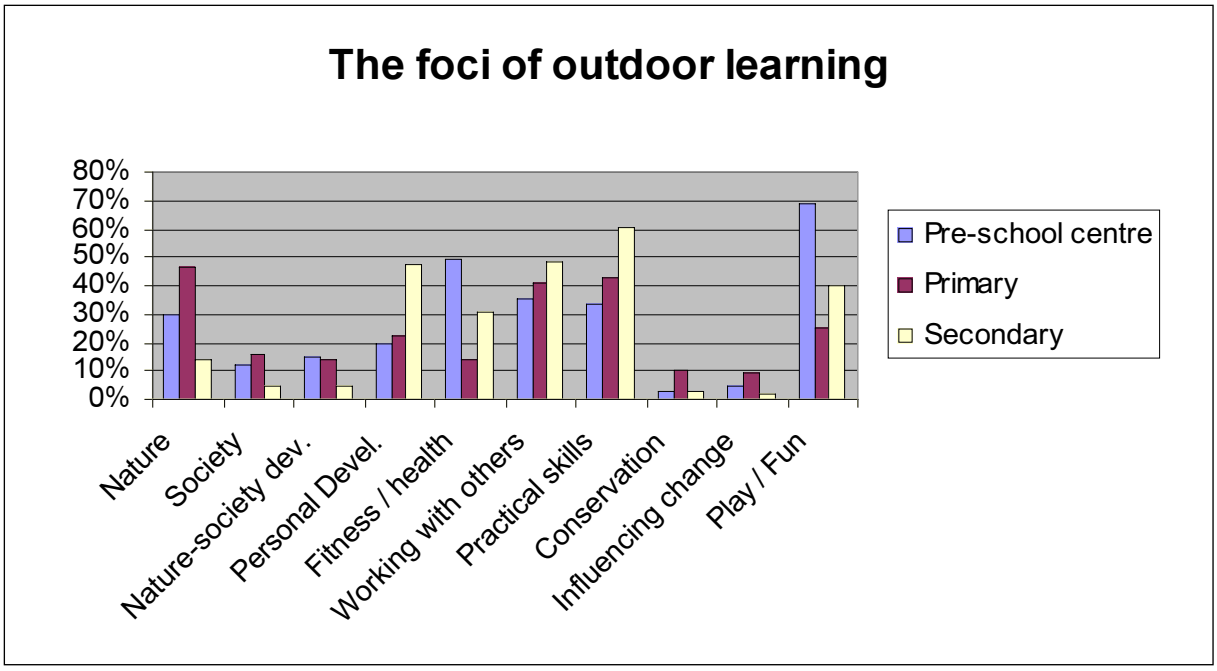


Figure 1 (above) illustrates, as a percentage of all events, some clear difference in focus by sector. In figures 2, 3 and 4 (below), we separately offer the data on focus for pre-school centres, primaries and secondaries.

- As expected, given we surveyed for all outdoor activity at pre-school centres, play was the main focus for children in this sector followed by health and fitness, practical activities and nature.
- For primary school events, the main foci in order of relevance were nature, practical activities and working with others.
- For secondaries, the main foci were practical activities, working with others and developing oneself.

Figure 2 The foci of outdoor learning – pre-school centres

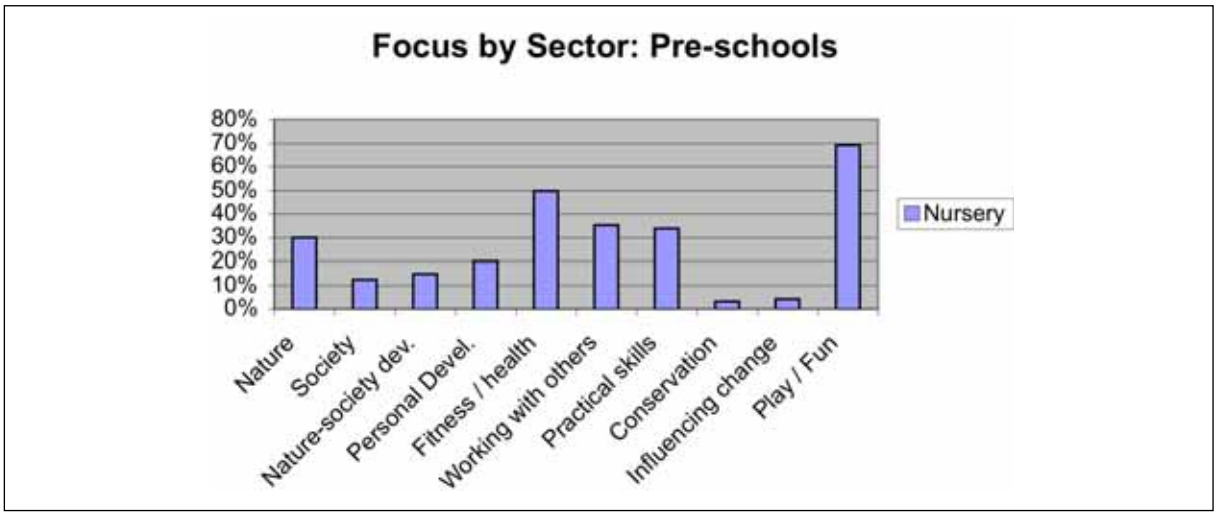


Figure 3 The foci of outdoor learning – primary schools

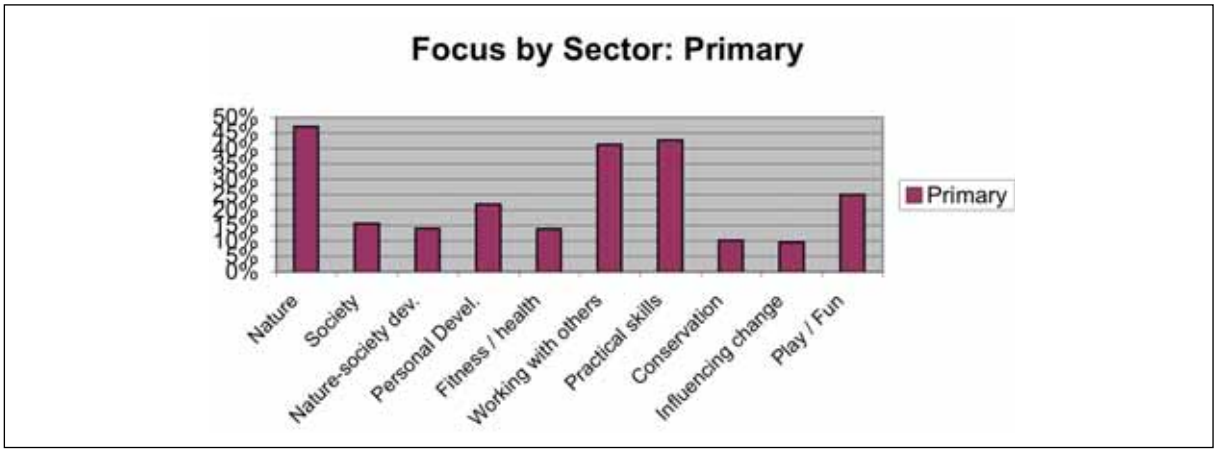


Figure 4 The foci of outdoor learning – secondary schools

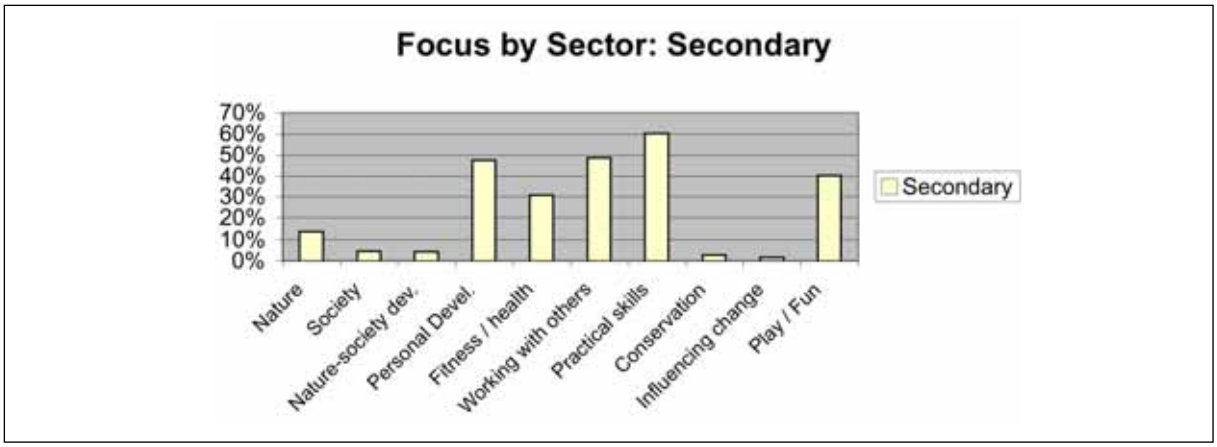
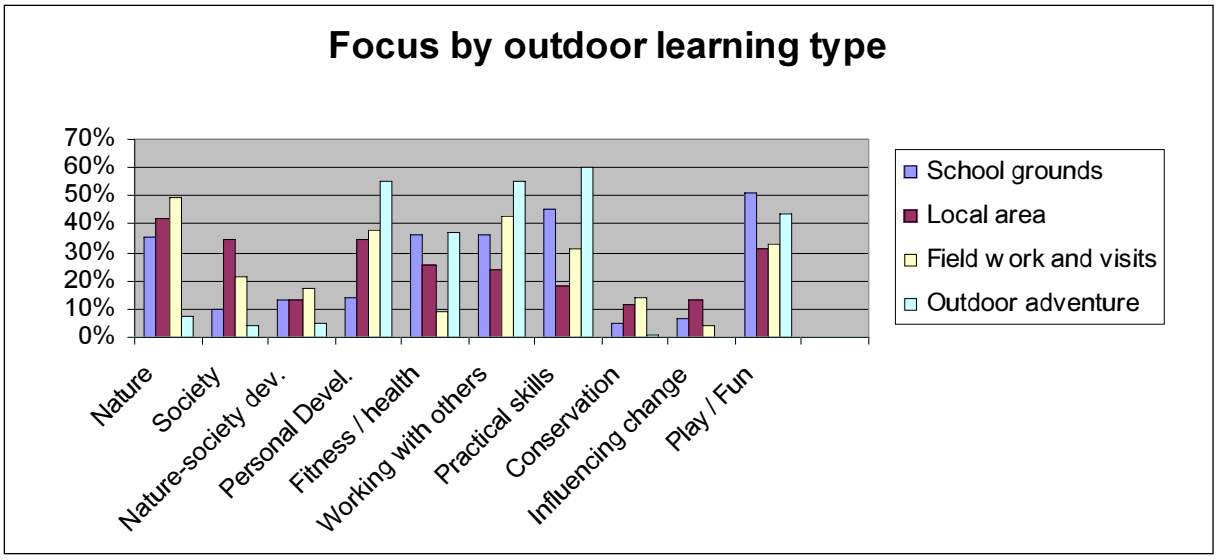


Figure 5 Focus by outdoor learning type



Our data also allows us to look across both the *foci* and *types* of outdoor learning. In figure 5 (above) another pattern emerges when we consider how outdoor learning types relate to the focus of the learning.

We notice that adventure activities tend to bring a focus on practical skills, working with others and on oneself – the same three most popularly chosen foci for secondary schools. This marries with the earlier findings (above) that show secondaries tended to do more of this type of activity. It appears that fieldwork events in the school's local area and the grounds afford a focus on nature to a greater degree.

As data came in, researchers coded each record for five locations: school grounds, farms, park and gardens, and 'wild' areas. We found this easy to do using the descriptions of events provided by practitioners. These locations for outdoor learning relate closely to the 'types' presented above – there is clearly an overlap between school grounds as a type and as a location. However, this place-based approach to analysing the data also offers a more nuanced sense of how the site for learning related to the intended focus and adds weight to other findings (about for example, where field work and outdoor adventure type activities took place for different sectors).

We separately show the differentiated nature of the foci of learning for each of the five locations (figures 6, 7, 8, 9 and 10, below). We expect differentiating the data in this way may also be of use to providers based in these different locations.

Figure 6 The focus of events in school grounds

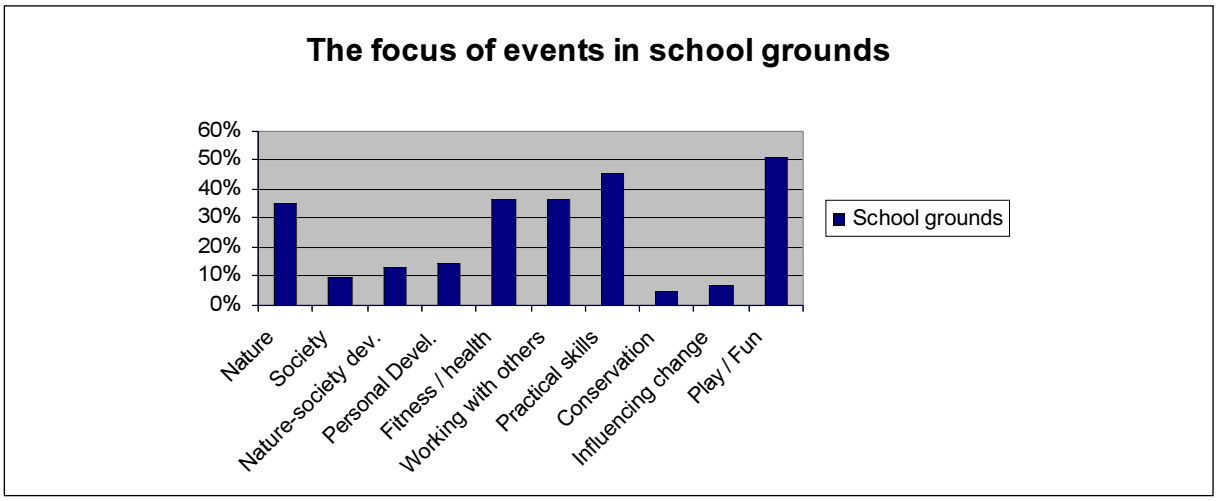


Figure 7 The focus of events in urban/industrial areas

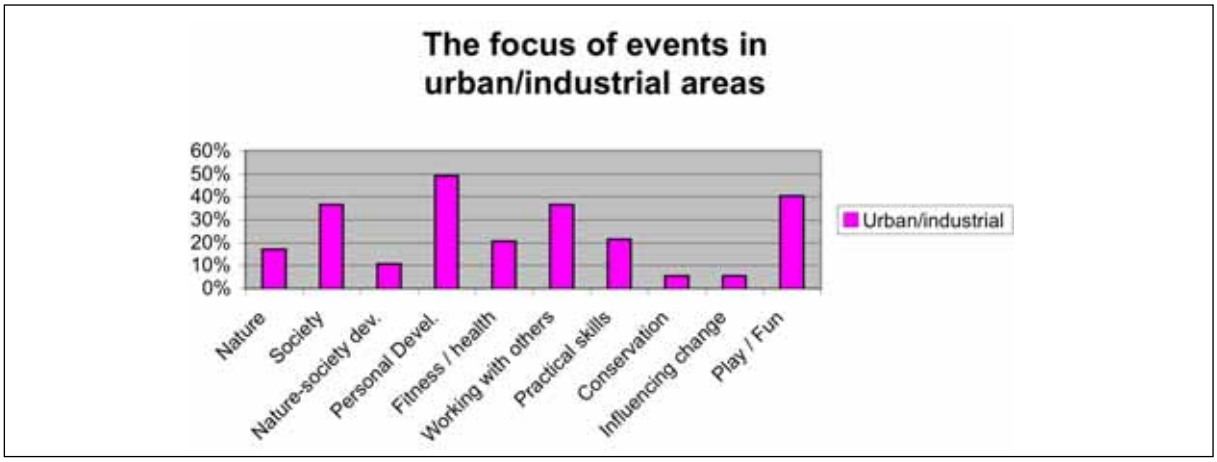


Figure 8 The focus of events in parks or gardens

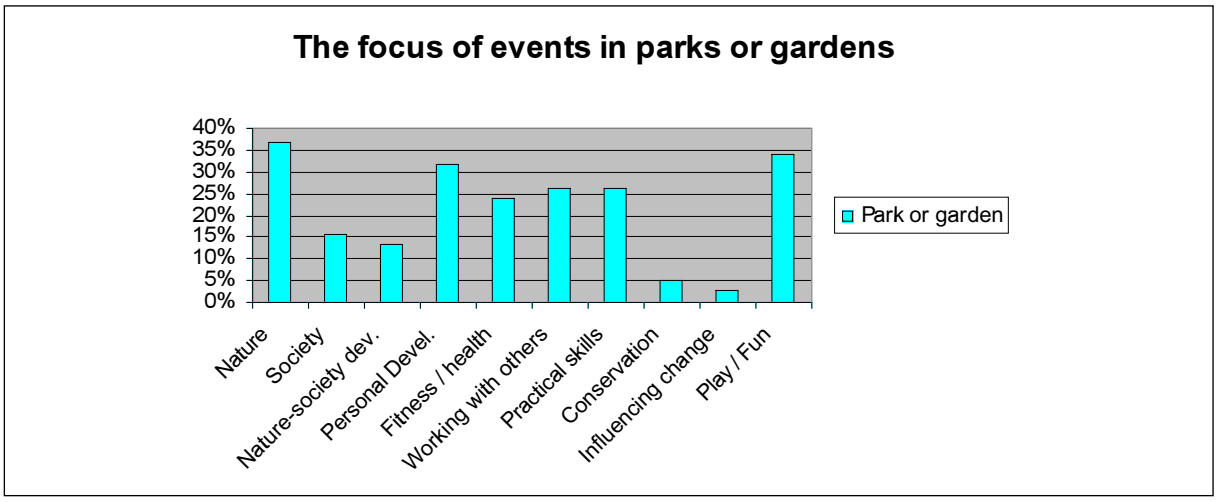


Figure 9 The focus of events on farms

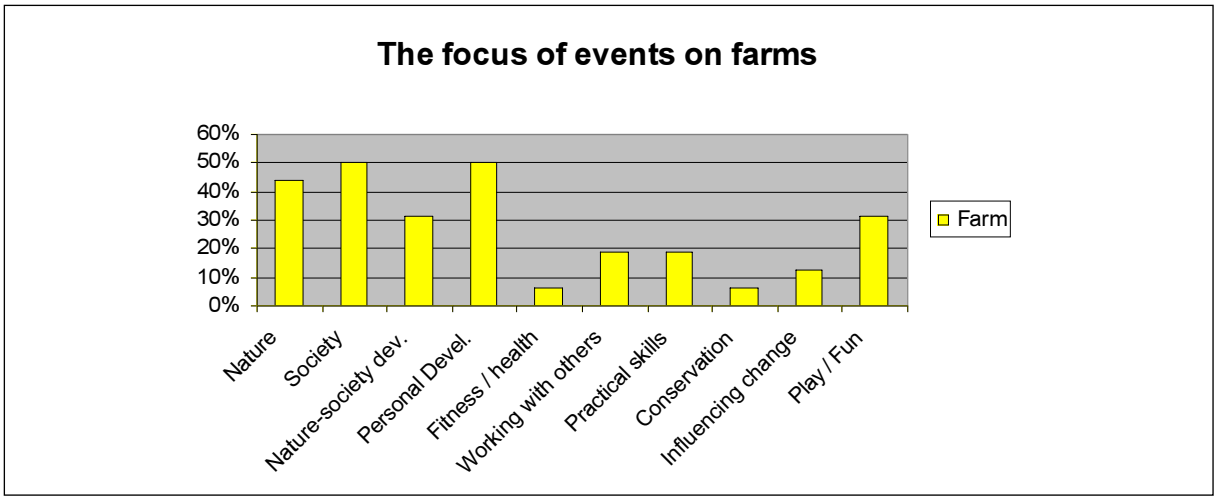
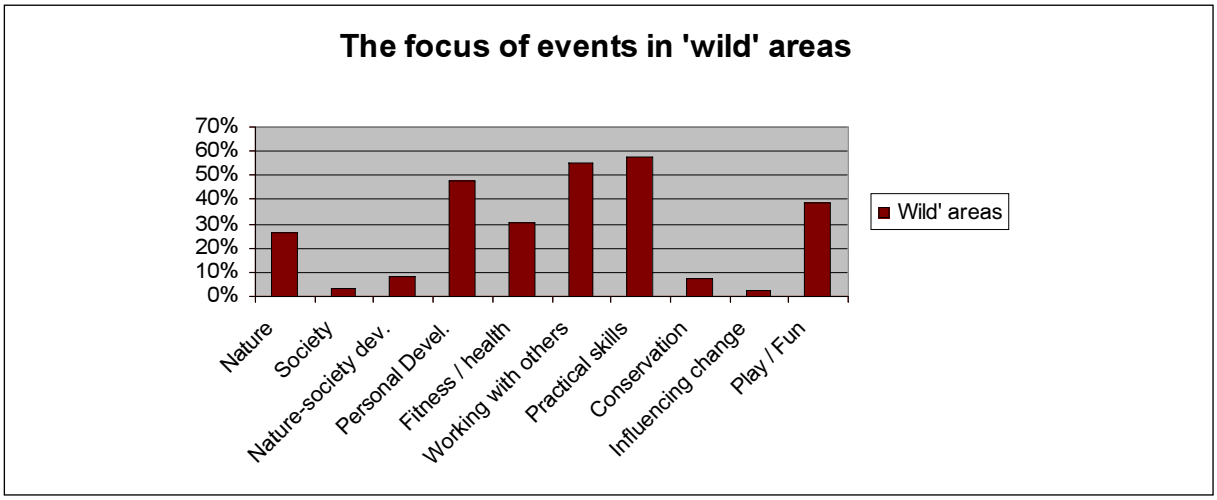


Figure 10 The focus of events in 'wild' areas



4.5 Comparative analysis

In this sub-section we make some comparisons between two sub-sets of the quantitative data. These are the data for randomly chosen schools and pre-school centres and the data for non-randomly chosen schools and pre-school centres. The latter group of schools and pre-school centres were chosen because they were expected to offer a more distinctive programme in terms of duration and location. The purpose of collecting data in this manner is to understand better the range in provision across schools and pre-schools. Clearly, we expected the non-random group to be offering more outdoor learning in more varied locations and the figures bear this expectation out across the board. As a comparator, the non-random group therefore functions as a foil to more 'mainstream' provision. However, we must be careful not to extrapolate to considerations of the entire population of Scottish schools and pre-school centres in Scotland from this limited data set. To make reliable generalisations to the entire schools and pre-school provision, we would have needed approximately 10% of the schools' participation in the survey, well above what we used due to the nature of the survey. For this reason, we use the data as *indicative* evidence of the range of provision in terms of duration, location and between sectors.

4.5.1 Range of duration

The data suggest there were big differences between the experiences of pupils on the ground depending on the level of school and how active the school was – as expected, durations were a lot lower for randomly selected pre-school centres, primaries and secondaries than non-random ones. Also, durations per pupil were lower for secondary than primary pupils. But the wide ranges of duration we have noted above were occurring within sub-samples (random and non-random) for all three sectors.

The overall figure for random pre-school centres looks strong at 23% of 'time at pre-school centre'. The range here is great however with one pre-school centre being outside only 7% of the time and another (active one) being out for a remarkable ten times this: 71% of the time. Readers are reminded that a larger data-set would be required to understand if this sort of differentiated practice is more widespread. For this research the sampling is somewhat contrived, including as it does some very active schools and pre-school centres. However, this is strikingly differentiated practice across 20 pre-school centres.

For schools, the range of duration is also striking: at the 'top end', one non-random primary school was outdoors for 13 hours per pupil per week over this eight week period which is more than half of every school day (on average). At the other end of the range, some randomly chosen secondary schools had very little outdoor event time during the entire eight week period. Our data show that 4 out of 9 random secondary schools offered an outdoor learning experience to 15% of their roll or less[12].

It would appear that the provision of outdoor education is not equitable. The differentiation in practice is quite stark (as evidenced by the ranges both within and between the random and non-random samples). If schools (primary or secondary) in the random samples were to provide what non-randomly chosen schools offered, they would need (on average) to increase the duration of outdoor events more than three fold overall. They would need to be outside non-residentially for more than double the duration and residentially more than 10 times the duration. We can surmise that there is likely to be some way to go if all schools were to be as active outdoors as these non-randomly chosen schools. But the inequity applies within schools too. Our evidence shows how percentages of the roll in many schools had received no outdoor learning at all during the 7–8 week period in the summer months.

Remembering that schools were surveyed in a sustained fashion for formal outdoor activity and not for break times or sport, we note quite low durations for some individual schools and for random schools generally. Given the survey was conducted in May and June, these figures at the 'bottom end' may lead readers to have some concern. Also, because these figures are averages, individual pupils may have received *less* or *more* than the durations given above. Overall, the randomly selected secondary schools at best offered an outdoor learning programme to less than half (44%) of their rolls.

Non-randomly selected schools were, by virtue of how they were carefully selected, more active when it came to outdoor learning. One might wonder how prevalent these active school types were in the system, what features were present that led to their activism though the random schools were not particularly distinctive in terms of their location or size. One would also wonder what barriers the less active schools

[12] Learning and Teaching Scotland's survey of local authorities showed a similarly large variation. When it came to residential trips this survey found a variation of between 30% – 2% of primary school rolls participating and a wider range of 70% – 3% for secondary (Learning and Teaching Scotland, forthcoming).

faced and what they would need to do to address them. A larger sample would be needed, however, to say more about the national picture in this regard and further research would be needed to answer these specific questions.

4.5.2 Comparing primary and secondary

Data from this survey suggest that secondary school pupils in the sample were only receiving *on average* something like half of the time that pupils in primary school experienced outdoors. This was the case for both sub-samples, random and non-random. See table 9, below.

Table 9 Minutes per pupil per week on outdoor learning: primary and secondary compared

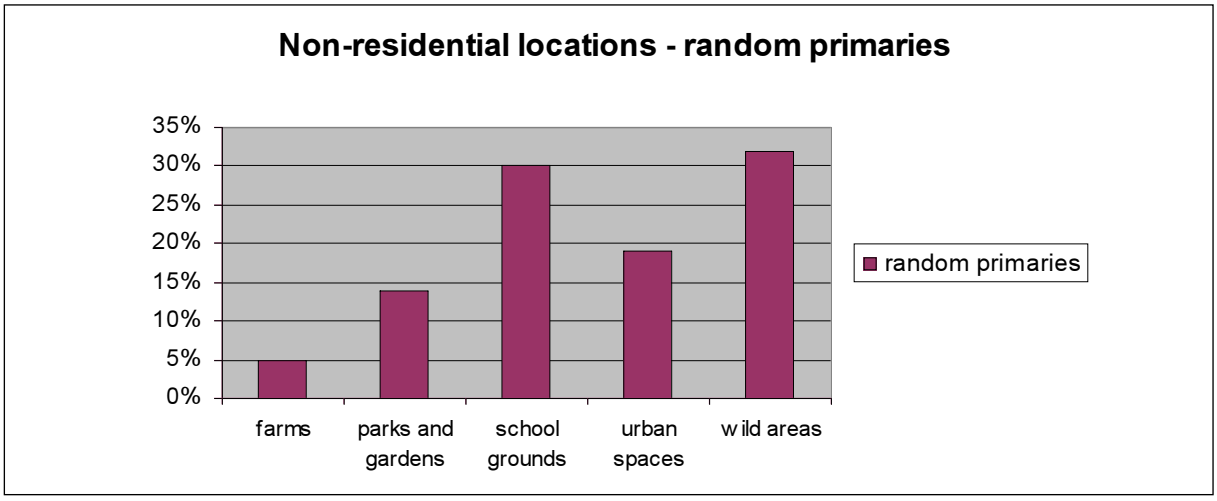
	Primary	**Secondary**
Minutes per pupil per week for Random Schools	**19**	**13**
Minutes per pupil per week for Non-random schools	68	39

4.5.2.1 Non-residential experience

Taking the data on the proportion of time spent on residential and non-residential experience together with that about type and location, we can say more about the characteristics of the experiences offered. Data suggest that outdoor learning in *random* primary and secondary schools was 'off-site' but non-residential for the majority of the time. School grounds events, being for shorter lengths of time, affected this figure. Therefore we induce that the non-random schools tended to boost their outdoor learning time by going away on trips and doing so residentially.

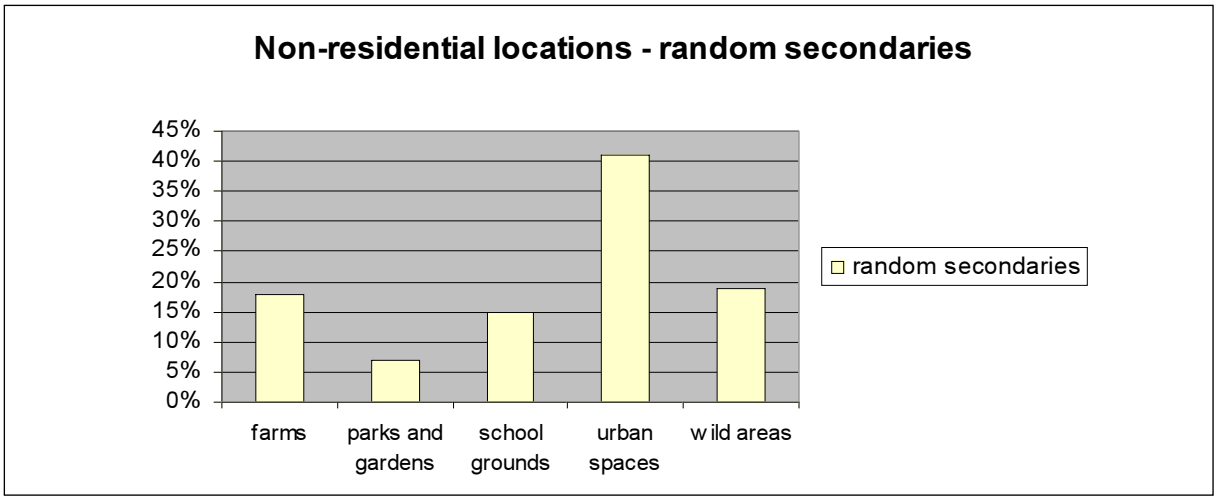
For random primaries, the main non-residential locations were (see figure 11 below): wild areas (32% of the time), school grounds (30%), urban spaces (19%), parks and gardens (14%) and farms (5%).

Figure 11 Non-residential locations – random primaries



For random secondaries, the main non-residential locations were (see figure 12 below): urban spaces (41%), wild areas (19%), farms (18%), school grounds or school garden (15%) and other parks/garden (7%).

Figure 12 Non-residential locations – random secondaries



The data suggest the significance of the different locations for outdoor learning. Pre-school centre grounds and school grounds are clearly important locally accessible sites for the pre-school and primary sector. These data also suggest school grounds are found to be playing a much less significant role for secondaries than for primaries and pre-school centres for outdoor learning. Only 23% of all secondary non-residential outdoor learning events took place in the school grounds compared to nearly two thirds for primaries (62%). This general picture concurs with McKendrick's (2005) evidence on school grounds in the main. This finding is more marked for rural secondary schools which used their grounds even less than their urban partners. Conversely, rural pre-school centres appear to be making very few off-site trips. Urban studies in urban spaces forms a large part of the secondary experience.

4.5.2.2 Residential experiences

Residential trips seem to afford opportunity for sustained activity outside; figures get pushed up considerably when a school spends increased time on residential events. Residential trips also afford greater access to 'wilder' places. The greater proportion of time spent in these more naturalised contexts (especially by non-random schools) means these pupils were getting a different experience from time spent in local areas and school grounds though clearly schools grounds are being developed in this regard all the time. Primary school fieldwork took up twice the proportion of events and of the time than that for secondaries. For primaries, fieldwork characterised 23% of events taking 53% of the non-residential time. It seems primary schools were offering a distinctive experience, with outdoor learning being located more often in naturalised areas and involving a greater proportion of time on fieldwork than secondaries.

The data suggest that secondary-age pupils are likely to receive less outdoor learning than primary school pupils. When they do get outdoors, secondary pupils are more likely to be off-site and on a residential trip and doing an adventure sport. Indeed, adventure activities make up the bulk of the secondary experience. It is to be expected, perhaps, that older pupils might go away on residential trips, and be able to engage in more adventurous activities. There is no obvious rationale for why older pupils would receive less time outdoors, however.

Even less expectedly, primary pupils were learning outdoors while on residential trips (on average per pupil) for longer than secondary age pupils. This amounted to 84 minutes per pupil for secondaries and 138

minutes per pupil for primaries while on residential trips (statistics here are for 'all' – random and non-random schools). This is an interesting finding given the age of the pupils involved. However, this difference in duration does not tally neatly with findings from Learning and Teaching Scotland's survey of local authorities who found *similar figures* for the percentage of pupils in primary and secondary schools going away on residential trips in 2004/5. Further investigation is warranted here.

Our data show that going away residentially also affected the *location* of outdoor learning considerably making learning more 'wild' as well as for longer periods. In the same manner as primaries, secondaries spent a high proportion of residential events in wild or naturalised areas (86%), with the remainder of events in urban areas. We expect that time spent in these areas was dedicated to adventure type activities in the main for secondaries.

The location of much primary activity in wild areas (given they were not away residentially much compared to secondary schools) indicates they were using off-site *day* trips to access such sites and they were doing more fieldwork there than adventure sports.

4.6 Summary of survey findings

- There is a lot of variation in duration of provision in all three sectors.
- As expected, the non-random schools spent more time outdoors.
- There are substantial numbers of young people in secondary schools who were not getting any outdoor learning during the eight weeks of the summer term.

4.6.1 Pre-school centre

- Pre-school centre age children use their grounds as the main site for almost all activity. Only urban-based pre-school centres went off-site.
- The average proportion of the pre-school day spent outdoors for random pre-school centres was 23%.
- The main focus for pre-school centres was play followed by health and fitness.

4.6.2 Primary

- The average time spent on outdoor learning by randomly chosen schools was 19 minutes per pupil per week.
- Primary schools use off-site visits and school grounds for outdoor learning. School grounds feature as important sites for learning but most of the time was spent off-site in wild areas.
- Most schools engaged all of their children in some of the programming during the survey period.
- The main foci were nature, practical skills and working with others.

4.6.3 Secondary

- The average duration spent on outdoor learning by randomly chosen schools was 13 minutes per pupil per week.

- Secondary schools used off-site visits for a greater proportion of their outdoor learning than school grounds. They also go on a substantial number of residential trips and engage in adventure type activities.
- Less than half random secondaries engaged all of their school rolls in at least some programming. At best, 44% of the rolls of the 9 random schools took part in some event(s). 4 out of these 9 secondary schools offered an outdoor learning experience to a mere 15% of their roll at most[13].
- The main focus for their outdoor learning was practical skills, working with others and personal development.

4.6.4 Primary and secondary compared

- Primary schools offered about double the duration of outdoor learning offered by secondary schools.
- Over half the pupils in random secondary schools received no outdoor learning at all while almost all random primary school pupils did.
- Primary schools focused more on fieldwork and nature than secondary schools.
- Non-random schools spent more time in wild/naturalised areas.
- Of the primaries sampled, it was the non-random ones that went away residentially whereas most secondary schools did some residential trips.
- Even when on residential trips, primary pupils received more outdoor learning than secondary pupils (random schools).
- Primary age children use their time in wild or naturalised areas more for learning about nature and nature-related topics than secondary age pupils. Secondary pupils tended to do more adventure activities in 'wild' places and stayed there residentially.

4.6.5 Non-residential experience

- For primary and secondary (random) schools, outdoor learning in *the main* was 'off-site' but non-residential. (For non-random schools overnight trips were more likely).
- Residential and off-site events tended to be for a longer time than school grounds based events.
- The top three locations for (random) primary schools' non-residential time were wild areas, school grounds and urban spaces.
- The top three locations for (random) secondary schools' non-residential time were wild areas, school grounds and urban spaces.

4.6.6 Residential experience

- Off-site residential experience was more typical for what active secondary schools offered (primary and secondary) than random schools. Only 2 out of 8 of the random primary schools went away residentially during the survey.

[13] There is a possibility of double counting so the percentage could be less.

- Residential trips were often focused on practical skills and personal development.
- Residential experiences afforded learning opportunities that were of a longer duration and in wider/more naturalised places.

4.6.7 Focus of learning and gender balance

- With any switch towards adventure sports, the focus also shifts towards personal and social development of pupils: personal development, personal health and working with others.
- Few events focused specifically on influencing change or conservation issues.
- There was a small difference in participation in terms of gender. Where differences were noticeable, boys participated in outdoor learning more than girls and never the other way round – this was only the case in off-site locations: fieldwork, parks and gardens, adventure activities. The largest percentage difference was for fieldwork and activities in wild areas with boys making up 55–56% of the numbers participating.

5 FOCUS GROUPS WITH YOUNG PEOPLE

In this section, we provide an understanding of how we went about conducting the focus groups with young people. We provide a background on how we selected respondents, the settings we employed, the overall strategy and the methods we used in the focus group inquiry and the approach taken to interpretation and analysis. In Appendix C we provide a summary of the sequence of the interview process and the sorts of questions posed. In Appendix D we report on piloting, access and ethical issues, and further details on the numbers of respondents in focus groups. In Appendix E we report on the construction of the photo-sets we used as prompts.

First, a reminder of the relevant research questions for this component of the research:

Q: What forms of outdoor learning do children and young people value most in terms of it being:

(a) 'fun' or enjoyable;

(b) providing a worthwhile learning experience in their own terms;

(c) offering other benefits;

(d) affecting their relationship to their natural heritage?

Q: How and in what manner were these activities facilitated, mediated and arranged?

5.1 Respondents

We conducted 18 focus groups with young people aged 3–18. Six interviews were conducted with pre-school-aged children, 6 with primary age young people and 6 with secondary-age young people. In total, we interviewed 76 young people: 26 of pre-school age, 26 of primary age and 24 of secondary age. Forty four of the respondents were male and 32 female. We selected the groups by considering how we might reach a diverse range of children from different backgrounds, children and young people with different levels of interest in the outdoors and with different past experiences of outdoor activities. For the 3–5 age group, we interviewed children in a range of pre-school centres, some with reputations for being active outdoors and some less so. For primary age groups, we conducted two focus in primary school settings (one school was perceived to be an 'active outdoor' school, and one not having such a reputation) and four focus groups with primary-age children in contexts outside of school. In the same way, for secondary age groups, we conducted two focus groups in secondary school settings (one perceived to be an 'active outdoor' school, and one not having such a reputation) and four focus groups with secondary-age young people outside of school. Most young people in the out-of-school focus groups (primary and secondary), though not all, were taking part in some form of outdoor education activities in out-of-school contexts. Most groups were mixed gender except for one, which was made up of volunteers from a girl guide group. One group of young people were engaged in the John Muir Award scheme. Another group were part of an advisory group on education for a government body.

We knew of a couple of young people in these focus groups that had English as an additional language. A couple of the respondents had spent significant parts of their childhood in a country other than the UK. Some of the groups and schools from which respondents were drawn specifically catered for children and young people with special or additional support needs, and some of these children have taken part. The

school-based groups have taken place in a range of socio-economic areas (although this does not necessarily reflect the socio-economic status of the children attending those schools) and some non-school groups have been specifically outdoor or nature-focused groups, while others have not. One focus group comprised a number of young people in a special school.

5.2 Empirical focus and interview settings

Collecting data on outdoor learning and how it was differently mediated was central to answering the research questions (above). In response, we sought to arrange interviews in a manner that captured a diverse range of ways in which outdoor learning and experience was mediated. We were interested in formal, and informal aspects of time spent outdoors. This included field studies, nature-focused education and learning, as well as more 'adventure-type' activities. We also had an interest in the differences between experiences as delivered by professionals and those arranged through peer groups and the family. This meant we tried to meet with both school-based groups and out-of-school groups that were focused on outdoor learning both formally and informally. We weighted our interest towards the out-of-school contexts with a view to enhancing the diverse range of experience and help with the comparison of learning in schools. However, whether an interview was conducted in or out of school, we did try to get children to consider both contexts as part of the interview.

5.3 The focus group strategy

We took a hierarchical focusing approach to interview schedule design. This meant exploring with a wider lens at first with less targeted prompts and, if salient data relevant to the research questions did not arise naturally in discussions, we would raise them as the interview progressed using either visual prompts or questioning techniques. In practice, this meant exploring sub-sets of experience in the following broad order:

(a) Outdoor experience in its broadest sense;

(b) Outdoor experience that was fun or valued;

(c) Outdoor experiences that involved learning (formal and informal);

(d) Outdoor experiences that involved interacting with nature.

Throughout, we were interested in discovering if any of these experiences were affecting children and young people's relationship with natural heritage. Mirroring this filtering of experience, we devised interlinked methods mostly involving pictorial images in conjunction with a carefully devised interview schedule of questions and instructions to respondents. As interviews progressed, we explored the stories that emerged and encouraged respondents to consider what their experience meant in terms of their relationship with nature.

5.4 The methods

These methods were used almost always in the following sequence (Method 1, 2, 3… as below) though not all methods were deployed in every interview. The sequence was dependent on the setting, on whether the interview was in or out of school and whether the component methods were possible (some were dependent on the weather while others depended on respondents bringing photographs with them for discussion). The photosets (Method 3 below) were used in all focus groups.

5.4.1 Method 1 – photos from personal archive

The first method involved inviting respondents to bring a photograph from their personal or family archive that showed them outdoors doing something they considered important to themselves or in a place that was significant to them. This proved very useful in generating personal and family-related data. This method was used with in-school and out-of-school groups.

5.4.2 Method 2 – self-taken photos

In pre-school centres and schools, we used another method sometimes as an alternative to the first. This invited respondents to go into the school grounds to take a Polaroid instant photograph of a special place in the grounds. Respondents were invited to go to a place they regularly went to or only occasionally went to. It could be a place that they go alone to or with others to and it could be a place where they do something special or interesting. The photograph was developed on site and children discussed the photos with the interviewer.

5.4.3 Method 3 – photo-selection by respondents and discussion

The third method involved respondents in groups indoors reviewing sets of photographs that were constructed by the research team in advance. The method used by researchers to select the images and the photographic prompts themselves are described and depicted in Appendices D and E. There were three sets of photos.

- Set A: The first set was of a range of Scottish habitats or naturalised place types with a strong seasonal difference being portrayed: for example, the sea, the woods, a river, a loch.
- Set B: The second set showed a selection of six Scottish animals and birds.
- Set C: The third set was the largest with over 40 photographs depicting children and young people engaging in a variety of activities inclusive of field studies, adventure sports, and leisure activities especially those that related to experiences in nature, wild places natural or naturalised surroundings. The activities included horse riding, gardening, bug collecting, pond dipping, rock climbing and so on.

Pre-school centre age children had a slightly altered set of photographs showing children of their age doing these or similar age-appropriate activities. Some of Set C images showed groups outdoors in differently sized groups, while others showed children being accompanied and unaccompanied, with family members and with professionals (teachers, rangers, others).

5.4.4 Method 4 – photos from group archive

At the end of focus groups one last method was sometimes used. This involved children and young people in reviewing any photographs of shared experiences outdoors that had been facilitated either by the school, pre-school centre or outdoor education group. This proved useful if the outdoor group had a readily accessible photo archive.

5.4.5 Method 5 – group discussion and review

At the end of reviewing the photographs, respondents were asked questions about the salient issues relating to children, young people, outdoor experience and interaction with natural heritage. Here, a more

interactive style of facilitating group discussion was followed with questions around ideas such as what the differences are between family-mediated outdoor experience and schools-based, the degree to which children and young people enhance their connections with nature through outdoor experiences of different kinds and questions asking if things were to be different, what changes in schools provision would they like to see.

5.5 Interpretation and analysis

The qualitative component of the research project has provided rich evidence that needed careful interpretation. We took a constructivist position with respect to the qualitative side of the research: here respondents and interviewers (with their visual photo sets as prompts) were both actively engaged in constructing meaning about outdoor learning, natural heritage and so on through the dialogues that ensued. How these meanings were mutually constructed in the interviews is the focus of our interpretation. We therefore focus on *what* young people said but also on *how* they said these things and the context for their saying them. It was important to take a more holistic interpretation of the nature of their narratives of outdoor experience so that we could infer what they valued and if there were any shared characteristics of these valued experiences. Understanding how the data were collected, what the prompts were like, and how interviewers asked questions were important in this. Some of these details are in the appendices. Some further explanation about the process of inference and interpretation is warranted here.

The qualitative data were coded according to themes derived from the research questions but also according to emergent themes that we noticed as running through the corpus of the data. As with any qualitative study attempting to gather evidence from the voices of learners, the data needs to be read as a partial view on the place of outdoor learning in the lives of young people. A replicated study, were it to be carried out with different respondents, would potentially surface a completely different set of experience. While we would expect a similar analysis would emerge if similar types of respondents were chosen, we cannot guarantee that this would automatically follow. Similarly, if the study was replicated with respondents from very different backgrounds or if it was conducted in another country or at a future time, we might expect there to be differences. Suffice to note, that the research process as a whole (photographic prompts, interview settings, interviewers and interviewees) are all culturally and temporally located and these situated factors were in play in what and how young people answered responded. We also note that the relatively small number of respondents and the wide range of their ages means that the data here, while rich, is also limited and the analysis partial.

As outlined above, our strategy was founded on the view that for us to answer the research questions, we needed to gather ethnographic data on outdoor experiences as a starting point – within this data we expected to find some evidence of learning. As we have seen, the methods were designed to collect stories of outdoor experiences that young people considered were 'important' to them (as per the research questions and the instructions to respondents). We use the term 'valued' outdoor experiences to describe the data that emerged from this prompting strategy. We understand that it is possibly problematic to use the term 'valued' here and other terms such as 'preferred' or 'memorable' were considered. However, we found that the photographs elicited stories of events that were indeed important to them on a number of grounds: they were seen as memorable, worth telling and were often significant life experiences – we infer they were valued experiences because of this. In addition, the stories were prompted by a photoset that contained a large number of photographs of a wide range of habitats, animals and outdoor learning activity types. While

further work on the effectiveness of the methods is warranted here, we infer that the wide range of photographs used allowed for the emergence of 'valued' experience relating to outdoor experiences.

As a sub-set of these valued experiences, there were experiences that were remembered as fun or enjoyable, some allowed researchers to explore or infer learning that was associated, and some specifically would pertain to experiences in naturalised areas and relate to their understandings and attitudes towards natural heritage. Determining what they valued and how or what was important to them about these experiences was a discursively negotiated activity within the interviews themselves and was carefully interpreted afterwards using a thematic analysis of the transcripts alongside field notes and inter-researcher conversations – our exploration in the next section (Section 6) providing numerous examples from the data explains this in a more transparent manner. Coding for salient passages and descriptions of similar types of experience across interview transcripts produced some themes used in further analysis. We iteratively refined these themes as we searched across the data for counter cases and supporting cases. After a first analysis, what resulted was set of characteristics and dimensions of 'valued outdoor learning experience'. These are not seen as exhaustive lists but we are confident the vast majority of the stories we heard in some way were revealing of the importance of these same characteristics and interacting dimensions to some degree. Further analysis was conducted along the theme of how experience and learning and experience was mediated. Particular attention was paid to data about interaction and relationship with natural heritage and related learning.

As stated above, our understanding was that outdoor experiences that involved *learning* would form a subset of this valued outdoor experience. We expected that the stories about outdoor experience would contain data that would tell us something about their valued outdoor *learning* experiences. Here, we used a rationale for discerning when a recounted experience seemed to involve learning. For our purposes, drawing on various theories of learning, we inferred that learning was in evidence when the respondents were somehow changed through their participation in activities. Taking this participatory understanding, suggested learning took place if they were now taking part in activities they had not done before. In addition, learning could involve appreciating the value of doing other new things (even if they were not doing them) – this participatory understanding does not preclude us from using evidence that suggests their attitudes and feelings were changed. Lastly, evidence could suggest their knowledge or understanding of children and young people was enhanced. Taken together, these understandings mean that evidence of learning came in the form of (a) stories about emergent participation in activities (b) stories about new dispositions to taking part in activities (c) stories that revealed respondents had learned about something and (d) that respondents had understood something new about the worth of something/someone, or how they might relate differently to something/someone.

Using the rationale above, we sifted out evidence about outdoor experience that related to learning in general and learning about specific topics such as natural heritage, habitats, and so on, but readers should be aware that this has been an inferential task involving interpretation. We were careful not to ask direct questions about learning – pupils mostly frame learning in ways that are similar to more popular notions of what the term implies: they tend to see learning as classroom based and subject/content specific and do not respond well to being put on the spot about their learning or find it hard to recall what exactly they learned. Therefore, outdoor learning as an empirical focus needed to be introduced subtly, and because we wanted to gather comparable data across diverse respondent types, whose age, ability, background and experience varied greatly, we decided to use a methodology based on visual prompts alongside careful semi-structured interviewing in groups.

Another area of data analysis requiring careful interpretation relates to asking children and young people about whether and how their involvement in outdoor learning might be different. Because of their age and experience, we were sensitive to the idea that, for the most part, young people tend to be able to say what they like and dislike when it come to outdoor experience, but are not in the habit of considering how things might be different. Because of this, only some respondents were asked direct questions about how they saw potential improvements in provision for example. However, a few of the older or more articulate respondents, who had the age or ability to engage in issues relating to educational provision, did respond more cogently to questions about how things might change. We have included some of these where they were relevant.

As expected, given the design, children and young people's views come mostly in the form of stories about outdoor experience. As mentioned above, respondents were asked (using age-appropriate wordings) to pick photographs from the sets that reminded them of stories of times and places where they had spent time outdoors and where the experience had been important to them in some way. In Section 6, we explore extracts from the stories young people recounted that pertained to different kinds of experiences (in and out of school for example). The number of stories from different contexts presented here broadly reflects the numbers of stories of these different types; this is therefore an emphasis that comes from the data rather than from the authors' selections. This emphasis relates to the finding we explore later: that outdoor learning is mediated by many different types of social setting (home, clubs, peers for example). Inferentially, this allows us to say something about how young people's views point us towards a consideration of the contexts for learning young people valued. Generating recommendations directly out of this partial dataset without reference to the literature in the area and to other studies would be ill-advised. Because of this, we refract some of our emerging questions and recommendations through debates in the literature and in policy contexts, particularly *A Curriculum for Excellence*. Our discussion of this in the Recommendations section (Section 8) does not, therefore, always arise directly from the voices of learners for the most part but is connected to the findings we generated from interpretation and inference at different levels and how this related to the survey findings.

5.5.1 Respondents' comments about interviews

At the end of interviews we usually asked respondents to comment on how they felt the interview went and if there was a need for us to change any aspect of the approach taken. Respondents appeared to enjoy the exercises and find the process interesting and all commented favourably on the methods used. All said they liked being able to pick the photographs. Some of their comments included the following: the methods let you "hear each others' points of view". They "let you express yourself and your opinions". Another said she felt you " were more likely to express your opinion in a small group". Also the visual images appear to help them "remember" and "see what we have been doing". One said she liked being able to bring along her own photograph – this seemed to work well as an ice-breaker in many cases. These more personal photographs allow respondents to prepare for the first phase of the interview with confidence. One girl said she thought it helped her get to know other members of her group better, that it was important to be invited to a nice place (a local farm and outdoor centre) for the interview and that they were allowed to sit out of the process if they wished. Others were interviewed at school in school time; we received no negative feedback about the settings or contexts that were school-based from respondents though time did not allow for much reflection on group processes in all cases.

5.5.2 Interview setting and group size

The process of conducting the interviews allowed us to learn valuable lessons about this qualitative methodology. We found the use of group interviews to be useful when interviewing younger respondents. As with all focus groups one must be wary of the group effect of contrived consensus. We felt the process of individually choosing photographs ahead of speaking about them meant that there was an assurance that a degree of individual opinion could emerge while still offering the benefits of group interactions and synergy. The choice of the pre-school centre setting was beneficial in providing ease of access to groups of pre-school children and the interviews took place in a location in which the children were likely to be comfortable and relaxed. We found groups of about 4–5 were appropriate for pre-school age children.

As we have seen, the out of school contexts were highly valued by some respondents for their relaxed ambience. We found the use of group interviews to be useful with this age group too. The choice of settings that were both in and out of school afforded opportunities for useful comparison between experience mediated by school and out-of-school organisations. The desire to keep interview times to about 1 hour for all components meant that group size was better kept to below 6. Having mixed gender groups was appropriate though we felt some additional gender specific data may have been forthcoming had we had some single-gender focus groups. This would have only been possible if we had conducted a greater number of interviews however.

5.5.3 Using visual methods in interviews

The central and essential component method for focus groups was the use of the photo-sets. Our photo-sets were created to generate responses in a wide age-range and with a variety of respondent types and they were successful in this. The various ways in which we used these were all remarkably successful as prompts for respondents. Out early concerns about the number of photographs in the prompt sets was unfounded. We found young people were at ease with scanning over and shuffling through the sets at some speed before selecting a photograph that reminded them of important outdoor events. The way we went about constructing these sets and executed their use in focus groups as a team meant the data collection processed were ethical, rigorous and reliable. We also allowed groups and individuals to 'talk to' their own archived photos and in some cases to take their own photographs (see methods sub-section above). This meant we had a suite of effective methods that were reliably 'portable' across contexts but flexible enough to allow for the collection of both individual and collective narratives about outdoor experiences. Time has not permitted an effective comparison of the use of alternative types of photo-sets – we did not construct more than one for comparison (though we did run a couple of pilots to refine the sequencing, timing and interview questioning and we did hold a few inter-researcher reliability meetings). While we are confident that we have devised a replicable methodology that engaged respondents in many ways with the empirical focus, we note that because the photo-sets are located culturally in time, that if a replicable study were to be carried out at a much later date, some additions, substitutions or some substantial revisions to the sets may be necessary in order to give them relevant currency for respondents at some future date.

The use of photographic prompts throws up further questions. Further work would be warranted here in terms of refining our understanding of the effects of different kinds of visual prompts were they to be sourced or used in ways other than those described herein. Some questions remain unanswered now for us as researchers that would be interesting to answer. For example, did some respondents find the photo-sets in any way 'excluding' of their kind of experience? Were there any inherent 'biases' in the photo-sets (in

'favour' of certain kinds of outdoor learning for example) and did this unduly skew the sorts of stories we heard from respondents? Does the context within which the photo-sets were used affect the sorts of responses gained? Without conducting a rigorous research project on this methodology, it would be circumspect to try to answer these questions. However, the range of stories we gathered and the high levels of participation indicated that the interpretation of photographs by young people was very individual and broadly speaking, they worked very effectively as prompts. A single photograph chosen by two or more respondents (sometimes in the same interview) appeared to work as a catalyst for telling very different stories.

5.5.4 Timing

Given the timescale for the research, there was a degree of pressure to meet all the deadlines for the quantitative and qualitative evidence. This meant we did not have the time to communicate as effectively as we would have liked with all schools and organisations particularly in the survey work. Overall, more time would have aided the smooth running of the project. In pre-school centre contexts, for example, it would be more effective for researchers to spend time visiting sites and meeting with the children before making a return visit to run the interviews. For both quantitative and qualitative fieldwork, the pace of the project meant that any slippage in data collection could have resulted in objectives being unachievable. Also, in any replication of this study, it would be valuable to get local authorities on board with survey work.

In the following section (Section 6), we outline the findings from the focus groups.

6 FOCUS GROUP FINDINGS

In this section, we provide a thematic analysis of findings relating to young people's views and outdoor experience. The following sub-headings will be used to explore examples from the data showing how we derived our findings:

6.1 The characteristics of valued outdoor experience

6.2 The three dimensions of valued outdoor experience

6.3 Gate keeping and mediation

6.4 Interaction and learning from natural contexts

6.5 Other factors affecting experience

6.6 What schools might do/how provision might change

6.7 Summary analysis of focus group findings data

The sub-headings in part relate to the research questions (on what was 'fun' and how experience was mediated for example). Other sub-headings were derived from themes used in the analysis of the data. Through coding for salient ideas and descriptions of similar types of experience across interview transcripts, we produced some of these themes. After a first analysis, what emerged was a set of *characteristics* and *dimensions* of 'valued outdoor learning experience'. We present data on these first. These are not seen as exhaustive lists but we are confident the vast majority of the stories we heard in some way were revealing of the importance of these same characteristics and interacting dimensions to some degree. In subsequent sub-sections, we offer explorations of how experience and learning was mediated informally and formally by different people. We then pay particular attention to young people's interaction and relationship with natural heritage and related learning. There is a closing section on what young people said about how they thought schools might change/how things might be different. We finish this section with a summary of the findings in diagrammatic form and as a bulleted list.

In this section, SB stands for secondary-age boy, SG for girl; PB stands for primary-aged boy, PG for girl; NB stands for pre-school centre-age boy, NG for girl; 'Int' means interviewer.

6.1 Characteristics of valued outdoor experience

First, we present evidence that led us to name three characteristics of valued outdoor learning. These characteristics were intimately connected to three 'dimensions' of outdoor experience we deal with later (the activity, the spatial and the inter-personal). Evidence suggests the sorts of outdoor experiences young people valued afforded:

(a) *fun* or *enjoyable* activities
(b) activities that gave rise to feelings of *freedom* or *lack of inhibition*
(c) activities that were experienced as *authentic and/or contingent* on factors distinctive to outdoor contexts (for example events relating to natural processes and changes in environments brought about by the weather, erosion, thawing and freezing, the tides, behaviours of wild animals).

6.1.1 Outdoor experience is characteristically fun or enjoyable

Firstly, valued outdoor experiences were described as generally being fun. 'Fun' experiences were strongly associated with doing something new mostly with others and/or engaging in some different or new form of activity as this girl indicates while remembering a holiday in France with her family.

PG[14]: We used to go canoeing down the Dordogne we used to only get a kayak and then a canoe.
Int: What was good about that?
PG: It was because I don't normally go canoeing or whatever it was different.
Int: And what was special about it?
PG: 'Cos its like we don't always do it, it's something that we've not done that much.
Int: What the actual canoeing itself, what did you think about that?
PG: It's real fun, it's quite fun sometimes if someone goes in and you're having a good laugh about it.

In this next extract, the young people note that time spent at this outdoor education centre as part of a school trip was similarly valued because of the opportunity to do fun, new things.

Int: Right so tell me more about [name of outdoor centre], when was that? […]
PP: Yes it was part of our *Natural Connections*.
Int: So what did the school take you there for, why did they do that? […]
PP(1): It's great fun.
PP(2): We go for a week. […]
PP(1): For one whole week it's excellent.
Int: So why did you pick to tell us about that photo rather than any of the others?
PP: It was just, it just reminded me so much of [name of centre] and it was, it was a great experience at [name of centre] […]

Fun experiences were often associated with the description of a sense of excitement. Here the activity was part of a school skiing trip:

SG: I think it was just the adrenaline rush just going down the slope because as I said it's not something that I'd normally do because it was really new to me and it was an amazing place actually because there were so many different types of slopes and obviously you've got like you know the different coloured trails and stuff but just starting out and just learning how to do it was just really exciting for me.

Enjoyable experiences were also connected to the engagement of the senses; many outdoor contexts afforded experiences that were valued because of the ways they involved learners in tasting, feeling, seeing, hearing and smelling. Here this girl, in conversation with her support worker (SW) discusses going to the seaside and the importance of water play for her:

Int: So […] do you like any of these photographs, [name]? This is the first set of photographs I'm going to show you. Do you like any of those? Just point to them if you like one. You like that one?

[14] PB stands for primary-aged boy, PG for girl; SB stands for secondary-age boy, SG for girl; NB stands for pre-school centre-age boy, NG for girl; 'Int' means interviewer.

Why do you like that one, [name]? That's the one – that's number sixty-two, and it's got a picture of lots of waves and sea and splashing, isn't it?

SW: Do you like–

PG: Yeah.

SW: 'Cause it's water?

PG: Aye.

Int: Do you like water? Is that what she likes?

SW: She does like water, eh [looking at PG]? She just likes to splash.

This example (above) of interview evidence shows of how the photographic prompts were effective with a wide range of respondent types. The respondent's verbal abilities were enhanced by the opportunity to select from the visual images while remembering and discussing experience. In this distinctive interview with children in a residential respite care setting, the support worker who has known the respondent for some time, provides a triangulation for what the child values in outdoor of experience.

But enjoyable experiences were not always spent in the company of others. In particular, outdoor experiences also afforded enjoyable time spent alone in peaceful surroundings: this girl talks of a local garden that is special to her for taking 'time out':

SG: it's a walled garden and I go there well not, well a fair amount it's just really quiet there is hardly ever anybody else there and it is just somewhere where you can go to get away from everything, just really quiet and peaceful and it's just a nice place to be really.

For young people, perhaps particularly those living in the city, time in nature appeared to have restorative effects that they enjoyed. As with the younger children, the sensory aspects stand out in memories. Here the memories of the trip make her consider the difference between the natural context of the trip and the urban context she usually inhabits:

SG: I just really so enjoyed the whole gorge walking, rock climbing, all the different activities and jumping into the sea and stuff after. […] if you were standing on that rock or something you would be able to hear like all the water coming down. […] you can always smell that kind of greeny sort of leafy sort of smell.

Int: So when you put on those sounds and smells and sights together what does it remind you, what does it do for you?

SG: I don't know, it just makes you feel like quite happy, you're quite like peaceful I suppose. I mean I suppose you could be peaceful inside […] You feel a lot more comfortable when you're out with nature and you're not in the middle of a city where there are buses and cars and everything it is just nice to get away from all of that. It's so clean, it's like if you're in the city and like got all the bus and car pollution and all the really loud noises and the beeping of horns and stuff, it's just really that it is so much quieter when you are outside like that.

6.1.2 Outdoor experiences were experienced as less inhibiting

We found evidence that pointed to the view that valued outdoor experiences were characteristically those that left young people feeling uninhibited or, to use a word they commonly used, 'free'. A sense of freedom was associated with a number of different features of the outdoor experience: being outside in the fresh air

rather than inside buildings, (and later examples will show how feeling free was related to being able to set one's own agenda/choose activities for themselves, being relaxed and not rushed, being in wild natural contexts where wildlife are roaming freely, being able to handle and get close to animals and plants, and being in contexts where what happens next was not so predictable – see sections on 'gate keeping and mediation' and 'interaction and learning in natural contexts'.

Feeling uninhibited or 'free' (as many children put it) was commonly associated with being outside in the fresh air. This girl compares being outside with being inside:

PG: When you're outside you've got more fresh air and when your inside it's like you're like stuck in a room and you can't get outside.
Int: What's so good about fresh air, this is something that's coming up a lot.
PG: Because it's more, I don't know, it's more cooler than being stuck in a building that's got central heating and put all up.

On one occasion, some special school pupils were asked to say how they usually felt as they went out the door into their well-managed school grounds and garden. They replied in chorus: "free, free!" The lack of constraint on what one might do and how long it would take seemed important but also, the very fact that outdoor space was not as well bounded as indoor space seemed salient. But freedom to choose what happened next and how activities would unfold was also a factor in what sorts of experience they valued. This girl remembers a school trip where there was some freedom to roam and engage in self-directed activities in the forest:

Int: OK and was seeing that the best bit or was there something else about that trip that was the best bit about that trip?
PG: That was the best bit and em the other thing that I liked because you could walk about and do different stuff like there's climbing frames and everything in the forest.

6.1.3 The authentic and contingent character of outdoor experience

Experiences outdoors were described as being more authentic or real than their more controlled and predictable indoor equivalents. Their explanations suggest authenticity was related to the feelings of freedom or lack of inhibition described above. Authenticity of experience seems to be associated with being outside *in the 'real' world*. The idea of authenticity or realness comes through in this boy's analysis of climbing outdoors and inside:

PB: I think they're, in a way they're the same 'cos you have to try and find a good place to hold on to and try to find a good foot hold but in other way a bit different 'cos one like just climbing on a rock, you're like just more real and you can like do it easily without a harness and really like having the harness on, you just dangle and yell when you fall off.

The characteristic of authenticity or contingency relates to the other characteristics mentioned above – the outdoor context afforded real, less inhibiting experience that was therefore unpredictable. We regularly asked respondents to compare outdoor experiences with indoor equivalents (for example, looking at birds in books compared to outdoors or canoeing in a swimming pool compared to on a loch). In their responses, we find most of the evidence related to the contingent character of outdoor experience. The stories often

focused on a range of sensory aspects of experience that were important and how these connected to the contingencies of being outdoors. We can see from the excerpt below how the contingent characteristic of experience relates to the idea that valued experiences are also fun. The passage below is an example of how some evidence loosely links of the characteristics of valued outdoor experience together:

Int: Does it make it a difference if you were climbing on a climbing wall inside or if you're climbing on a rock face like.
PB: Mm… probably I prefer climbing on a rock face.
Int: Why?
PB: I just feel 'cause it's funner. Feels a little bit more.

Climbing the rock face is fun, it is authentic (real rock) and contingent on being outside because it 'feels a little bit more'.

It seems sensory experiences were dependent on the fact that the activities were outside and therefore contingent on a range of things associated with these environments, for example, the weather, what animals might turn up and how they interacted with the unpredictable and ever-changing circumstances of the environment.

PG: Yeh like when you're on a chute inside like you know how it's gonna feel and it will just feel normal but when you're outside when you slide down you feel the air going through your hair and it's just freedom when you're sliding down. […]

This secondary age girl guide also describes the difference between climbing indoors and climbing up a tree on an adventure course she experienced as part of her schooling. The contingencies associated with climbing the tree makes it harder but also more 'scary' as she put it elsewhere:

Int: OK, what about it being outside, what about if they had taken to you a place where there was something really high up that you had to jump off that was scary but it was inside a building like it was a climbing wall or something, do you think that would have been a lot different? […]
SG: And it was a lot different because you can't go up to as far as you want because it's, there's a ceiling blocking it off and… […] 'Cos the tree is more, is more harder than the other 'cos if you were climbing up a thing inside it would have bits where you stand on it and this tree was just totally flat and it had little tiny bits of bark sticking out of it so we had to climb up it that way.

Contingencies related to the unexpected aspect of hands-on, practical events outdoors that in turn rendered them more 'real'. These included falling in while canoeing, encounters with animals (for example, insects in the tent) and the effects of the weather on one's comfort while walking. Some explicitly mentioned the importance of being able to interact with the environment. For this respondent it was perhaps important that the unexpected was possible. 'Discovering stuff', as this girl put it, was therefore associated with the contingent character of outdoor experience.

PG: Aye… it reminds me of when [name] and [name] were over at my grandma's with me. And we played on beach with my puppy and my dog. […] Then we took her into the water, it was really good fun.
Int: Good. And what was the best bit about all of that?

PG: Making a thing like a bay in the water.
Int: Right. And would it be different if you took him in a bath or had him in a paddling pool, you know, because you were outdoors, this is a photograph of the beach, isn't it? Does it make a difference?
PG: Yeah.
Int: Why? What's different about it?
PG: It's just when you're going on the beach.
Int: More fun going on a beach?
PG: Yeah. And outside.
Int: Why?
PG: 'Cause there's… lots of stuff. I knew that you can find…
Int: That's really important, what you've just said, you keep going.
PG: And because of discovering stuff.

This excerpt is another example of this sort of evidence. Here what is memorable was the unexpected event while camping. Camping characteristically seemed to mean there is a weaker boundary between the outside (weather, insects, etc) and inside:

PB: Um, well I picked number 14 because it's got a picture of some people camping and it reminds of when me and my mum and dad used to go camping in England.
Int: What was the best bit about camping?
PB: Well, we got to go for walks around the place and see new places.
Int: Right.
PB: And… um… one time a chicken went in my tent.
Int: Okay, that's funny. Whose chicken was it?
PB: It's just when we were camping in a barn, and he just wandered in because there was food.

Summary: We have gathered evidence that suggests that the outdoor experiences that young people valued were characteristically fun, uninhibited, authentic and contingent. We suggest that the characteristics were connected to each other, feeling 'free' was connected to having authentic experiences outside, having fun was connected to contingent experience and so on. However, these characteristics of outdoor experiences were also intimately connected to three dimensions and we deal with these next.

6.2 The three dimensions of valued outdoor experience

In our analysis we found it interesting that when respondents were asked to consider what was important about the experiences they told us about, they almost always indicated that it was a combination of dimensions of experience. Respondents almost always appeared to *simultaneously valued* three main dimensions:

- the spatial dimension or outdoor context of events (for example, encountering animals, traveling through nature),
- the interpersonal or social dimension (for example, meeting others, having fun with friends), and
- the activity dimension (the activity they undertook: cycling or kayaking for example).

Examples abounded in the transcripts of how these three dimensions were present in their narratives. A few short examples demonstrate how these dimensions were connected (in later sections, many of the excerpts reinforce the point about the inter-related dimensions of experience). One nursery-age girl told us how she chose a grassy bank as her special outdoor place because it was here she made buttercup necklaces and bracelets with friends: the place, the social aspect and the activity were all important to her. In this next extract, we notice how time spent camping (the activity) afforded opportunities to meet people (the social dimension). But being outside (the spatial dimension) was important too:

Int: What's nice about camping? […]
PB: Seeing the outside world and playing and meeting other people and making friends with them.

Similarly, playing hide and seek in a favoured place was an example of how spatial, interpersonal and activity dimensions appeared to interact to make the experience valuable. Making noises with sticks and leaves with friends under a tree, looking at the view while jumping up and down on a trampoline with friends, playing with cars in the puddles were other examples of how these three dimensions – the spatial, social, and activity dimensions – were co-present in the narratives they provided.

These dimensions related to the characteristics of outdoor experience we outlined above. For example, many events were particularly valued because they involved *having fun* (a characteristic from above) *with friends* (the social dimension) as in the following school-mediated example. The other dimensions were also present: the events were distinctive because of opportunities for *engaging in a range of activities* that happened *outside* rather than inside. Passages such as this (below) from the interview transcripts show how the interview process and the analysis of the transcripts led to the interpretation of the importance of these three inter-related dimensions of valued outdoor experience: the social dimension (being with friends), the activity dimension ('doing all the stuff'), and the spatial dimension (being outside):

Int: What was so great about it?
PP: It was just doing all the stuff that we done like playing on the outside like all the time, 'cos there was only, there was only a few hours like an hour a day that you weren't outside so 'cos we were even outside at night as well 'cept for one night.
Int: But I mean you could stay in your own house and just go and sit in the park all day or play games in the park, what was different about going there?
PP: 'Cos you were doing different stuff every day.
PP(other): We had like this helmet on for the abseiling and it protected you and if you went and did that without a helmet…. You'd bang yourself.
Int: But could you not do those sorts of activities somewhere else?
PP: No.
Int: I've seen people doing, there's a building near where I live where you can do rock climbing and abseiling and it's an old church so why could you not go to some where like that and do it on the inside?
PP: 'Cos it's being outside and go with your friends.

Further evidence about how the characteristics and dimensions related follows in following sub-sections. We offer a pictorial representation of the characteristics and dimensions at the end of this section (see 6.7 below).

Summary: It appears that (alongside the characteristics of valued experience we have already outlined) in order to understand what outdoor experience affords, we need to simultaneously consider three dimensions: the environment, the social aspects, and the activities in which they are engaged. This suggests that a holistic understanding of young people's outdoor experience is necessary in understanding young people's outdoor experience and their relationship with nature.

The framing of outdoor experience by adults (in terms of time and freedom to roam, for example) also emerged as important. Looking more broadly at outdoor experience led us to consider data about how outdoor experience was mediated and arranged. We turn to this strand of the data next.

6.3 Gate keeping and mediation

Critically, young people's outdoor experiences are almost always affected by or arranged by adults in some way. There is clear evidence that adults, through their role in schools, families, youth groups and commercial centres, are gatekeepers of outdoor experience for most. Overall, however, there was limited evidence in the stories told by children of much child-led activity outdoors – they focused mainly on family-led, school-based, adult-planned or 'organised' events through their clubs and societies. When young people did mention 'child-led' outdoor experiences either solo or in peer groups, this involved taking part in unstructured play and activities in contexts such as gardens, parks, country parkland and to a lesser extent in wilder spaces.

Children and young people more often spoke about adult-initiated and group-based activities involving input from family, teachers or other adults than time spent alone or in peer groups. Of the stories relating to adults as mediators, family-led experience comes through as a strong dimension both in terms of the number of stories about these experiences and in terms of the value young people associated with them. We provide examples of these below. Some of this evidence relates to the characteristics of fun, lack of inhibition, authenticity and contingency described above.

Examples of gate keeping and mediation are now presented under the following headings: family-mediated experience, peer-mediated experience, formally mediated experience (schools and centres), and a comparison of formal and informal mediation.

6.3.1 Family-mediated experience

Experiences mediated by families tended to be valued for a number of reasons including the opportunity to be in nature in a relaxed context. Being with one's family was associated with being 'able to do more things' whereas being outdoors with school was sometimes regarded as being more restraining: 'you've got to straighten up and take my hand' (PB). In the following example, the boy explores how the walk was valued because of the combinations of the scenery, the wildlife and the opportunity to interact with members of his family – he was 'free to talk'.

Int: [Photograph number] Sixty, okay. […]

PB: Well, I like it because it looks like a place I've… I… went on a walk. I crossed a river that kind of looked like this.

Int: […] Who were you with?

PB: Um… My Mum, my Dad, my older brother and my–
Int: And what was really good about this walk? […]
PB: I just thought it, looked nice. All the scenery and stuff.
Int: Yeah?
PB: I just thought it looked really nice.
Int: What is about scenery like that that makes it look nice to you?
PB: Just, like, wildlife.
Int: Makes you think there's wildlife there? What, did you see wildlife there?
PB: Yeah.
Int: What did you see?
PB: Saw a few squirrels.
Int: Yeah?
PB: Rabbit [inaudible]
Int: Would it bother you if you couldn't go to places like that anymore?
PB: Yes, it would bother me a bit.
Int: Why?
PB: Because I like places like that.
Int: Why?
PB: I like…
Int: I know I'm asking hard questions, but that's why you're–
PB: I just like… going there and sitting there and… being awesome. All the stuff there.
Int: Okay, would it make a difference if you were with your teacher and your school group, or would you prefer to be doing that kind of thing with your family?
PB: Probably with my family.
Int: Why do you prefer going with your family?
PB: It's just [inaudible] talk and stuff. […] It's more free to talk.
Int: Free to talk?
PB: Yeah.

At times, the three dimensions of valued experience (the spatial, interpersonal and the activity itself) were associated with various characteristics of valued outdoor experience (see above, 6.1, 6.2). In the next extract, the girl's experience of walking with her family is also described by using the word 'freedom' – one of the characteristics of valued outdoor experience. Here, feeling 'free' was associated with being in a wild or naturalised places (the spatial dimension) with significant others (the inter-personal dimension) where she has the opportunity to engage in activities that she enjoyed (swimming and walking the bridge).

PG: I like this photo because it reminds me of when I went for a walk in [name of place], it reminds me of going to the waterfall, cause I went right up to the top of it.
Int: You went all the way up to the top? Did you climb up or walk up or?
PG: Yeah, we walked up this path and then we went across the top of it.
Int: Yeah? And who were you with?
PG: My brother and [tape inaudible] […]
Int: Okay. And what was the bit about going with them that day?
PG: I don't know… I liked… we went swimming on the top of it, [inaudible]

Int: Right. Was the best bit?
PG: Yeah.
Int: Why? Why was that the best bit?
PG: Well, I like swimming.
Int: Yeah. Was it cold?
PG: Yeah.
Int: Yeah? Okay, so what would you miss about places like that if you couldn't go to them anymore?
PG: Just… the freedom and the wildlife and all that.
Int: Okay.
PG: Walking the bridge.
Int: What wildlife did you see, or have you – did you just–
PG: I saw some rabbits and hares and squirrels.

6.3.2 Peer-mediated experience

Freedom to interact with naturalised contexts in one's own way and in one's own time with significant family members comes through in previous extracts. Experiences with peers also featured in some of the stories young people told though they featured less than those about families. As with more formal activities, the natural elements of all of these locations seemed important to their play, learning and development. Time outdoors 'hanging out' with others was strongly associated with being aware of and valuing the environment and how it was changing – we heard from teenagers how they were concerned about the possible loss of open green space to further housing developments and how they took time to notice the view. Perhaps more particularly for those living in the city (as we saw in the discussion of the characteristic of fun or enjoyment, above), time spent in nature appeared to have restorative effects for some enabling them to feel calmer and happier.

We offer a more in-depth exploration of the following boy's experience, demonstrating, perhaps, that in this 1–1 interview (which formed part of the pilot process for the focus groups), it was possible to gain a more in-depth understanding of one individual's context and access to their more personal peer-mediated everyday lives. Commentary from the following primary aged boy, who lives in a semi-rural context, tells us how he has built a den with his brother and friends locally. We would suggest that the work involved in constructing this space was a factor in how important it was to him. Unfortunately, he recently found that it had been destroyed 'by teenagers' he thought.

PB: I had quite a few big sticks to support it and it, there was two logs just coming up like that, but two sticks to support it. […] we put up lots of small sticks along it and then we put bark and moss on it and then we loaded it down with some moss [and] sticks but [it] was really strong […]
Int: Yeh, so when you went there, did you usually just go there to work on the actual putting things into it or did you go there to sit and chat or play any games or anything like that?
PB: Err.. we went to build on it and climb on trees and play games with the sticks.

The stories about den building and leisure time with families reminds us that young people do value being outdoors with their peers freely engaging in activities that are sometimes though not always directly mediated or arranged by adults. Interestingly, in the case of the den building, this boy had his parents' permission and his parents had knowledge of where the den was and took an interest in this activity with him. We suggest that while peer-mediated or peer-led outdoor experience is important, the role of parents as mediators of access to environments and freedom to engage in activities in these environments seems critical.

In the case of this boy, if we consider the stories we heard overall, we can see how the parents role as mediators or gate keepers was central to the experiences he valued: his parents regularly brought him along to go climbing on a climbing wall in the evenings in a local centre; they have an extensive garden with a large pond that freezes over in the winter and he told stories about how they played with the ice; he told us another story about how his father had cut the grass on a steep bank in the garden – this meant the frogs that lived there had to find alternative area of cover. Other photographs he chose to discuss revealed they had been to the Eden Project and an outdoor concert ('Live 8'). The boy's parents also bring him and his brother outdoors on regular local cycling trips. While on these trips he valued cycling because of the overall outdoor the context of the activity too. He said 'there's more hills and stuff like and I really like hills'. Clearly, regular interaction with a specific place can lead to an in-depth knowledge and appreciation of an environment and the animals that live there. These stories indicate how, for this boy, outdoor experience and the learning that is likely to be occurring as part of this was critically mediated directly and in-directly by his parents through the family's approach to recreation and their leisure habits. At the same time, we should note that many of the activities he regularly engaged in and valued were made possible by the sorts of environments that were available to them in the garden and locally. Again, the spatial, interpersonal and activity dimension interrelated.

6.3.3 Formally mediated experience: schools and centres

Outdoor education centres and schools also played a role in the mediation of events and featured in the stories they told. Mostly, respondents noted that going to centres and school-based activity weeks were distinctively valued because it allowed them to try new things – 'doing all the stuff' as one interviewee put it (see above 6.2). Where schools were active in bringing young people outdoors or to centres, they played a critical role in introducing young people to activities they had not done before (as in next extract below). Activities weeks, trips to outdoor education centres and other school-mediated events did all feature in the data. The critical element here often related to being introduced to activities they would otherwise not have had a chance to engage in (the activity dimension) but he also commented about the 'nice weather' and the fact that he enjoyed being in a landscape he described as 'gorgeous' (the spatial dimension):

Int: Was there any other aspects of the weekend that were memorable and impacted on you in some way?
SB: Yeh well obviously sailing for my first time in the sea.

Another school-led trip was obvious fun, mostly because of the contingent nature of the experience and doing something quite different:

PG: This makes me think of the time that I went, I think it was about a month ago or something I went to [name of place] and…
Int: Who was that with?
PG The school. Just our class and P7's and we had to, well we didn't have to but we got offered to climb up this ginormous mountain outside of it but we walked for miles with all our equipment on and when we got there the man just ran up the mountain with his harness not on, he ran up it 'cos there's loads of space to get up it and he attached all ours on and we had fair amount of time on it. The funniest thing about it, my friend slipped off it and she went upside down.
Int: With her harness on I take it?
PG: Um hu.

Later (under 'Interaction and learning from natural contexts', 6.5, below), we will see how when a programme was directly dedicated to outcomes relating to nature, that the experience was valued for this aspect too.

Formal outdoor learning experiences did have positive knock-on effects for pupil-staff relations:

> SG: They are more relaxed I think, see sometimes on trips they are like more themselves rather than when they are in the classroom and they know that they have got to shout and be really strict whereas outside they are a wee bit more relaxed sometimes.

Respondents commented more positively on formal experience if it was seen to be fun, informal, and involved a degree of freedom and choice. These experiences were more commonly associated with experiences that happened off the school site or those run by non-school-based staff than those run by school staff themselves.

> SB: I personally think that when you are with your family you are a bit more relaxed and you are not being constantly told, like teachers make schedules like, we're going to go and see this and we're going to go and see that, and we're going to go and do this and you don't have a lot of time to yourself when you're with the schools. […]

In comparison to other forms of experience (see 'family-mediated experience' above), staff and schools do not appear to be well-positioned to directly offer the sorts of experiences families, centres and other clubs provided and which were valued by young people. A girl guide felt that the guides offered more freedom than school because they 'know what they are doing with it' (meaning in the outdoor context). Schools were seen by her as unlikely to 'let you go camping' (SG), and were seen to be more concerned with PE when it came to the outdoors with a focus on fitness. Teachers (to follow this respondent's generalisation of 'teachers in general', below), in contrast, seem less well-placed to allow for the kinds of experiences young people valued:

> PG: Health and Safety. […] the teachers are like more restricted to the classroom they're not used to going out and doing stuff like this […]

6.3.4 Comparing formal and informal mediation

Families that engaged in outdoor activities with young people provided the most distinctive and meaningful contexts for young people's interaction with nature, activity and learning. This finding implies that there may be many young people who have not got access to these sorts of experience if their families are not 'outdoorsy families', as one girl termed it, of if they have not got access to the sorts of environments that would afford outdoor experience. This boy's visit to a rural town was significant but it was not near his home:

> SB: [Name of town] smells amazing, the air up there makes me so tired and I just go up there and I spend most of my time in the big massive garden and it is basically about one acre and there are tons of squirrels and I just go out with my Grampa and just play like learning stuff and doing stuff with him. Like take pictures and stuff and make a big collages 'cos my Grampa, me and my Grampa make like big and we have got like this room, like a photo room.

Family-led experience, trips to outdoor education centres and with out-of-school groups (where young people had these opportunities), were spoken about far more often, appeared to provide a higher degree of engagement and afforded richer experiences in a range of outdoor activity types in different sorts of naturalised environments than those mediated directly by schools staff. Even in cases where pupils had regular engagement in outdoor contexts through school (as in the case of this remote rural primary which appeared to be quite active outdoors), young people suggested it was different if mediated by their families:

PGa: Yeah, our science teacher, we're doing [inaudible] – [you] have to ask [inaudible] to look at rock pools and stuff.

Int: So your science teacher takes you to see rock pools; […] your science teacher takes you to see rock pools is that different to when you go outdoors doing all these other things with your families or friends? How is that different?

PGa: Sort of.

Int: How is that?

PGb: I don't know how, you just feel, you feel free like just to pick up more things, but if you're with a teacher you've got to, like, ask if you can. You're not allowed to go touch it, but your family just want to – I mean, you're allowed to, sometimes.

The informal aspects of peer- and family-mediated experience contrasted with that mediated by school:

SG: Well like when you feel like you have to do things when you're with like your school and then by the end of it you can't really remember everything because it's just been crammed into such a short space.

Parents and grandparents were particularly effective in passing on ethical concerns, interests and hobbies related to the outdoors. Grandparents too played a role in some children's acquisition of hobbies and interests. One boy told of how his grandmother stopped the car so they could view a golden eagle. Another boy says he likes watching birds and received a bird book from his grandmother as a birthday present.

PB: My link is with plants because I've learnt with my Mum growing all these plants in the garden […]

Family contexts appeared to catalyse some of the richest forms of learning about, in and for the environment; when families did manage to get out and about, many seemed to provide a purposeful and meaningful social context for outdoor learning and environmental awareness. As we have seen, for some, family members were better placed to provide more sustained, purposeful experiences tailored to young people's interests and needs. Less formal outdoor experiences, where they occurred (for example, those mediated by families, in peer-groups, activity centres, or through some out-of-school clubs), were generally experienced as quite meaningful. Less formal outdoor experiences were valued because they afforded a more relaxed context for activity affording time and space for young people to 'do their own thing' at their own pace. These experiences sometimes seemed important because they allowed young people time to be with adults and peers and get to know them better away from the pressures of work and school. For a few, the outdoors was a context for spending time with a parent who had left the family home or for getting to know parents on a different level. Many experiences outdoors shared some of the elements Titman (1994) found children looked for in grounds at break times: they valued places for doing, thinking, feeling and being themselves.

Out-of-school experience was critically important for the young people we interviewed and was more often spoken about in response to photographic prompts. Whether this was because of the lack of school-based provision or because out-of-school events were mediated in a different way would need further investigation but we infer that if formally-mediated experiences could exhibit the characteristics of outdoor experience young people valued, and if the experiences were mediated in a manner similar to the less formal experiences they preferred, we might expect that these too would be valued by young people.

6.4 Interaction with and learning from natural contexts

The next sub-section explores data related to a specific research question about interaction with natural heritage. Interviews encouraged young people to explore outdoor experience in general and these experiences could be in a range of possible contexts, natural, naturalised and otherwise. Of this data, formal and informal outdoor experience provided distinctive opportunities for *interactions with and learning related to natural heritage*. Here, we look at additional evidence about *interaction with natural heritage* generally and we look at *learning* separately though there are clear links with how learning was differently mediated (above). First we note how young people appeared to value time in nature and then we look at the data indicating what and how they learned from these experiences.

6.4.1 Valuing time in nature

As evidence below demonstrates, contrary to evidence from some questionnaire-based studies indicating that young people have a relatively low regard for 'time in nature', the focus group data demonstrates that where young people had such opportunities, outdoor experiences in nature were important to the young people for a wide range of reasons. Young people's accounts strongly suggest that at a very basic level, most mentioned preferring being outside. When asked, they said they wanted more outdoor activities both as part of their leisure time and as part of their school day (see also below under 'What schools could do'). For example, when asked about what the important aspect of outdoor experiences was, this boy said:

> SB: Well, I hate to be inside because I'm bored, because you're bored inside you know I only watch telly inside and I would much rather be outside…

Taken together (more evidence is presented below), evidence below shows how the reasons they gave for past experiences outdoors and for preferring to be outside included: health and fitness, fun, relaxation, time to reflect, opportunities to meet people, having time with one's family, getting away from computers and TV, gaining experience of new activities, learning in real contexts, and learning related to natural heritage (next sub-section below).

6.4.2 Learning related to natural heritage

As already noted in Section 5, evidence of learning was inferred from (i) stories about emergent participation in activities, (ii) stories about new dispositions to taking part in activities, (iii) stories that revealed respondents had learned or understood something new and, (iv) that respondents had understood something about the *worth* of something/someone, or how they might *relate differently* to something/someone. Using this rationale, many of the extracts we have already presented are, therefore, also examples of learning. Sometimes, respondents spoke more explicitly about learning and used the word in their responses.

Many different purposes and outcomes were associated with learning in natural areas. One girl had recently experienced the *Natural Connections*[15] programme and has grandparents who take her out bird watching. She (hereafter in this sub-section, PG1) had a personal goal which was to work in the environmental field in some capacity.

Int: I want to know first of all is it important for young people to spend time out of doors […]
PG1: I think it is important because like when you're older if you're wanting a job which involves nature outside stuff well you need to know about this stuff.

Biodiversity and natural processes featured in the data as topics they learned about. This girl thought it was important to learn outside 'because you can learn about animals that are like extinct or not in their existence and the animals that are endangered or non endangered' (PG2) while another (PG1, as above) said 'because it's just interesting, how the stuff grows and just …'. Other children were less emphatic about the desire to learn about nature:

PB1: […] you go outside to play, just to play with your friends and that.

But the idea that playing in nature was not also learning was challenged by PG1 in the same interview:

PG1: […] you need to be outside you can be playing or even just like doing stuff like sitting about but that way that you are still learning because you have got the nature around you no matter where you are sitting outside you've still got nature around you.

This boy re-introduced the idea that the outdoor is a valuable place for learning about nature. Here nature is posed as a potentially dangerous place:

PB2: I think that you learn a bit more outside than you do inside, […], when you're outside you learn the dangers of nature of what animals, what certain animals can do to you, what sort of animals can do to harm you.

Specific encounters with wild animals appeared to afford an on-going connection with nature with distinctive effects. The photographs of animals triggered memories about encounters with numerous animals: whales, squirrels, dolphins, seals and birds for example.

SG: I've chosen this photo because it reminds me of the time I went sailing with my friend and we saw some seals and it just reminds me of seeing the seals again. […] I don't know I just think it's like I don't know quite cute and I don't know it is just a nice photo and it just reminds me of being out in the wild.

Close encounters with some quite charismatic animals in wild contexts were memorable and highly valued:

SG: I've chosen the picture of the dolphins because it reminds me of the time when we went to America and my Dad hired a boat and then we went out on the boat and then when we were coming back dolphins followed us so it just reminds me of the time when we were there. […] they are quite gentle and stuff.

[15] *Natural Connections* is a new outdoor learning programme developed by the Countryside section of Fife Council Community Services. It involves six experiences: broadly, finding out about the environment, teamwork, adventure skills, traveling through the environment under one's own power, helping others enjoy the outdoors and reflecting on experience.

However, young people tended to speak more commonly and spontaneously about learning that involved taking action 'for' environmental concerns when it was an explicit part of the programmes they undertook. This does not suggest that other respondents were not also keen to 'make a difference' but it does perhaps indicate that educational programmes designed to offer opportunities for understanding and addressing environmental concerns in a more explicit and active way perhaps provide time and space for young people to make their own of these ideas more effectively. In this extract, the young person remembers a *John Muir Award* activity involving the planting of quite a number of trees. The event was highly valued because it was with friends, it was relaxed and it made her feel she was making a contribution:

SG: 'Cos it's like more relaxed and you're with your friends and stuff.
Int: Yeh and in terms of what it's for, does it make any difference that you were doing something that had a purpose here or did it have a purpose?
SG: Yeh like the environment and growing trees for like the environment and stuff.
Int: So it's not just any work, it's different to working for like writing an essay or…
SG: Yes it's different to that.
Int: In what way is it different?
SG: 'Cos like you're really nice and out of school and stuff and this is like the environment and…
Int: How does it make you feel having done that kind of work?
SG: Good, like I've achieved something.

It is also possible that in addition to providing experiences about, in and 'for' the environment, that these programmes perhaps also provide opportunities for young people to gain the *language* for talking about environmental concerns more openly too.

SB: Yeh, I don't think that until you see like how animals are losing their habitats and you don't see the actual problems you can't really feel strongly about it I mean, you'll learn about it and you'll know it's important but you really won't feel that strongly about it unless you actually experience it.

6.4.3 The affective dimension

Stories about the effects of learning about nature and being in nature sometimes revealed comments about their feeling towards it. Here the sense of wonder about natural processes seems to go hand in hand with learning about it.

Int: And learning about the nature OK and what are your feelings about nature?
PG1: Umm it's just amazing how stuff grows like the plants, I don't understand how they can get a seed without having another plant it's just quite, it seems impossible to do it but it's not.
PB: How can you get a seed, how can you get a plant without a seed, how do you get a seed without a plant so…

This girl's connection (or kinship) with nature seemed to be engendered through gaining a more intimate knowledge of it. While we do not know exactly where her ideas have come from, we can say she took part on the *Natural Connections* programme. She is displaying a thoughtful and complex understanding.

Int: So how does this tell me, how are you […] talking about your connections with nature.
PG1: Because like everything is the same, even the trees are practically the same as us.

Int: And you're part of that?
PG1: Yes.
Int: Is that what you're saying?
PG1: Yeh we're part of like a, we're part of the, you know how like birds, we are practically the same as birds 'cos we've all got a heart and a brain.

For example, formal outdoor education mediated through school was at times seen as a key factor in supporting learning about and caring for nature by this girl (PG1, as above again). This girl was taking part in the *Natural Connections* programme.

Int: What sort of experiences do you think are best for allowing people, to learn about and care for nature, what sort of activities do you think?
PG1: Going to outdoor education places like [name of centre omitted] and the [inaudible] and [name of country parkland] and all of that.

Parents and grandparents too were facilitating learning about natural processes and were thereby strong influencers when it came to developing a relationship with nature too. Two young people told of how they were glad they were brought out walking when they were younger and that that had influenced them to maintain an interest in the outdoors. For this boy, the interest in gardening may be being passed on to some degree and there is clearly learning going on:

PB: My link is with plants because I've learnt with my Mum growing all these plants in the garden using up space really…
Int: Well leaving that aside, leaving that criticism aside.
PB: I've gotten to know a bit more about plants because my Mum's told me that if you watered them in the sun they get damaged.

Here, the family setting provided a context for learning about natural processes in a very local environment. This learning appeared to engender feelings of care for other species through sustained engagement and in-depth knowledge about supporting birdlife in the garden:

SG: It was just like reminding me of like birds because we've got quite a big back garden and behind our house we have got a field as well so it's like, it's like overgrown and it's nice I suppose and the trees are there and stuff and we get a lot of birds coming into our garden especially since we did a topic on birds or something in Primary 4 or 5 so like I persuaded my Mum and Dad to put up this wee bird house in our back garden and since then like we've just had so many birds coming in. Blue tits especially, so they have been like nesting there for years and it's quite amazing actually just to se them 'cos they come back every year and then you see like the wee chicks and the wee birds and they learn how to fly and like you see them falling off a branch and then getting up again and it's just nice.
Int: Excellent.
SG: It is just really funny watching them sometimes 'cos like we have got our kitchen and then you can se straight from our kitchen into the back garden and I spend quite a lot of time in the kitchen just helping my Mum to cook or whatever and so I see them quite a lot and it's just really nice for my wee sister as well 'cos she's seven now but over the years she's like just seen like the birds coming

in and stuff and I think we have all like become really protective of them because we've got a cat next door and the cat comes in and tries to jump up onto the bird place and we are like shooing it away and it's just really nice and it's just nice to see that I think.

6.4.3.1 Relationship with nature?

These JMA participants debated the purposes around outdoor learning. Along with fitness and health, the ethical issues relating to sustainability came through in these young people's talk around purposes, revealing an ethical dimension to his relationship with nature:

Int: Can you explain why you think it's important?
SB: Well for many reasons like to keep fit and stuff and healthy like to learn about the environment and the outdoors and stuff and instead of just sitting at home and I don't know playing on the computer or watching TV and stuff.
Int: Why should you learn about the environment, why bother?
SG: Like there is a lot of stuff going on like global warming and then looking after the environment to prevent like things like global warming happening like sort of we need to know about it because it is actually really important and there is like a lot of fun ways you can do like clubs and stuff to make it funner instead of just saying right, 'the world will end if you don't do this'.

Our interviews with many young people supports the view that young people do care about and have feelings for the environments they experienced. While young people offered rich narratives of specific times and places, they were on the whole less comfortable about discussing their relationship with/interaction with nature/natural heritage *per se* or could not find the language for it. Martin (2004) too found respondents struggled to find a way of talking about their relationship with the outdoors as in the following example where the connection is with a specific place:

Int: […] did I hear you say it was a special place or a traditional place or is it a tradition that makes it special in some way?
SG: Well yes it's special but the hill, well there is actually a kind of monument to one of their family, one of their family died and there is a monument up there so it's special to them but it's also special to me 'cos when we go up there every time it is nice.
Int: Would you say you had a connection to that place in some way?
SG: Yeh.
Int: How would you describe that connection?
SG: I have no idea.

However, whether alone or with others, we found ample evidence that young people valued and could talk about valued outdoor experiences in nature within which there was evidence that some felt they had a relationship with 'nature' and not just with specific places. The remoteness of this place was an important context but so too was the fact that she was with family:

Int: You said that you actually had to use the water for living as it were so what do you think, did the water mean something…?
SG: Yeh well I guess, I didn't think I would enjoy washing every morning in freezing cold water but after a couple of days doing it, it was a bit of a ritual, run out every morning in like swimming cosies and rush into the water and then rush back out again and try to get warm so yes. […]

Int: So did you like being close to nature, was that something that…
SG: Yes definitely that is a big part of our holiday that year it was. […] we were out in quite remote places we were staying actually on that particular camp site there were only one, no two other people so we were quite out on our own.

In our study, being unsure 'how to put it' when asked about their relationship occurred a few times:

Int: Good, okay. Let's ask another question. Do you think that young people have a kind of relationship with nature, or a special relationship with wild things, and natural things, natural places? Do think that children have a special relationship with nature? [pause] What kind of special relationship do they have?
PG: I don't know. Kids are just more into animals that adults are. But sometimes kids just want to have a look and the adults ask us to leave them and stuff, it's quite boring for u- some of us.

As already indicated, whether alone or with others, we found ample evidence that young people valued and could talk about outdoor experiences; within their explanations they indicated that they very much valued the natural contexts in which the activities took place and the opportunity to see wildlife or get close to it. A minority of young people tried to explore the idea that their relationship with nature influenced other aspects of their lives or was related to lifestyle choices. This girl says she 'likes animals' and her vegetarian diet relates to this affinity. Her aunt is also a vegetarian but the rest of her family is not.

PG: It [holding a photograph] reminds me of one time that I went on a big boat with my granddad and we were going to look for whales or dolphins, just to see them. That's why.
Int: Did you get to see them?
PG: Yeah!
Int: What did you see that day?
PG: I saw… I think it was a sperm whale. I liked [inaudible]
Int: Would you miss doing that kind of thing if you couldn't do it?
PG: Yeah.
Int: Do you think it's important that people see things?
PG: Yeah.
Int: Why, [name omitted]?
PG: It's just interesting.

When young people had taken part in programmes specifically designed to address the issues around how people relate to and affect their environment, this came through in their talk about this topic. Here, two JMA participants explain their relationship with nature indicating that this relationship grows and changes over time. For the first, it had future relevance. For the second respondent, it related to his past interests from when he was a child:

Int: Do you feel personally that you yourself or do you think that young people in general have any sort of friendship or connection with nature? […]
SG: Yeh 'cos like we're the people of tomorrow if you know what I mean like we're the future generation so we need to work hard and it is going to be hard anyway, like for anyone, so I think we will effect it no matter what we do but yeh something like that. […]

SB: Well I've always been interested in nature since I was a baby because I've always been interested in bugs and stuff like this and that is where…

This secondary aged boy plays in a music group; their music and regular outdoor performances affords a connection with the environment. Again, the language needed to talk around these topics seems lacking but the connection with nature is there:

Int: So a nature bit, what's all the nature bit about? […] Has any of this changed your relationship with natural heritage and nature?
SB: Well yes because you think about it more, you think about like when you're young and how you are like I'll take like that branch off that tree but when you think, and when you do stuff like this you are like, I'd better not 'cos I might damage the tree […]
Int: OK are there deeper things there […] Would you miss trees if you couldn't have trees any more?
SB: I think it is just part of the environment and you just like to look after it, maybe possibly I think if there were not trees or anything I think we would probably all die but maybe then we would miss them.

In line with Takano's (2004) work, the evidence from young people themselves suggested that they had strong attachment to specific places (and perhaps particular species), rather than 'the environment' in general. When young people spoke of having a connection with nature they did so by talking about specific events more than in general terms. Evidence suggests that young people valued the outdoors very highly in part because it afforded fun, free, authentic and contingent experiences. In turn, these experiences afforded opportunities for their growth and development (outcomes enumerated in Rickinson *et al.*, 2004) and opportunities for interaction with natural heritage. Malone (2003) suggests that the environments most conducive to environmental learning were those that were unstructured and not specifically designed for children's play (eg, forest areas, garden beds). Similarly, the less formal outdoor experiences young people appeared to value offered less rigidity and more freedom. It is likely that the fun, free, real and contingent characteristics of outdoor experience were also experiences that were developing a sense of care for the places they visited though there was less explicit mention of this spontaneously by respondents across the board.

Summary: We can say with some assurance that where opportunities were available, time spent outdoors was intimately connected to the development of a relationship with nature and that this relationship was expressed in many subtle ways. But not all or any experience in nature afforded this connection. As we have seen, some formally mediated experiences were critically important more for introducing young people to new activities than advancing their understanding of nature, natural processes or conservation issues. Other programmes, with a specific 'nature' or conservation focus seemed better placed to engender thinking and learning about these issues and provided hands-on learning that was 'for' the environment. We can say that time outdoors and in naturalised settings was an essential (though not sufficient) element in the development of understanding, awareness of nature and natural processes. In the same way outdoor experience in such settings was an essential (though not sufficient) component in the on-going development of relationships with nature.

6.5 Other factors affecting experience

6.5.1 Differences by age and experience

Pre-school children tended to say less and with shorter answers, their transcribed evidence is less easy to display here. This age group did emphasise the sensory aspects of outdoor experience: the feelings of wind, sand, water, cold and heat. They appeared to value interacting on a smaller scale with environments, getting to know places, animals and plants through close observation, and experiences involving touching, handling, smelling and listening. There was a sense that these younger children were also focusing on the more fundamental aspects of natural processes: for example seasonal influences, freezing and thawing, the effects of weather on themselves and their local environments, the effect of water on sand and soil, the life cycles of animals. They also valued time outdoors with adults who were significant in their lives: their families and pre-school centre staff. Some variation in practice in pre-school centres was apparent. In one pre-school centre, children were encouraged to climb trees while in another the lack of outdoor space was prohibitive. Where grounds comprised solely of climbing equipment, this tended to be what children focused on. When spaces included more naturalised settings, trees, bug corners and other things to do, the range and scope of what they chose to tell us about was more wide-ranging and more inclusive of natural contexts for play. Boys tended to mention more gross motor play such as climbing and cycling. Smaller artefacts and found or loose objects were commonly mentioned: snails, bugs, spiders, insects, flowers, leaves, sticks.

Older children in primary and secondary school also valued time outdoors with their families but friends start to play a key role with this age group. The activities they valued were also dependent on experience and age. As young people, especially teenagers, gained experiences of a wider range of activities and events that happened further from home or involving overnight stays, they seemed to value outdoor experiences more and could find the language to talk about it. While all young people struggled to find a language to discuss their 'relationship with nature' per se, they could all recount events outdoors involving nature that they valued. Young people who did speak more freely about the importance of nature in their lives were also the ones who reported having had meaningful and sustained events involving nature.

While the hands-on, sensory aspects of experience continue to be important for all age groups, some other aspects emerged less often: these included aspects related to conservation, sustainability and environmental management. These tended to be mentioned only when this was an explicit aspect of the teaching or when they were the focus of experience. These were dependent on experience as much as age for primary and secondary age pupils.

Children whose families are more active outdoors or were members of clubs or groups involved in outdoor activities in a sustained manner had had a much wider range of experiences to talk about than children whose sole experience was mediated by school and usually had a more complex set of understandings about human-environment interactions. The only exceptions to this were children who attended schools with a more extensive provision (for example those who were doing the *Natural Connections* programme or were involved in JMT).

6.6 What schools might do/how provision might change

SG: You learn differently outside.

As a closing discussion in focus groups we often asked young people about what they thought of schools' role in the provision of outdoor learning. If they had requests for things to be different we asked them to explain how they thought things might improve. Some of the data pertaining to this topic has already bee presented under the 'Comparison of formal and informal mediation', above. In all interviews where this line of questioning was possible, young people were emphatic about the idea that schools could do more outdoors.

Int: Um… do you think that schools could do more of this kind of thing [pointing to the photographs in general]?
[All] Yeah [6 primary age pupils].
Int: You do? You're all saying yes.

When asked, children gave some different reasons why getting outdoors more would be worthwhile:

PGa: We should [get?/be] out more, doing more nature things.
Int: Do you think? Why?
PGa: Kids should be out more, 'cause there's far too much time inside, I think, because at school at school you have to sit inside and do work, at home they, like, get bored and everything… they just, they have to sit inside and do homework, or they have to, like, they just sit there and eat crisps and watch TV and stuff.
Int: Does anyone disagree with [name], or think she's right?
[All] Right.
Int: You think she's right? Tell us why you think she's right, then.
PGb Well, our PE teacher was saying that we all try to get a bit fitter. So I think it would be better if we got more.
Int: Okay. Why do you think she's right?
PB: Well, I like, [inaudible] starting to get quite fit because I'm always on the computer and eating junk food, so I'm always trying to get outdoors but usually it's raining.

School-aged young people mentioned a range of activities they felt they would like to have the opportunity to do for the first time though school. These included: climbing, kayaking, walking, walking in the river, looking in ponds, cycling. A secondary-age pupil felt 'it is important and nice to know what you have living near you' and experience what is on one's doorstep. Others felt that before reaching the age of 19, young people should try activities like cooking outdoors and camping at least once.

In the following extract, we see how the interviewer asks the respondent to consider his experiences together for salience. The respondent indicates there is a strong link between fun and learning and relates this to what school might offer. His commentary, and the lack of stories about school-mediated experience in his interview generally suggests that school as a context was not offering the sort of fun outdoor experiences he valued. He also bemoaned the fact that his school grounds were 'just concrete':

Int: OK, so I am just kind of picking up from the things that you've said about these photos and the other photos that we looked at as well that you have been talking a lot about the things that are fun, so, I mean is that something that is quite important to you, to be outdoors having fun […] is one of those [photographs] more important than the other, or are they all just as important as each other, or what do you think?

PB: Umm… I think it's quite important to have fun, I think school should be more fun 'cos you learn more when you're having fun than when you're doing work.

When asked to consider how things might be better these children (having recently gone through the *Natural Connections* programme and spent considerable time traveling off-site) note the importance of local places to access, and in particular activity centres:

PG1: Because in some, like sometimes you feel that there is hardly anywhere that you could go so maybe just one more place close where you could go 'cos most of the places are like at least an hour away from here so I think that they should make them closer to schools rather than further away from them.

[…]

PG: Activity Centres, it is just for children to go to where they can be in the outdoors not worrying about anything but being in nature.

[…]

PB: I believe we should have more activity centres as well.

PG: Closer.

PB: Closer to the school.

When pushed to consider who might be involved in addressing the changes they wanted in provisions, young people came up with a few possible contributors including governmental bodies, schools, and the media:

Int: Is there one particular group who you would say it is up to them to make sure that we get these chances or is it a combination or what do you think? Let's start with [name] this time.

SB: I think it is up to everyone. It's like the government needs to get more people doing things, there are too many people just sitting at home just doing nothing.

Int: And have you any ideas, if we had a government minister sitting here now and you said that […], what kind of hints would you give him/her about how he/she could be going about that?

SB: Introduce more things into the school, schools and things and more stuff on the TV.

There was also evidence from teenage young people that spending time in nature may not be considered 'cool' by mainstream youth culture. This may be a factor in their struggle to find language to communicate their relationship with nature. This John Muir Award participant explains:

SGa: Well I think it is a bit rich coming from me but I would say it is issues like people thinking oh it's not cool because I think everyone here, I think all of us would say at one point that it's not cool, even I've said that and thought oh I don't want to be seen by other people like me doing this because I don't want them to think she's like a geek or something, you know like that word…

Some ideas were offered by young people on how to remedy the 'image problem' perceived by some associated with spending time outdoors, wearing outdoor gear, and spending time in nature. The use of the

popular media in creating a positive image was mentioned. Here, the suggestion that a 'popular person' (age not specified) might be enlisted to help with the perceived image problem – the argument is having esteemed others 'modelling' engaging in outdoor activities of various kinds might be useful:

SGa (as above):I think like if they introduced something with quite a trend or something like something cool in it and then it may get the people who are really bad at like the whole 'oh that's not very in' or something and I think if you take it from a really low step and then build it up and then everyone … like if quite a popular person does it then another person would do it and think, 'oh well I like them so I'll do it', and then everyone will do it but I don't know how you would do that because I know a lot of people do try and do that but I think they do need to do a little bit more to introduce this into schools and stuff.

We can also infer some other directions schools' provision may need to take from our analysis of the data. For example, we suggest that the characteristics of the experiences they valued are also likely to be the characteristics of the experiences they gained significant learning from. The fun, contingent and unexpected elements brought into play by going outdoors in a relaxed way in naturalised areas were clearly important in activating the forms of learning that were valued by young people. Overall, they seemed to value learning that was less formal, active, involved making choices as individual young people themselves or as groups, experiential (involving activities or tasks) and happened at an appropriate pace in meaningful social contexts involving smaller groups. This was the case whether the learning occurred through informal experiences (such as a camping trip with family or in guides) or formal outdoor education (such as a residential trip to a centre organised through school). In what manner schools cultures currently allow for this sort of outdoor learning or could allow for it remains an unanswered research question. Young people were keen to get outdoors more in authentic settings as part of school work:

SG: I don't think you can just sit in a classroom and be taught how to save the planet or whatever you have to actually get out there and learn what needs done and how to do it and everything.

There were other pointers in the data on fun, socially meaningful activities often involving engagement in shared purposeful tasks outside where interaction with the environment was critical. Learning to work in a team was regularly mentioned in connection with more formal provision:

Int: And what about, you've got other people there haven't you, do you think, does that mean anything that you are with other people there?
PG1: We're working in groups.
PG2: We're working together as a team within the group.
Int: Oh so you like the working as a team, OK.
PG2: It gets easier if you work together than single.

Doing adventurous or physically challenging activities was a critical element in a good number but by no means all stories respondents told; doing something outdoors that was fun, different, meaningful and involving some degree of freedom or self-efficacy were more important across most respondents' narratives.

A sense of self-directed learning emerges from some of the respondents' talk. Here, the idea of learning differently is explored by this primary-aged girl. She compares learning outdoors to the sort of independent learning involved in using a computer.

PG: So if you were getting to go outside you would learn more even without a teacher with you 'cos you could pick it up yourself. 'Cos that's like a computer I, some, most of it I learnt to do myself like going on the internet, I learnt how to do that myself like picking it up yourself […] you can be playing or even just […] like sitting about but that way that you are still learning because you have got the nature around you no matter where you are sitting outside you've still got nature around you.

Summary: When considering the comparisons young people made between different types of contexts, there was evidence that they felt that schools in particular were being overprotective when it came to arranging outdoor activity (see the 'Comparison of formal and informal mediation' above). Some felt they were living in a restrictive culture of health and safety paranoia. When asked to comment on how things might change, young people felt that they wanted more time outdoors particularly during school time and that this might be made possible through a relaxing of the health and safety concerns, increased funding and more localised provision. But there were other concerns too about school-delivered outdoor experience related to the numbers involved, the pace of experiences, the relations between staff and pupils, and the constraints on student-led experiences while outside. Young people valued learning that was less formal, active, involved making choices as individual young people themselves or as groups, experiential (involving activities or tasks) and happened at an appropriate pace in meaningful social contexts involving smaller groups. The evidence from young people (and supported by the survey evidence) suggests there is some way to go if schools are to bring access and experience outdoors for young people in ways young people themselves would deem valuable and relevant to meeting their diverse needs and interests.

Taken together, the experiences that children valued and spoke about points to the idea that learning is altered by going outside but that how learning is mediated is critical to young people. As we have seen (above, under Gate keeping and mediation), schools staff were not always best suited to facilitating the sort of outdoor learning that young people valued. We have clear evidence that young people (at least many of these we interviewed) have had rich outdoor experiences that involve learning. How schools might build on this learning and involve parents and community members in doing so would warrant further investigation. Further research on how and when schools do manage to successfully mediate outdoor learning is warranted and the links and inferences being made here between formal and informal learning are also in need further refinement through empirical investigation.

6.7 Summary analysis of qualitative data

In this sub-section, we summarise the main points from the analysis of the focus group data.

6.7.1 The shared characteristics of valued outdoor experience

Taking the data as a whole, we have identified some shared characteristics of the experiences the children and young people valued. As we have seen, valued outdoor experiences were those that were fun, uninhibited, real and contingent (see 6.1). We depict these in figure 13, below.

Figure 13 Characteristics of outdoor experience

6.7.2 Three dimensions of valued outdoor experience

Young people valued outdoor experience for three main *interlinked* dimensions:

- the inter-personal dimension;
- the 'activity' dimension; and
- the spatial dimension.

Being with others (the social dimension), doing things (the activity) and being in certain kinds of places (the spatial dimension) were usually interconnected and inseparable when young people spoke about experiences they valued through stories. These three dimensions, sit alongside the characteristics of valued outdoor experience ('fun, uninhibited, authentic and contingent') (figure 13, above). We also suggest that there are strong interconnections between the characteristics and the dimensions.

Figure 14, below, depicts these interrelating dimensions and characteristics.

Figure 14 A schema for inter-related dimensions and characteristics

Some of the regularly mentioned aspects of valued outdoor experience are summarised below alongside the relevant main characteristics:

- Fun or Enjoyable Experiences: doing something not commonly engaged in; doing something different or new; being with friends or alone, doing exciting or relaxing things, experiences that involved the senses; having time to think, reflect or talk with others.
- Less Inhibiting Experiences: being free generally as an overall sensation; being free to choose; free to roam, explore; being in open spaces; being in the fresh air; being near wildlife; being in naturalised or remote, places; having one's senses exposed to a variety of elements; not being rushed.
- Authentic and Contingent Experiences: being outside rather than inside; encountering natural materials or elements in outdoor contexts (trees, plants, water, rock, sand, snow, ice); encountering problems that arose as part of the flow of events; unexpected or unplanned events; the possibility of seeing wildlife; finding or discovering things; facing problems of challenges (falling in while kayaking); dealing with changes in the environment (the weather, the terrain).

6.7.3 Gate keeping and mediation of outdoor experience and learning

6.7.3.1 Family

- Families that engaged in outdoor activities with young people provided the most distinctive and meaningful contexts for young people's interaction with nature, activity and learning. Family-led experience, trips to outdoor education centres and with out-of-school groups (where young people had these opportunities), were spoken about a lot, appeared to provide a high degree of engagement and afforded rich experiences in a range of outdoor activity types in different sorts of naturalised environments.
- Family-mediated experience and learning tended to be seen as fun, informal, and involved a degree of freedom and choice.
- Parents and grandparents were particularly effective in facilitating the passing on information, ethical concerns, interests and hobbies related to the outdoors. This was noticeably related to nature.
- Family contexts appeared to catalyse some of the richest forms of learning about, in and for the environment; when families did manage to get out and about, many seemed to provide a purposeful and meaningful social context for outdoor learning and environmental awareness.

6.7.3.2 Peers

- Young people do value being outdoors freely engaging in activities with their peers. These activities were sometimes directly mediated or arranged by adults while at other times these activities led and arranged by young people themselves. While there was not a lot of data on this sort of activity, we expect the role of parents as gate keepers or mediators of access to environments is critical even for peer-led outdoor experience.

6.7.3.3 Formally delivered outdoor learning

- Schools did not appear to be well-positioned to directly provide the sorts of experiences families, centres and other clubs provided.

- Where schools were active in outsourcing provision (bringing young people outdoors or to centres for example) they played a critical role in providing many valued experiences and introducing young people to activities they had not done before.
- Some programmes of learning such as the *Natural Connections* programme or the *John Muir Award* appeared to be offering significant and distinctive outdoor learning. They appeared to be offering experiences that shared many of the valued characteristics of outdoor experience. In addition, where the programme had specific aims related to conservation or taking action 'for' the environment, young people were more likely to relate experience and express views relating to these topics.
- Experiences delivered by schools staff themselves did not always share characteristics of valued outdoor experience.

6.7.4 Interaction and learning from natural contexts

- Outdoor experiences were important to the young people for a wide range of purposes. These included: health and fitness, fun, relaxation, time to reflect, opportunities to meet people, having time with one's family, getting away from computers and TV, gaining experience of new activities, learning in real contexts, and learning related to natural heritage.
- Many different outcomes were associated with learning in natural areas. How this learning was mediated and what the aims and focus of the learning was affected what was learned. As we have seen, young people provided evidence that they were (informally and formally) learning about, understanding and/or responding to problems related to topics such as:
    - Wildlife in general or individual species in their habitats;
    - Endangered species;
    - Habitat loss;
    - Natural processes (freezing, thawing, life cycles, growth and decay);
    - Learning about environmental careers;
    - Understanding and responding to ethical concerns related to the environment;
    - Understanding and responding to global environmental problems and concerns;
    - Understanding and responding to local environmental problems and concerns.

6.7.5 Relating to and learning about nature

- Time spent outdoors was sometimes intimately connected to the development of a relationship with nature and expressing feelings about nature.
- Young people's relationship was expressed in many subtle ways. They often struggled to find a language they were comfortable with to explain their relations with nature.
- Not all experience in nature led to learning about nature. Outdoor learning in nature was an essential though not sufficient component in the development of understanding of nature and natural processes. These tended to be learned and understood when they were the focus of concern rather than incidental to the activity.
- Young people's on-going development of attachments to specific places and relationships with nature were more obviously enhanced when these were an explicit focus of the learning or when there were significant adults in their lives who sought to encourage this.

6.7.6 Other factors affecting experience

- Younger respondents of nursery-age emphasised the sensory aspects of outdoor experience. They valued interacting on a smaller scale with environments through close observation and experiences involving the senses and their learning focusing on the more fundamental aspects of natural processes.
- When nursery spaces included more naturalised settings, the range and scope of their outdoor activity and learning was more wide-ranging and included more loose natural objects and natural contexts.
- Older children and teenagers gained experiences of a wider range of activities and events that happened further from home/school or involving overnight stays.
- Young people's learning about conservation, sustainability, environmental management and 'action for the environment' tended to be mentioned only when this was an explicit aspect of the teaching or the explicit focus of experience.
- Children whose families are more active outdoors or were members of clubs or groups involved in outdoor activities in a sustained manner had had a much wider range of experiences to talk about and gave evidence of more complex understandings of human-environment interaction than children whose outdoor experience was more restricted.

6.7.7 What schools might do/how things might change

- Young people were emphatic that schools could enhance learning by going outdoors more.
- Some mentioned the importance of their local area both as a site for learning and as the object of inquiry.
- Some wanted a more provision through locating outdoor learning centres nearer to schools.
- Evidence suggested young people would value outdoor provision that was characteristically more fun, less inhibiting, more authentic and contingent.
- Evidence suggested that in programming for outdoor learning, the environmental context for learning, the interpersonal dimension and the nature of the activity being undertaken are worth considering as interacting dimensions that affect the quality of the experience and therefore, the quality of the learning.
- Young people voiced the opinion that a range of bodies could work together to effect change in provision: governmental bodies, schools, and the media were mentioned.
- Young people sensed that there may be an 'image problem' with engaging in outdoor activity that needs to be addressed. Popularising it through the media and through involving people their own age was seen as a way of doing this.
- Young people said that they thought schools were over protective and overly concerned with health and safety issues.
- The kinds of approaches to learning young people found valuable and worthwhile included learning in, for and about natural contexts, self-directed approaches, teamwork, intergenerational learning, peer learning with their friends, the use of appropriately sized or smaller groups, and approaches that allowed for greater choice about where they go while on trips and what they might do while outside.

7 CONNECTIONS WITH *A CURRICULUM FOR EXCELLENCE*

The national initiative, *A Curriculum for Excellence* (Scottish Executive, 2004) (hereafter ACfE) has as its purpose the improvement of learning, attainment and achievement of children and young people in Scotland. This initiative understands achievement in broad terms, not just in terms of examinations and seeks to offer young people a wider range of skills and abilities relevant to living in the contemporary world. Usefully, ACfE provides a framework that relate to many of the findings of this research. In this section, we take the purposes, principles and factors of ACfE in turn and consider them in the light of the findings from this research.

7.1 Purposes

ACE seeks to alter curricula so that the young people become:

Successful learners with

- enthusiasm and motivation for learning
- determination to reach high standards of achievement and
- openness to new thinking and ideas

Confident individuals with

- self-respect
- sense of physical, mental and emotional well-being
- secure values and beliefs and ambition

Responsible citizens with

- respect for others, and
- commitment to participate responsibly in political, economic, social and cultural life

Effective contributors with

- an enterprising attitude
- resilience and self-reliance (Scottish Executive, 2004, p.12).

Evidence presented here indicated that the kinds of outdoor experiences young people valued were also contributing to some of these purposes. Some links from the data could be made to almost any of the above but we have selected some of the more dominant themes.

7.1.1 Successful learners

ACfE suggest that successful learners think creatively and independently, learn independently and as part of a group, make reasoned evaluations and link and apply different kinds of learning in new situations. Our evidence shows that young people did learn independently and as part of groups from their outdoor experiences. In particular we suggest their motivation and enthusiasm for the forms of outdoor learning they valued came from the interconnecting characteristics of the outdoor experience (fun, uninhibited, authentic and contingent aspects) and three interacting dimensions: the spatial, the inter-personal and the activity dimension. Understanding what circumstances led to their success as learners was made possible through understanding the situated or sociocultural nature of their experiences.

The evidence suggests that the social side of outdoor learning is critical dimension (along with the activity dimension and the spatial location). In part, it was the informal social dimension that distinguished formal school-related outdoor learning from the sorts of experiences they valued out of school. The social side of outdoor learning will therefore be important in achieving another ACfE purpose: *learning how to learn both independently and as part of a group*. The evidence suggests that the relations between learners and the relations between adults and young people are critical mediators of the sorts of experiences they valued: the fun, less inhibiting, authentic and contingent experiences.

7.1.2 Confident individuals

ACfE hopes to alter curricula so the we help young people become confident individuals that are self-aware. Our evidence shows that time spent in nature contributed to young people's relationship to natural heritage and was connected to their own *emotional health and well-being,* a key purpose in ACfE. We consider it an important finding that outdoor learning could contribute to the development of young people's emotional health and well being through attending to the affective side of their own development and their relations with environments. While young people struggled with finding a language for their relationship with nature, they clearly had, in many cases, experiences that indicated they had a relationship. Outdoor learning provides an opportunity for children and young people to be helped to articulate their feelings about nature and in addition to aiding their own well-being, this has the potential to increase their confidence and security in respect of their own *values, beliefs and ambitions.*

Time spent outdoors clearly relates to another ACfE purpose: *developing a healthy lifestyle and physical well-being*. Young people's comments about teachers' over-concern (as they saw it) with 'health and safety' suggests that young people wanted more experiences where they could assess risk in real situations. ACfE suggests that confident individuals *are able to assess risk*.

7.1.3 Responsible citizens

The 'responsible citizen' (of ACfE) understands the world and Scotland's place in it. Here we see the potential role of outdoor learning in providing more hands-on, practical experiences of real places so that learners can be responsible citizens both now and in the future. Outdoor environments also provided young people with experiences of plants, animals, and habitats though they did not always articulate complex understandings of environmental processes or issues relating to sustainability or biodiversity. The lack of data on these themes could be a feature of the methodological approach, which was more directed at getting young people talking about their 'experience' as a way into this. However, the evidence indicates that many young people do have a wealth of experience that could be drawn upon and used by educators to develop learners' *environmental literacy.* Being able to evaluate environmental, scientific and technological issues – and being environmentally literate is seen as necessary for responsible citizens, another ACfE purpose.

Our evidence shows how young people were making connections between their everyday lives (such as watering plants or being a vegetarian) and their relationship with natural heritage. We have also seen that outdoor experience offers contingent experiences throwing up unexpected problems and challenges. This sort of evidence suggests that outdoor learning can afford the opportunity for young people to consider the ethical side of their relationship with nature and thereby address the ACfE purposes of *developing ethical views and deploying critical thinking in a variety of new settings*, *developing respect* for others and the environment and *opportunities for making informed choices.* Environmental literacy can also include the ability of young people to articulate their own feelings about nature and find a language to express them.

7.1.4 Effective contributors

ACfE states that effective contributors solve problems, take the initiative and lead and apply critical thinking in new contexts. Our data suggest that the sorts of challenges and activities they enjoyed and valued in outdoor contexts were likely to engender the development of these sorts of capabilities.

7.2 Principles of ACfE

ACfE is also based on seven principles for curriculum design, namely, challenge and enjoyment, breadth, progression, depth, personalisation and choice, coherence, and relevance. These too are relevant themes in the data presented here.

- ACfE suggests young people should find their learning challenging, engaging and motivating. They should be active in their learning and have opportunities to develop and demonstrate their creativity. The fun, uninhibiting, real and contingent outdoor experiences young people valued exhibited many of these features.
- ACfE's concern with breadth relates to the data on locations, types and foci for outdoor learning. This research has show that different sectors in the education system offer less than a broad curriculum in terms of the types, locations and foci for outdoor learning. Increasing the duration of the provision of outdoor learning would not necessarily mean a broader range of experiences will be made available to learners. This research suggests that attention needs to be paid to the types, locations and foci of outdoor learning in different ways in different sectors if increased breadth in the curriculum is to be achieved.
- In terms of progression and depth, at a very basic level, having a more regular programme of outdoor learning for all pupils from 3–18 would be needed to afford the possibility of progression. Rendering the programme more coherent across sectors and as young people get older would be a related task. Currently, given what we have seen as indicative of practice in the random statistics, provision is likely to be too hit and miss in many schools for much progression or depth to be possible.
- Personalisation and choice: Young people were strong on their views here. Valued outdoor experiences were often the ones that provided opportunities for young people to exercise personal choice while on outdoor events; being outdoors seemed to afford greater freedom in a number of ways. We suggest there are a number of interacting factors here we suggest in allowing more personalization and choice for learners outdoors. They are in part, the characteristics of valued outdoor experience along with the presence of a meaningful social context (the inter-personal dimension), a worthwhile activity (the activity dimension) in a suitable place (the spatial dimension). But more specifically, personalization and choice was likely to be related to the characteristic of 'less inhibited experience': being free to choose; free to roam, explore; being more relaxed not being rushed, being free to ask questions, decide and explore environments; being in appropriate group sizes, having time to think, reflect or talk with others.
- Coherence: Very few young people made any clear links between their outdoor learning and core areas of the school curriculum (for example, literacy, numeracy, or subject areas). This may be because it was not a discrete focus for the research or because many of the stories related to their informal learning. In contrast, young people did make links between their everyday lives and outdoor experiences that they valued (whether these happened through school or out of school). This suggests that well planned and

well executed outdoor learning of the sort that young people valued could be harnessed to help bring coherence to the curriculum. This could involve making outdoor learning a component part of any subject that lends it self to this and through making clear links between 'school work' and everyday real world contexts.

- Relevance: Meaningful contexts for learning were valued by young people. We infer that if young people can see the purposes and value of outdoor learning, it is more likely they will be able to understand relevance in their lives. We comment more on this theme below.

7.3 Factors affecting learning

ACfE outlines three factors seen to affect learning:

(a) The environment for learning;

(b) The approaches taken to learning and teaching;

(c) The way in which learning is organized.

We take these in turn and provide some links between these three factors and what the evidence from this research is saying with respect to outdoor learning. Christie and Boyd (2005) reviewed the research-based literature pertaining to these themes. Their review is useful here because it outlines a framework for exploring the factors as identified in ACfE. We have selected a few relevant sub-themes from their review to frame our commentary as Christie and Boyd (2005). We have been selective, however, and consider only those we felt had resonance with our findings. The sub-themes are as follows under each ACfE sub-heading:

- The environment for learning: experiential learning, and relevance;
- The approaches taken to learning and teaching: meaningfulness and active engagement; and
- The way in which learning is organized: problem-based learning and peer learning.

Finally we have added a comment (in line with Christie and Boyd) related to teachers' perspectives.

7.3.1 The outdoors as the environment for learning

7.3.1.1 Experiential learning

This research indicates that pupils valued the fun, less restrictive, authentic and contingent aspects of experience that the outdoors afforded and they said they would like to see more of this sort of experience on offer through schooling. As we have shown, learning experiences were part of these valued or preferred experiences; by default, valued *learning* experiences mediated by the outdoors were also likely to be those that were characterized by fun, were less restricting in a number of dimensions, felt authentic and were contingent on a number of factors related to the outdoor context. There is a strong resonance here between the valued characteristics of outdoor experience and the characteristics of experiential learning as described by a number of theorists. Experiential learning is characterized by direct, applied, practical experience of the world. It involves students in experience, observation and reflection on action in diverse real world settings where unforeseen problems may arise. As such, we can infer that young people's views are pointing us towards the potential for the outdoors to be used more commonly as a site for experiential outdoor

learning. Clearly, going outside affected the kinds of experiences young people had – it meant that events were for example less easily planned and less inhibiting. But the environment was often the focus of the learning rather than a mere backdrop to the action.

We also have presented statistical evidence that schools did not seem to be offering a comprehensive programme of outdoor learning. The question arises: what do schools need to do to offer an enhanced learning experience and how can they offer more activities that are fun, less restrictive, real and contingent and within which experiential learning would occur?

7.3.1.2 Relevant learning

ACfE suggests that the purposes of learning are important: a young person should see the value of what they are learning and its relevance to their lives, present and future. Young people's narratives were strong on how the outdoor experiences were relevant to their everyday lives and their own needs and interests though many of the stories young people told were of out-of-school experience. We have seen how young people concentrated on narrating experiences where there was a strong connection between a number of dimensions: their own lives, relationships with teachers, family and friends, the places they visited and the activities they did there.

What messages are there in this finding in terms of how we might envisage a renewed approach to outdoor learning as mediated by schools? One inference is that the three interconnecting dimensions of outdoor experience – the activity, the place and the people involved – are also the dimensions along which relevance emerges for learners. The analysis of the data points towards the importance of seeing these three dimensions as affording relevance for learners in an interconnecting way. We also reflect on this theme below under the heading of meaningfulness.

7.3.2 The choice of teaching and learning approaches

7.3.2.1 Active engagement

This study suggests that outdoor learning has much to offer here. Working experientially with learners is long-standing tradition among outdoor educators. Our study suggests that if experiential learning activities are to be akin to those valued by young people, curriculum planners and practitioners may find it useful to consider the characteristics and dimensions of outdoor learning identified herein. Also, young people were critical of approaches where there was (as they saw it) an over-emphasis on health and safety issues. Careful consideration of the location, the type and the focus of outdoor learning will be required if it is to meet the emerging and differentiated outcomes of ACfE. Further research would be needed on the actual outcomes of formally delivered programmes of outdoor learning paying due consideration to how they employ different types of learning, in different locations with diverse foci. This would allow us to better tune outdoor learning to the recently specified outcomes of ACfE.

7.3.2.2 Meaningfulness

Meaningfulness relates to relevance (above) as a theme. Here we suggest that theories of learning as meaning making can assist in drawing our recommendations. Some theories of learning are very concerned with the manner in which the context affects what and how learning takes place. Constructivist perspectives

suggest that when a person comes across new information, s/he understands and assimilates it in the context of existing mental structures thereby constructing new knowledge. Hence, learning is seen as a process of negotiation of meaning rather than as the simple delivery of pre-determined knowledge to recipients. Constructivists advocate that students can take ownership of their learning thus ensuring that learning is more authentic and meaningful. Sociocultural theorists broadly take this constructivist position but they also focus on the role of people and environment in the creation of knowledge as well as internal mental processes of the learner. Meaning-making is therefore seen as the result of active participation in socially, culturally, historically, and politically situated contexts. Taking a sociocultural approach to outdoor learning would mean also attending to the social, cultural and historical dimension of the environment in which the learning took place. Socioculturalists would argue that this would contribute to the authenticity of the learning activities.

It has been interesting to note how the socio-cultural contexts for learning have been at the forefront of young people's minds when they narrated their stories about outdoor experience. We have seen how their stories bring together the importance of interacting dimensions: the social, the activity and the environmental. Our analysis suggests these three dimensions of practice were relevant and interacting when it came to how meaningful these events were for them. Clearly, a socio-cultural perspective sheds light on the stories young people told. Less obvious a leap would be to infer that a socio-cultural approach to *provision* might be useful if we are to make a curriculum of outdoor learning relevant. Working out in practice what this might mean would be yet another task beyond the reach of what this report could offer though ACfE already offers some hints.

One area we might consider is the contribution of family members. ACfE states, for example, that it will be necessary to *complement the important contributions of young people's families and communities* in the efforts to enable them to become successful learners, confident individuals, responsible citizens and effective contributors. As we have seen, young people have had a lot to say about how they have gained from the types of activities they do with their families outdoors and from activities that were mediated in some manner by their families. There is an issue here about how an emergent curriculum for outdoor learning might build on family-mediated practices and how widespread these practices really are. That said, outdoor educators would do well to spend time getting to know and understand what resources and experiences young people bring to the outdoor education curricula and how connections might be made with these experiences if meaningfulness is to be engendered. The socio-cultural reading of experience implies that when facilitating outdoor learning, one's experience of natural heritage is not a 'stand-alone' but rather intersects with a lived social, cultural and historical context for young people.

7.3.3 The ways in which learning is organized

7.3.3.1 Cooperative and collaborative learning

This study has indicated that young people valued highly the presence of their friends and family and significant others in many of the outdoor experiences recounted. This indicates that there is likely to be a lot of scope for harnessing teamwork and peer-mediated learning in outdoor experience through school.

7.3.3.2 Problem-based learning

As we have seen, young people valued the characteristic of authenticity. They regarded outdoor contexts as affording authentic experience whether it was gardening, cooking one's own food while camping, climbing

a rock face, canoeing down a river or swimming in the sea. The stories young people related detailed how at times they faced problems and challenges and attempted to solve them. These problems were also associated with the contingencies of being outdoors: so, for example, changes in the weather, the qualities of the natural materials they were encountering and seasonal factors would affect how successful they were at solving these problems. The outdoors, therefore, provides a contingent and authentic experience filled with less-structured, 'real' problems for learners to solve. As such, it is potentially a powerful environment for learning. We expect there will be a tension for outdoor educators between structuring these problems versus allowing them to emerge from the activity itself while still managing health and safety issues.

7.3.4 Teachers' perspectives

In addition, Christie and Boyd (2005) note that teachers' understandings, their values and their degree of autonomy are closely related themes which have emerged very strongly from almost all of the reviews of factors influencing learning. This study would therefore need to be considered in the light of what we are coming to know about a number of critical factors relating to how teachers mediate outdoor learning. Other research projects in the Outdoor Connections initiative relate to this area of concern. We need consider what we know about teachers' knowledge and understanding of outdoor learning and outdoor environments as contexts for learning. We need to consider the role of teachers' underlying values and beliefs about outdoor learning, and the degree of autonomy teachers and schools have in deciding on outdoor learning programming. Teachers may be positioned in ways that mean their over-concern (as young people saw it) with health and safety is inexorable. This suggests we need to understand the positioning of teachers better and support them in ways that allow them flexibility to apply a different kind of professional judgment regarding health and safety issues. We may also need to place the development of outdoor learning curricula in the context of the pressures schools are under with respect to the delivery on a wide range of measures and in the context of the relationship between outdoor learning and other cross curricular themes.

8 RECOMMENDATIONS

We have seen (previous section) how selected findings relate to *A Curriculum for Excellence*. Next, we take selected statistical findings and understandings about young people's outdoor learning experiences together.[16] Different sub-headings reflecting the concerns of the research questions (see Section 2) are used to structure the section. Under each subheading, some of the main findings from the survey and focus groups, as appropriate, are restated. Recommendations and questions arising from these are posited. The list of recommendations and questions arising are not exhaustive – readers from different sectors and backgrounds will no doubt generate their own responses.

8.1 Outdoor education and schools: altering and enhancing provision

8.1.1 Finding

- Schools[17] are delivering a very variable amount of outdoor learning and a substantial number of young people appear to be receiving very little or no outdoor learning even in summer months. Active exceptions aside, schools generally seem not to be harnessing the potential of outdoor learning to its full effect.[18]

8.1.2 Recommendation

- We recommend that formal outdoor education provision as delivered and mediated by schools be *more rounded* in terms of its focus and location, *more regular* throughout the year and *more inclusive* for all pupils.

Questions arising: What are the barriers to schools providing more outdoor learning and how can they be overcome? What can be done to make provision more rounded, regular and inclusive? How can we support schools in engaging all pupils in outdoor learning more regularly, visiting a wider range of location types and broadening the foci of outdoor learning? What debates and research are needed to ensure we understand how best to alter provision in terms of the focus, location, timing and duration? Are there some pupils who would benefit more from outdoor learning than others? Why and how do some schools engage in more outdoor learning than others? How can we draw on this experience in efforts to get other schools doing the same? What kind of school culture, structure and ethos supports enhanced provision?

8.1.3 Finding

Some active pre-schools and schools were countering general trends and offered more comprehensive programmes of outdoor learning. Young people were emphatic that schools could enhance learning by going outdoors more. Evidence suggested young people would value outdoor provision that was

[16] Other findings from partner research projects being conducted under the *Outdoor Connections* umbrella will need to be understood and appraised alongside these as they emerge.

[17] For 'schools' please read 'pre-schools and schools' throughout this section.

[18] While the study provides an indication of trends, the number of schools in the survey was not large. A larger scale study would need to be conducted to confirm the degree to which the trends found here were widespread across all areas and all schools. That said, the variation of provision was striking even among this small sample of schools.

characteristically more fun, less inhibiting, more authentic and contingent. Also, in programming for outdoor learning, the environmental context for learning, the interpersonal dimension and the nature of the activity being undertaken are worth considering as interacting dimensions that affect the quality of the experience and therefore, the quality of the learning.

8.1.4 Recommendation

- We recommend that in their work with young people, practitioners, providers and planners consider the relevance of young people's own experience and learning.
- We recommend that in their work with young people, practitioners, providers and planners consider the relevance of three interacting dimensions and characteristics of young people's valued outdoor experience.

Question arising: In what ways can we now draw on our understandings of young people's experience and learning in improving the formal programming of outdoor learning?

8.2 Mediating experience

8.2.1 Finding

The outdoors provided a distinctive learning environment that was valued by young people but the ways in which these experiences were mediated was not inconsequential. Fun, informal, activities and those that were less inhibiting and afforded choice were generally experienced as more meaningful. Families that engaged in outdoor activities with young people provided distinctive and meaningful contexts for young people's interaction with nature, activity and learning. Schools' staff did not always appear to be well-positioned to provide the sorts of experiences families, centres and other clubs provided.

8.2.2 Recommendation and question

- If school staff themselves are to be expected to be deliverers of formal outdoor learning, and if they are to try to mediate learning in ways that young people value, then the ways in which teachers go about this are relevant. Also, whether teachers are allowed, encouraged and trained for this role are all likely to be important too. We recommend that the factors affecting teachers' relations with pupils, their freedom to take pupils outdoors, the encouragements for them to do so, and the training needed to enhance their understanding of outdoor learning be addressed.

Questions arising: How does the mediation and management of outdoor learning events affect the quality of the experience? Is group size, pace, focus important to the way it 'feels' to participants? What about the differentiated effects of the roles of teachers, outdoor education specialists, others? What forms of training are likely to be relevant?

8.3 Local areas

8.3.1 Finding

Across all sectors, relatively few outdoor learning events were in local areas. We also know from the qualitative evidence that meaningful outdoor experiences and attachments to places came about through

making regular visits or through sustained engagement in places. Young people also voiced the opinion that they wanted more provision and that they would like this to be locally available. At pre-school centre level, data suggest that they do not go off-site locally that much.

8.3.2 Recommendation and Question

- We recommend that we take a more situated approach to curriculum design and development that allows scope for schools to take advantage of their local contexts.

Question arising: How can teachers be supported to use these local areas for a range of subjects effectively? How can we find out more about how Scottish children informally learn in local areas? How can local areas be re-designed to allow for better access to more naturalised contexts?

8.4 School grounds

8.4.1 Finding

Grounds were providing a sizeable portion of the outdoor learning experience at primary level and are critically important for pre-school centres. At the same time we know there are schools and pre-school centres whose provision was seriously hampered by lack of space or facilities.[19] Very few secondary schools used their grounds to any great extent for outdoor learning.

8.4.2 Recommendation

- We recommend that schools, especially secondaries and pre-school centres, be better supported in developing their grounds in meaningful ways for their different age groups to render their outdoor learning provision more rounded in terms of the location and focus, more regular across year and more inclusive of all pupils on the roll.

8.5 Residential experiences

8.5.1 Finding

There is very varied practice between schools with regard to going away residentially. Non-random schools went away residentially more often and thereby offered a more sustained and inclusive approach to outdoor learning. Residential centres mainly offer adventure type activities in wilder areas but currently do not focus on environmental education concerns in the main. Once-off visits to engage in adventure activities with their current focus on personal development and skill acquisition, may not be sufficient for developing a relationship with natural heritage.

8.5.2 Recommendation and questions

- We recommend that we have a debate nationally among policy makers, planners, and practitioners about the balance of outdoor learning in terms of its focus, location and type across the three sectors.

[19] Also, as McKendrick (2004) found, there is continuing concern about loss of school grounds to building development including school playing fields and the schools building programme under Public Private Partnership (PPP) has increased concern over local authorities granting permission for building on existing school playing fields.

Questions arising: Do we want an entitlement to residential experience for primary and secondary age pupils? If so, what is the rationale for it? Is it appropriate or possibly inexorable that as pupils get older they move towards adventure-based, personal and practical skill acquisition as a focus for outdoor learning? To what extent is it appropriate for adventure activities to be used to address environmental concerns?

8.6 Families, out-of-school provisions, peer-led activities

8.6.1 Finding

For some, family members were well placed to provide more tailored and sustained or repeated experiences tailored to young people's needs and more meaningful contexts for learning experiences. Family contexts appeared to catalyse some of the richest forms of learning about, in and for the environment; when families did manage to get out and about, many seemed to provide a purposeful and meaningful social context for outdoor learning and environmental awareness.

8.6.2 Recommendation and questions

- We recommend that formal providers take cognisance of how young people valued learning in, for and about natural environments in relaxed contexts, self-directed approaches, teamwork, intergenerational learning, peer learning, the use of appropriately sized or smaller groups, and approaches that allowed for greater choice about where they go while on trips and what they might do while outside.
- We recommend that school-mediated outdoor learning try to draw on the rich funds of knowledge and outdoor experience some families afford young people.

Questions arising: To what extent are families mediating outdoor experience and how do the factors of class, race, gender and geographical location affecting this? What can be done to support and enhance these experiences? Informal learning in families (often also mediated via the commercial, voluntary sectors) may be quite hidden. We need to better understand the scope and duration of outdoor learning accrued from the different types of visit that families may be making. How can school-mediated learning draw on the rich funds of knowledge and experience some families afford?

8.7 Young people's learning and relationship with natural heritage

8.7.1 Finding

Young people do seem to care for places, different species and even 'natural heritage' in general terms at times but their stories indicated that they express this care their own terms often through narrating stories about particular places, species, events and social settings.[20] They were reticent about talking about having a 'relationship with nature' *per se* or could not find the language for it. They appeared to have a strong attachment to specific places, rather than 'the environment' in general. Young people's relationship with natural heritage was influenced if outdoor events took place in naturalised areas and if these experiences were valued. An ethic of care and active concern for the environment emerged if programmes specifically

[20] This could explain why children and young people are reported to be somewhat uncaring when researchers use questionnaires to ask about their care for the environment or how they value time in nature.

sought to address environmental concerns in an explicit and active manner. Young people's learning about conservation, sustainability, environmental management and 'action for the environment' tended to be mentioned only when this was an explicit aspect of the teaching or the explicit focus of experience.

8.7.2 Recommendation and question

- We recommend, that if outcomes related to nature are required from outdoor education programmes, that they make these explicit focus of their work, making time for young people to reflect on experience, and providing contexts and language for young people to express their feelings in relation to nature as well as opportunities to air their more cognitive understandings of natural processes and human-nature interactions.
- We recommend that relevant bodies (educational, environmental and others) inquire further into and respond appropriately to the possible 'image problem' associated with young people spending time outdoors and discussing their relationship with nature.

Questions arising: What types of outdoor learning are most effective in enhancing young people's interaction and relationship with natural heritage? Is the inter-generational transfer of ethical concerns more powerful than programmes that seek to impart these? What cultural forces are in play that make it difficult for young people to feel comfortable about expressing connections to their natural heritage? How can these be addressed? How important is the affective dimension of the relationship with nature?

8.8 Conclusion

At a macro level, there is a concern over the place of children and youth in society and disadvantaged youth in particular. In the policy field, there are moves to adapt and enhance curricula, to address specific environmental concerns and to make Scotland more sustainable. There is rising anxiety over environmental issues nationally and globally. Young people themselves are voicing concerns over the quality of their lives and their ability to find things to do. Culturally, in the UK, we live at a time when risk characterises how we perceive much of what we do especially in public space. Public service professionals are likely to be carrying a lot of the burden here. Within this context, what commentators are advocating is enhanced opportunities for outdoor learning that is more critical, culturally-situated, and locally contextualised so that it can connect with people's own lifestyles but also potentially alter these in favour of more sustainable ones.

An enhanced focus for outdoor learning on environmental issues and sustainability could viably be more resonant with young people's values, their identities, their daily lives. Schools will play a role in this but so too will families, out-of-school provisions and outdoor educators. Re-focusing outdoor learning on relevant environmental knowledge, understanding, skills and competences young people require to be effective citizens now and in the future will be a complex task involving a reconsideration of the relationship between different forms of mediation of outdoor experience in a range of locations with diverse purposes and foci.

At a time when environmental problems are giving rise to concern, time in nature is sometimes seen as a panacea. Some even see a linear connection between time spent in nature and the likelihood of people taking action for the environment. But others challenge the idea the simply being in nature will lead people to care for it and take action with respect to environmental problems. Bixler *et al.,* (2002) showed that experience in wild environments does instill an interest in outdoor activities of all kinds but will not necessarily

engender taking action for the environment or changing one's lifestyle. Russell (1999) also challenges the idea that there is a linear relationship between time spent in nature and changing one's behaviour broadly. Others have noted the emphasis in adventure type activities does involve learning 'in' the environment but that it does not often include learning 'about' or 'for' the environment. Lugg and Martin (2001) found outdoor educators named the following as their top three outcomes: group cooperation, self-esteem and increased responsibility laying claim to the view that outdoor education is personal development education in the main.

Our research adds weight to Lugg and Martin's finding. The evidence from our survey data about the foci of outdoor learning indicates that nature-related foci and 'advancing a cause' (which might include taking action for the environment or addressing the needs of future generations) were very low on the agenda in adventure type activities.[21] Clearly, residential experiences delivered by schools and by out-of-school clubs in wild or naturalised areas were significant learning experiences for those that had them. But it was only when programmes such as *John Muir Award* and *Natural Connections* for example were in train did young people specifically mention conservation or environmental protection issues. This led us to the finding that time spent in nature may be *necessary* component in developing environmental understanding and enhancing a relationship with nature *but it is not a sufficient ingredient.* Our evidence showed that it was where programmes contained strong elements related to environmental concern that young people were more likely to explicitly mention them. In non-formal learning contexts, it was the role of significant adults in the lives of young people that played a part in imparting ethical concerns and enhancing a relationship with nature. This suggests that if environmental competence and environmental literacy are needed for young people to be responsible citizens, then it is likely we will need educational programmes that address this head on.

A key finding of this research is that formal outdoor education provision needs to be more rounded in terms of its focus, more regular throughout the year and more inclusive for all pupils. Therefore, making a once-off trip to a residential centre an entitlement for pupils, for example, while likely to be worthwhile, may need to be seen as a component of a more sustained and altered programme if it is to affect young people's relationship with natural heritage. The evidence also suggests that if a substantial refocusing of outdoor learning towards sustainability and environmental sensitivity is desired, we would need to attend to what is valued and meaningful for young people. This would require schools to enhance and alter their provision in terms of its location, focus and type (but even more active schools would need to be sensitive to the way outdoor experience is focussed, mediated and contextualised). In this light, outdoor learning would be a necessary but not sufficient element in a wider programme of education for sustainable development for pupils, staff and the communities of which they are a part.

Martin (2004) suggests that to develop deeper relationship with nature participants need to make multiple visits to a place, in a diversity of seasons and weathers (though he does not advocate losing the adventure and technical aspects of activities that were important to his adventure education students). Higgins *et al.* (2006) also advocate a local emphasis recognising the importance of locally available or in-school

[21] Our evidence on residential events is interesting in this regard. Here, the teachers (the main reporters of events' foci) did not see off-site activities in these wilder areas as offering environmental education experiences. The focus was almost entirely on practical skill acquisition, personal development and working with others. These foci need not of course have matched up exactly with the outcomes for young people from these events; it is possible that the outdoor educators (who did not do the reporting) did see the foci differently or that outcomes for young people were nature-related. Further research would be required to investigate to what degree different locations and types of outdoor learning engenders attachments to places and an ethic of care for the environment.

specialists and local support structures. Our evidence suggested that young people's relationship with nature was also enhanced by sustained or regular visitation to places they came to know well. The survey work indicated that formal outdoor learning through school could take on a more rounded set of purposes (perhaps more focussed on environmental concerns if that is desired), be offered more regularly throughout the year and be offered in a more inclusive manner to all pupils. In response, there may be critical purchase in the idea that outdoor environment-related education could be more regularly located in local neighbourhoods. This approach would potentially help to render it more meaningful to the lives of diverse student groups. Considering how places might be visited more regularly in all seasons through a variety of subject areas would seem to be a worthwhile aim if connections between pupils and environments are to be rendered more sustainable and meaningful.

There is a shift towards seeing the importance of non-formal learning and the potential for an improved 'fit' between young people and more naturalised local spaces. With these realisations, there is increased scope for schools to draw on this rich fund of knowledge and use their local areas for new types of outdoor learning.[22] What we seem to need here is some joined-up thinking. Listings of local naturalised areas and how to use them are becoming available to schools and parents. There are moves afoot to re-design school grounds and local play parks in ways that are more sensitive to nature. The advent of Home Zones has the potential to create interesting pedestrian-friendly route ways between areas. The hope is that planners, housing specialists, city traffic managers and policy makers are beginning to take on board what psychologists, educators and play specialists now know about the inter-relationships between naturalised environments and adults, young people and children. The role of children and young people in local design work offers potential here too.

There are broader cultural factors in play too. In some Scandinavian countries, children's independence, the acquisition of environmental skills, and learning to deal with dangers in the environment are more appreciated (Kytta, 2003). In the UK, as evidence from young people here testified, there appears to be less opportunity to engage with environments in ways that encouraged independence of this sort. But Scottish young people did value outdoor learning experiences that afforded this sort of independence. Our evidence suggests that outdoor learning is also likely to require if not affect a different relationship between adult and pupil than that normally experienced inside schools. There is also the question here of what commitments and values parents, outdoor educators, teachers and others bring to bear on the outdoor experiences they so critically mediate for young people. Malone (2003) echoes this as an important aspect, arguing that the role of teachers and the school community in valuing and supporting children's relationship with the environment was as important as access to more naturalised unstructured environments.

This research has used innovative research methods through a sustained survey of schools and pre-schools and through the use of image-based approaches to eliciting the views of a wide age range of young people. This research strategy has been effective in providing a baseline measure of practice in terms of provision and experience from young people's perspectives. These findings have been revealing in themselves while, taken together, in the context of other literature, there are further implications and possible recommendations emerging. Clearly, to take these understandings forward, will require an understanding of the import of these findings within different and broader research, policy and practice contexts. Here, the rhetoric of joined-up thinking and inter-agency working with respect to these issues

[22] See Lester & Maudsley, 2006 and Openspace, 2006 for recent reviews of the empirical and polemical evidence regarding access to wild spaces and play in nature.

necessitates a more pro-active response. In this work, the voices of young people and their agency in effecting change are likely ingredients. Similarly, while there is the ever-present realization of the need for further research, of course, asking the right questions and finding the right strategy to answer these research questions will also require partnership working and dialogue among stakeholders and young people's participation too.

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APPENDIX A

Survey design and management

Piloting

The piloting of the instrument has brought rewards in terms of making this easy to use, fit for purpose and replicable. We piloted the survey at the level of the individual respondent's participation and at the level of organisational uptake. This allowed us to understand how best to approach schools and enlist their participation in this work.

Piloting with individuals

We piloted the use of the documents with in-service teachers and practitioners in all sectors and sought feedback from lecturers in initial teacher education programmes. The documents went through a number of iterations in response. We have found that there were only minor issues with the current version and very few calls from schools regarding support arising from confusion or misunderstandings of what the instruments were seeking.

Piloting with schools

We ran a pilot week for the survey as a whole, while continuing to enlist schools for the formal survey period. During this period we learned more about how to enlist primary and secondary head teachers in both the random and non-random sample schools and what materials might work better in the invitation packs. These packs finally contained a covering letter introducing the research, and information sheets explaining the procedure for conducting the survey. One of the information sheets detailed the incentives for participation, which included vouchers for the individual member of staff who would act as the research co-ordinator and a 'prize draw' to win a class trip to an outdoor centre.

Sampling

The targets we set were to survey 15 pre-school centres, 20 primaries, and 10 secondary schools. At an early stage, we decided the survey would be enhanced by comparing a randomly chosen set of schools with a sub-sample of active schools in a non-random group with this latter group including a small number of independents.

The random sample

We selected schools and pre-school centres from across Scotland taking into account two criteria: school size and location of schools. The sample was generated using a database of Scottish schools compiled by the Scottish Executive (2005) using information from the September 2004 Schools' Census. This database details school size and the urban/rural classification of the locations, as well as contact details and relevant local authority. The location of the schools selected was based on the Scottish Executive's (2004) six-fold urban/rural classification system[23]. The classification of school size was different depending on the school level, in recognition of the fact that secondary schools are generally based in larger urban centres than

[23] It was recognised that the classification of a particular school into one of six categories did not mean that all the pupils in that school lived in areas with that classification; nevertheless, it was felt that the location of the school was more likely to have an influence on its provision of outdoor learning than the location of the pupils' homes.

primaries. These databases were used, in conjunction with an online random number generator to generate a sample number of schools of different sizes and classifications. These were inserted into a matrix which helped to ensure that appropriate numbers of schools were invited to participate in the survey.

The following tables (10 and 11, below) show school rolls for Primary and Secondary, and the associated target numbers of schools to be surveyed in each category[24]. For primaries we generated targets by approximately selecting one school for every 100 schools while for secondary schools it was one school for every 50 of the total.

Table 10 Primary schools in Scotland, roll at 2004 and derived targets

School roll	**Number of schools in category**	**Target number of schools in sample** (Total = approx. 20)
Under 50	442	4
50–99	312	3
100–199	566	5
200–299	490	5
300–399	263	3
400+	144	2

Table 11 Secondary schools in Scotland, roll at 2004 and derived targets

School roll	**Number of schools in category**	**Target number of schools in sample** (Target Total = 10)
Under 50	13	1
50–399	37	1
400–499	23	1
500–599	29	1
600–799	66	1 or 2
800–999	94	2
1,000 – 1,199	66	1 or 2
1,200 +	58	1 or 2

Table 12 (below) shows the percentages of children at pre-school centres and schools located in different location classifications. It also shows the derived target numbers of pre-school centres and schools[25] [26] [27].

[24] We did not use roll as a deciding factor for pre-school centres because these fluctuate more from year to year.

[25] These figures are for schools with pre-school centre departments only and, therefore, exclude pre-school centres which are not attached to schools. Because the random sample used the national dataset where the pre-school centres listed are solely those attached to schools, we were able to use the same criteria of location and size when approaching them.

[26] Our original total *target* numbers of schools and pre-school centres in the survey were inclusive of some independent schools and pre-school centres.

[27] We originally agreed to survey fewer secondary schools because they have larger pupil populations, are less diverse in terms of size and tend to be based in larger centres of population, while primaries have a more varied location (rural, urban and suburban) and have a greater degree of difference in school roll.

Table 12 Target numbers by urban/rural classification

	Pre-school centre		Primary		Secondary	
Classification of area	**% of total**	**Number targeted**	**% of total**	**Number targeted**	**% of total**	**Number targeted**
Large urban area	21%	3	36%	7	42%	4
Other urban area	26%	4	31%	6	27%	3
Accessible town	3%	1	11%	2	9%	1
Remote rural town	10%	1	4%	1	2%	0
Accessible rural area	21%	3	13%	3	13%	1
Remote rural area	18%	3	6%	1	7%	1
TOTAL		**15**		**20**		**10**

The non-random sample

We used key informants to help us choose the schools and pre-school centres for the 'more active' non-random groups. For this second group, we sought advice from rangers, specialists in the field and web searches to nominate these presumed active schools and pre-school centres. These primary and secondary schools were invited to participate on the basis of their reputation or recommendation rather than their size or location though clearly there is some spread here too.

Approaching pre-school centres and schools

Table 13, 14 and 15 (below) show how many pre-school centres and schools we set out to approach by location[28] and by roll and urban/rural classification. In practice, we approached more than the numbers of schools and pre-school centres delineated in the tables below because participation rates were low.

Table 13 Pre-school centres approached by location

Classification	**Number Approached**
Remote rural	3
Accessible rural	3
Remote town	2
Accessible town	3
Other urban	10
Large urban	12
Total	**33**

[28] In the rural areas, slightly less than twice the target number of pre-school centres were approached because there were fewer to choose from, while in larger areas, more than twice the target number were approached.

Table 14 Primary schools approached by roll and urban/rural classification

	Under 50	50–99	100–199	200–299	300–399	400+	Total
Remote rural	1	1	–	–	–	–	**2**
Accessible rural	4	1	1	–	–	–	**6**
Remote town	1	–	1	–	–	–	**2**
Accessible town	–	–	1	1	1	1	**4**
Other urban	1	2	3	5	2	1	**14**
Large urban	1	2	4	4	3	2	**16**
Total	**8**	**6**	**10**	**10**	**6**	**4**	**44**

Table 15 Secondary schools approached by roll and urban/rural classification

	Under 50	50–399	400–499	500–599	600–799	800–999	1,000–1,199	1200+	Total
Remote rural	2	–	–	–	–	–	–	–	**2**
Accessible rural	–	–	–	1	1	–	–	–	**2**
Remote town	–	–	–	–	1	–	–	–	**1**
Accessible town	–	1	–	–	–	–	1	–	**2**
Other urban	–	–	–	1	–	3	1	1	**6**
Large urban	–	1	2	–	2	1	1	1	**8**
Total	**2**	**2**	**2**	**2**	**4**	**4**	**3**	**2**	**21**

The following summary (table 16, below) shows the target numbers of pre-school centres and schools, the numbers approached, agreeing to take part, and numbers who returned forms in a viable manner for the survey period.

Table 16 Targets and participation rates as at 23rd June 2006

	Pre-school centres	Primaries	Secondaries	Total
Target number	17	22	12	51
Number invited to participate	43	61	48	152
Number agreeing to participate	24 (56%)	29 (48%)	16 (33%)	69 (46%)
Number of pre-school centres and schools who successfully returned records	Random: 13 Non-Random: 7	Random: 8 Non-Random: 8	Random: 9 Non-Random: 6	Random: 30 Non-Random: 21
	Total: 20	**Total: 16**	**Total: 15**	**Total: 51**

Non-participation

The early response rate in three categories (pre-school centre, primary, secondary) were as expected, since response rates to postal surveys in schools are generally around 25–30%. In the random secondaries category, however, our first response rate was extremely low (5%) with only one out of 21 randomly selected secondary schools invited agreeing to participate – this figure has been raised through contacting schools

and substituting additional schools. Some additional unforeseen problems may have caused this lack of engagement, however. Time pressures meant that some schools received their mail over the Easter holidays. This further delayed communications coming back from schools. In response, we spent a considerable amount of time on the phone trying to discover if schools had had sight of the invitation pack and found we had to re-issue many schools and pre-school centres with additional materials. As a result of this direct contact, we felt the percentages of schools and pre-school centres committing to the work was substantially augmented.

While the numbers finally agreeing to participate overall is high, we might consider why some schools seemed unwilling to take on this sort of survey. Clearly, this is a sustained survey and, while it was very user-friendly and well-supported by university staff, this could be why some schools or pre-school centres may have declined to take part. However, the most commonly reported reason for not committing to the survey appeared to be time pressures especially relating to examinations, commitments to other survey work and the number of requests from other organisations and students to complete questionnaires. Another factor was perhaps the lack of obvious named people for whom outdoor learning would be their remit who would act as school-based co-ordinators. Local authority backing was an additional concern too we expect. Certainly, local authorities were aware of the *Outdoor Connections* research through other communications but they were not providing a formal covering letter of encouragement to schools. Again, a greater lead-in time would have allowed this to have been put in place.

Some schools were non-responsive after committing to take on the survey and despite continued support for these schools, a small number formally withdrew mid-cycle. Reasons given included: changes in staffing, sickness among staff or feeling stretched by other unexpected priorities that had arisen.

Support and maintenance

For a number of predictable reasons and some unforeseen ones, not only does it take considerable effort to set up a sustained survey such as this but it also requires on-going maintenance and support. For some schools and pre-school centres, a phone call in response to their queries was an important component of the support provided. In these conversations we advised about reporting procedures and explained purposes, inducted staff and agreed on further permission to set up focus groups. We found that we did not need to visit in person the participating schools during the survey period but, in an effort to ensure data the schools sent to us were accurate and returned in a timely manner, we did need to send reminder letters and e-mails.

Participation rates and survey effect

Numbers of non-random ('active') schools and pre-school centres committing to the survey was expectedly higher than for randomly chosen ones. The percentage of pre-school centres taking on the survey (over half of those mailed) was expectedly higher than for schools with primaries participating at a slightly higher rate (about half) than secondaries (about a third). The sheer size of some secondary schools and the need to get through to different staff in these larger organisations was a factor in enlisting their support. There is a possibility that the randomly chosen schools who agreed to participate are more likely to be on the whole more active than the global population. There may have been some reticence to participate from some schools and pre-school centres because they felt that their provision was poor with respect to outdoor learning; in contrast, it was expectedly easier to enlist the co-operation of schools that had staff who were

interested in providing better outdoor experience for pupils. One pre-school centre specifically said they were taking part because outdoor provision was identified in their most recent inspection as needing improvement – this does not necessarily mean of course that they enhanced their provision during the period of the survey but clearly, there is the potential for an effect from being surveyed. While the survey effect may have elevated figures slightly, the possibility that some events were not recorded especially in secondary schools may have depressed scores.

Record returns from the survey

By the end of the survey we had 823 outdoor learning records. The numbers of records across the three sectors are given in tables 17, 18, and 19 below.

Table 17 Pre-school centre returns by sample and type

Type of event record	Random sample	Non-random sample	Total
On-site/ Daily Log	121	94	**215**
Off-site	9	23	**32**
Total	**130**	**117**	**147**

Table 18 Primary returns by sample and type

Type of event record	Random sample	Non-random sample	Total
Non-Residential	111	190	**301**
Residential	2	12	**14**
Total	**113**	**202**	**315**

Table 19 Secondary returns by sample and type

Type of event record	Random sample	Non-random sample	Total
Non-Residential	102	117	**219**
Residential	14	28	**42**
Total	**116**	**145**	**261**

APPENDIX B

Survey instruments

RESIDENTIAL EVENT RECORD for SCHOOLS

Young People's Interaction with the Natural Heritage through Outdoor Learning

Please complete **both sides** of this form.

Start date of event		**End date of event**		**Office use only**			
Location of residential experience:							
Class level(s) involved (Please tick)	P1	P2	P3	P4	P5	P6	P7
	S1	S2	S3	S4	S5	S6	__
Number of pupils participating	Female:			Male:			
Short description of Main Outdoor Events and Activities (maximum of 4)							

Type of Outdoor Experience (select **one** broad category)		Tick
Local Area	These take place near the school, in local gardens, parks, or natural areas, probably within walking distance. Activities are likely to be lead by teachers.	
Field Work and Visits	These probably take place further from the school site in an area with special qualities or specialist support and transport to reach. We are considering field study centre, nature centre, farms, parks or gardens.	
Outdoor Adventure	These often (but not necessarily) take place further from school requiring specialist equipment and expertise.	

Main Focus of Event (Nominate **no more than three** in order of priority)	(1,2,3)
Nature	
Society / community	
Nature-society interactions	
Oneself / personal development	
Health or fitness	
Working with others, developing groups	
Practical activities or skills	
Conservation	
Influencing change / advancing a cause	
Play / celebration / enjoyment / leisure	
Subject area(s) (Please specify):	
Other (Please specify):	

Please give additional description of purpose/activities:

PLEASE TURN OVER/

SIDE 2

Please record

- **the main outdoor activities undertaken each day,**
- **the approximate time spent outdoors for each activity,**
- **the number of boys and girls participating in each activity.**

Day	Description of Activities Undertaken	Approx. time outdoors for each activity	Number of boys	Number of girls
1				
2				
3				
4				
5				

If your trip lasts longer than five days, please use another Event Record – complete SIDE 2 only and staple to this Event Record.

Please return completed forms to your Research Co-ordinator. Thank You.

NON-RESIDENTIAL EVENT RECORD for SCHOOLS

Young People's Interaction with the Natural Heritage through Outdoor Learning

Date of event		**Length of time spent outdoors**		_____hrs (to nearest $\frac{1}{2}$ hour)			**Office use only**	
Class level (Please tick. Use more than one record sheet per event if necessary)	Nursery	P1	P2	P3	P4	P5	P6	P7
	S1	S2	S3	S4	S5	S6	__	__
Numbers Participating	Female:				Male:			
Location								
Short Description of Event / Activity								

Type of Outdoor Experience (select **one** broad category)		Tick
School & Nursery Grounds	These take place in grounds which belong to the school or nursery, usually the playground. Activities are likely to be lead by teachers.	
Local Area	These take place near the school, in local gardens, parks, or natural areas, probably within walking distance. Activities are likely to be lead by teachers.	
Field Work and Visits	These probably take place further from the school site in an area with special qualities or specialist support and transport to reach. We are considering field study centre, nature centre, farms, parks or gardens.	
Outdoor Adventure	These often (but not necessarily) take place further from school requiring specialist equipment and expertise.	

Main Focus of Event (Nominate **no more than three** in order of priority)		1, 2, 3
Nature		
Society / community		
Nature-society interactions		
Oneself / personal development		
Health or fitness		
Working with others, developing groups		
Practical activities or skills		
Conservation		
Influencing change / advancing a cause		
Celebration / enjoyment / leisure / play		
Subject area(s) (Please specify):		
Other (Please specify):		

Please give additional description of purpose/activities:

Please return completed forms to your Research Co-ordinator. Thank You.

DAILY LOG for PRE-SCHOOL CENTRES

Young People's Interaction with the Natural Heritage through Outdoor Learning

Today's Date:		**Code (Office Use):**			
Duration of Morning Session:		**No of Girls attending:**		**No of Boys attending:**	
Duration of Afternoon Session:		**No of Girls attending:**		**No of Boys attending:**	
Today's weather:					

Start Time	**Description of Main Outdoor Activity/Activities**	**Approximate Time outside:**	**Numbers Outside**	
		(mins / hours)	**Girls**	**Boys**
8.00am				
9.00am				
10.00am				
11.00am				
12 noon				
1.00pm				
2.00pm				
3.00pm				
4.00pm				
5.00pm				

Main Focus of Today's Outdoor Activities (Nominate **up to three** in order of priority)		1, 2, 3
Nature		
Society / community		
Nature-society interactions		
Oneself / personal development		
Health or fitness		
Working with others, developing groups		
Practical activities or skills		
Conservation		
Influencing change / advancing a cause		
Play / celebration / enjoyment / leisure		
Subject area(s) (Please specify):		
Other (Please specify):		

Please give additional description of purpose / activities:

When complete, please return this sheet to your Research Co-ordinator. Thank you.

OFF-SITE TRIP LOG for PRE-SCHOOL CENTRES

Young People's Interaction with the Natural Heritage through Outdoor Learning

Date of trip:		**Duration of trip (to nearest 1/2 hour):**		**Code (for office use):**	
Location of trip:		**No. of Girls participating:**		**No of Boys participating:**	
Short Description of Event / Activity					
Today's Weather					

Type of Outdoor Experience (select **one** broad category)		Tick
Local Area	These take place near the school, in local gardens, parks, or natural areas, probably within walking distance. Activities are likely to be lead by pre-school centre practitioners.	
Field Work and Visits	These probably take place further from the school site in an area with special qualities or specialist support and transport to reach. We are considering field study centre, nature centre, farms, parks or gardens.	
Outdoor Adventure	These often (but not necessarily) take place further from school requiring specialist equipment and expertise.	

Main Focus of Today's Outdoor Activities (Nominate **up to three** in order of priority)		1, 2, 3
Nature		
Society / community		
Nature-society interactions		
Oneself / personal development		
Health or fitness		
Working with others, developing groups		
Practical activities or skills		
Conservation		
Influencing change / advancing a cause		
Play / celebration / enjoyment / leisure		
Subject area(s) (Please specify):		
Other (Please specify):		

Please give additional description of purpose / activities:

When complete, please return this sheet to your Research Co-ordinator. Thank you.

outdoor connections
taking learning outdoors

WHAT WE SURVEY	WHAT WE DON'T
Outdoor curriculum events, extended curriculum events and extra-curriculum events are likely to be surveyable. For example, trips to Outdoor Centres (eg Blairvadach, Raasay, Lagganlia), or Outward Bound Centre (eg Loch Eil), trips to outdoor historical sites or outdoor urban studies activities are included.	Time spent outdoors as part of break time for primary and secondaries unless this is organized formally as a learning event by a teacher/other. The research co-ordinator has a separate form for describing the grounds.
Some outdoor sports are acceptable. We are surveying for all adventure sports such as hill walking, rock climbing, canoeing, orienteering, skiing, cross country running and outdoor archery and shooting. These may happen as part of the school day or be extra curricular/extended curriculum.	Outdoor sporting activities which take place as part of PE/Games provision. We are not surveying pitch-based/field games (such as football, rugby) or track events (such as running). We are not surveying for golf.
Events in the school grounds. These may be using the outdoor discussion area where it is important that this be outdoors, gardening or maintaining the school pond. (There must be a rationale for conducting the activity outdoors rather than indoors.)	We are not generally surveying lessons which happen outdoors that could just as easily have been conducted indoors (eg impromptu classes sitting in the school grounds to read a book or have group discussions).
Residential and non-residential trips where some portion of the time is spent outdoors. (Please do include a trip to another country or to a city or town where some portion of the time is spent outdoors and where the focus may be team work or fun rather than subject specific.)	We are not surveying trips that are almost entirely or wholly indoors (such as trips to the theatre, indoor museums or science centres).
Field trips for Biology (eg to look at habitats, pond dipping), Geography (eg to identify cloud formations) etc.	We are not surveying lessons about the outdoors which happen indoors.
Other subject related events: (eg a groups of pupils measuring the circumference of tree trunks as part of a mathematics lesson or art lessons using the outdoors for inspiration)	We are not surveying time spent outdoors while traveling to and from indoor events unless there is a focus for this travel time (which could be fitness or team building).

What if I'm not sure? DON'T WORRY! Contact the Research Team (yourself or via your school's Research Co-ordinator) to discuss it, or Complete an Event Sheet anyway, and the Research Team will decide on receipt whether to include it.

APPENDIX C

Interview schedule

PHASE ONE (if relevant – pre-school centres mainly)

Bring me to a place in the grounds/school garden/outdoors where you like to spend time doing something special – perhaps you go there on your own or perhaps with others. It will be a place that's important to you. It could be that you go there during class time with a teacher for your lessons or that you go there during break time alone or with others. [Take photograph there]

During each phase notice and ask about: time-place/natural aspects; organisational mediation; artefacts; social/cultural aspects; in/out of school.

Prompt Ideas: *Can you say a bit more about […]? What is it about this activity that makes it important to you?* Prompts .. any or all of *: You will have to help me understand why this is important (place/activity) for you. Is it who you are with, who is watching, what you do, how you do it, where it is taking place, what difference it makes for you? How would you feel if you couldn't do this/be there any more?*

PHASE TWO (if relevant)

I want you to look at the photos you brought in. I want you to think about picking one to talk about – I am especially interested in places that are important to you or activities outdoors that you have really enjoyed doing there. It could be some thing you have done once and would love to do again or it could be something that you regularly do.

PHASE THREE – (repeat for habitats, animals and activities sets)

Say: *Have a good look at all the photographs. In a minute I want you to choose a (put your sticker on one) photo. [It's not necessarily the best looking photograph that I want you to pick] – it's more which photo reminds you of places you have been/things you have done outdoors that are important to you in some way. Perhaps the photo is of place that you'd like to go to or suggests you might do something there. It might remind you of a place or a time that is special to you in some way.*

Why did you pick that one? What's this photo about for you then? Follow the stories here for salience. Prompting: Lead towards relationship to nature only after open questions are used/if these are unworkable. Repeat: Animals and Activities.

[Time Permitting] *For the last round, I want you to pick one that shows people doing something that you would like to do but have never done before.*

PHASE FOUR (if relevant)

Use any available archived photos from the school/group …

FINAL

- *Do any of the stories, pictures and ideas people have had today tell us about whether children and young people like going outdoors?*

- *What about whether young people have a relationship with nature at all? What do people's stories tell us? What sort of a relationship do young people have with their natural surroundings would you say? Why? How come? Do people in this group have any feelings for nature would you say? Tell us more about that. How do we know this?*
- *Do any of the comments, photos, stories you have told or heard help us understand how young people might relate better to nature?*
- *Are there particular times and places and activities that allow young people the opportunity to get to know and care for nature?*
- *What about doing something to make a difference to natural environments?*
- *Some of your stories relate to schools. Where do schools fit in to all of this? Given what you have said, do you think that schools offer a reasonable chance for pupils to get outdoors and get learning outside about these things? What would you change about school when it comes to outdoor learning if you could?*

APPENDIX D

Focus group details

Scope and number

Table 20 Original target numbers of focus groups and interview locations

	Pre-school centre-age		**Primary-age**		**Secondary-age**		**Total**
	Pre-school centre-based	Out-of-pre-school centre	School-based	Out-of-school	School-based	Out-of-school	
Nos.	2	4	2	4	2	4	**18**

Table 21 Focus groups completed

Focus group	**No. of respondents and gender**	**Participant age range**
Interviews with pre-school centre aged respondents		
1st	2 m, 2 f	3–4
2nd	2 m, 2 f	3–5
3rd	2 m, 2 f	3–5
4th	4 m, 2 f	3–5
5th	2 m, 2 f	3–5
6th	2 m, 2 f	3–5
Interviews with primary school aged respondents		
1st	3 m, 3 f	5–12
2nd	2 m, 2 f	10–11
3rd	4 f	10
4th	2 m, 1 f	9–13
5th	3m	10–11
6th	4 m, 2 f	11–18 (Special School)
Interviews with secondary school aged		
1st	1 m, 4 f	15–18
2nd	2m, 2 f	14–16
3rd	1m, 3 f	14–16
4th	1 m, 2 f	14–16
5th	4 m	14–16
6th	3m, 1f	14–16
Total	**76 (44m, 32f)**	**3–18 yr olds**

We sought to interview broadly equal numbers of boys and girls, if not within each interview, then within each sectoral subset of interviews. After piloting, we opted to try to have a maximum of four children in each of these interviews (see table 20, above).

We opted to run two focus groups within primary and two within secondary schools and the remaining with groups convened outside of school. For pre-school centres we opted to run the interviews solely within

pre-school centres themselves as this seemed the most pragmatic approach with this age group in terms of access[29]. In the end, 8 of the 18 focus groups were conducted *outside* of schools and pre-school centres. Some of these were outdoor education groups and some were simply youth groups or gatherings of young people who had no specific passions for outdoor activities. One interview was conducted with disabled children in respite care.

The spread of the locations of the 6 pre-school centres and 4 schools where focus groups were conducted is given below. One of the schools was a special school. One interview was with young people in a unit for challenging pupils attached to a school.

Table 22 Distribution of focus groups by urban/rural classification

	Pre-school centre	**Primary**	**Secondary**
Remote rural area	1	1	0
Accessible rural area	0	1	0
Remote town	0	0	0
Accessible town	1*	0	1
Other urban area	1	0	1
Large urban area	3	0	0
Totals	**6**	**2**	**2**

*Note: All school-based Focus Groups were in state-run schools, with the exception of this pre-school centre-based group.

Piloting and inter-researcher communication

In addition to the 18 planned interviews, three pilots of the interview methods were conducted with pre-school centre, primary and secondary school age children. These were conducted by pairs of interviewers in two of the three pilots so that researchers could watch each other work and take notes to be used in inter-researcher meetings later. Inter-researcher reliability was further ensured by continuing to conduct interviews in pairs after the pilot period, discussing issues arising as a team and refining the methods iteratively as focus groups continued.

Access and consent

The usual considerations regarding accessing schools and interviewing under-16 year olds applied. Parental and head teacher consent was central to achieving good access. We sent out consent forms and information about the interview process for teachers and parents ahead of time. Consent forms requested parents to agree to the children's participation as well as noting that they had discussed the idea of the interview with their children. Respondents' consent was on-going in that they could take their leave of the interview process at any time or opt to remain silent.

[29] Sourcing suitable 'out of pre-school centre' contexts may or may not have enhanced the data we would gather but there are few easily accessible formal or informal groups for pre-school centre-age children that offer opportunity for outdoor experience and learning.

Ethics

Given the nature of the work, consideration was given to the ways in which informed consent would be agreed and how interviews would be conducted with children and young people. Anonymity, and degrees of non-traceability were explained. The proposal was submitted to the Institute of Education's ethics committee for approval. Evidence of enhanced disclosure from Disclosure Scotland was made available for all researchers meeting with young people. The British Educational Research Association's ethical code was adhered to as a minimum requirement. The research was conducted in such a manner as to make it visibly separate from the schools' own self-evaluation work and development.

In constructing the photosets, care was taken to include only those for which we have been given consent and only to use them for agreed purposes. Where photos contain images of people who had not directly given their consent, then the holder of the photograph was asked to consult with these people about gaining their permission to use them. Verbal consent was accepted in these cases.

We assured confidentiality for respondents and organisations through anonymising transcripts, coding of data and a requirement that traceable elements of data gets filed in a safe place. Non-traceability can be achieved to quite a good degree through removing identifiers (such as place names). The spread of geographical locations also allows for non-traceability to be achieved for the most part. We continue to take care when quoting from interviews and reporting on schools and pre-school centres to do so in an anonymous manner. We ensured researchers worked with young people in contexts where other adults were nearby (though not in 'earshot' necessarily).

APPENDIX E

Devising and using the photographic prompts

Constructing the photosets

In devising photographic prompts for use in the interviews we devised a rationale for their use and selection in line with the overall interview strategy. The photosets were devised to allow for a great deal of interpretation by respondents and successively prompt respondents in a more focussed manner. The following continua of criteria were used to determine what was depicted in the photosets.

Domesticated spaces/animals ←——————→ Natural/Naturalised

Inhabited/Built environments ←——————→ 'Wild' Uninhabited Places

In set A we included images under the sub-headings of: House/Garden, Playpark, Parkland, Farmland, and uninhabited places such as Sea, Loch, Mountain, River, Pond, Moorland, Woodland.

Some of the animals depicted in Set B were red squirrel, adder, dolphin, osprey, butterfly, cow. No people were present in these photographs.

The following range of activity types were depicted for pre-school centre age photos in Set C:

Pond dipping, walking, canoeing, collecting leaves, throwing stones, rock pooling, cycling, pony riding, feeding ducks, camping, plant surveying, feeding a goat, playing in snow, climbing trees, swimming, watering plants, looking at bugs.

For school-age photos of activities we included mostly similar content with older children plus: dog walking, high mountain climbing, rock climbing with hard hats, mini-beast field studies, windsurfing, boating.

Different configurations of people were included in the activity types: some activities were more solo while others were in groups. Some groups were more formal while others were informal. Some activities were mediated by outdoor educators while others were more obviously school-based. We included school grounds as well as more far-flung locations. We included some photographs where there were adults and children of various ages.

The photographs we used were printed in colour on A5 cards and laminated. A full complement of the photographs we used is provided in Appendix F.

Using visual prompts

Respondents were invited to look at one photoset at a time and to select one photo from each. For set A, they were asked to select a place that they had been to or would like to go to that was important to them; for Set B they were asked to select an animal or bird that reminded them of a time or place they had been to that was important or interesting for them. For Set C, they were asked to select a photo of an activity that they had done or would like to do.

Sequencing the photosets in the order we described meant that we started off with discussions of outdoor environments that depicted habitats in a general way (Set A). These photos simply afford the possibility of triggering a memory of comment about 'activities' that they may have done in places like these. Thereafter, the prompts shift the focus onto some of the more tangible aspects of natural areas (Set B: birds, 'bugs' and animals) and latterly into depictions of actual outdoor activities (Set C). In this way, respondents were afforded the opportunity of talking about activities ahead of the more prompted photographs in the 'activities' photos.

Most of the above interview methods allowed for individual contributions about outdoor learning events while also encouraging group debate. Individuals' stories were used as leaping off points of discussion across group members. Drawing on Martin (2005) we explored in some depth children and young people's relationship to the natural heritage and the role of outdoor learning and experiences in this. Martin's (2005) work in this area suggests that one's relationship with 'nature' has emotional as well as cognitive components. Respondents' orientations to 'nature' can be understood by exploring what they feel as much as what they know. Respondents' responses to photographs of outdoor experience was revelatory in this regard.

APPENDIX F

The images used as prompts

Two sets of photographic prompts were prepared for the focus groups. One for nursery age children and one for primary/secondary age young people. There were three subsets: outdoor places, animals and activities. The first two were the same for both age groups.

Outdoor places used with both age groups

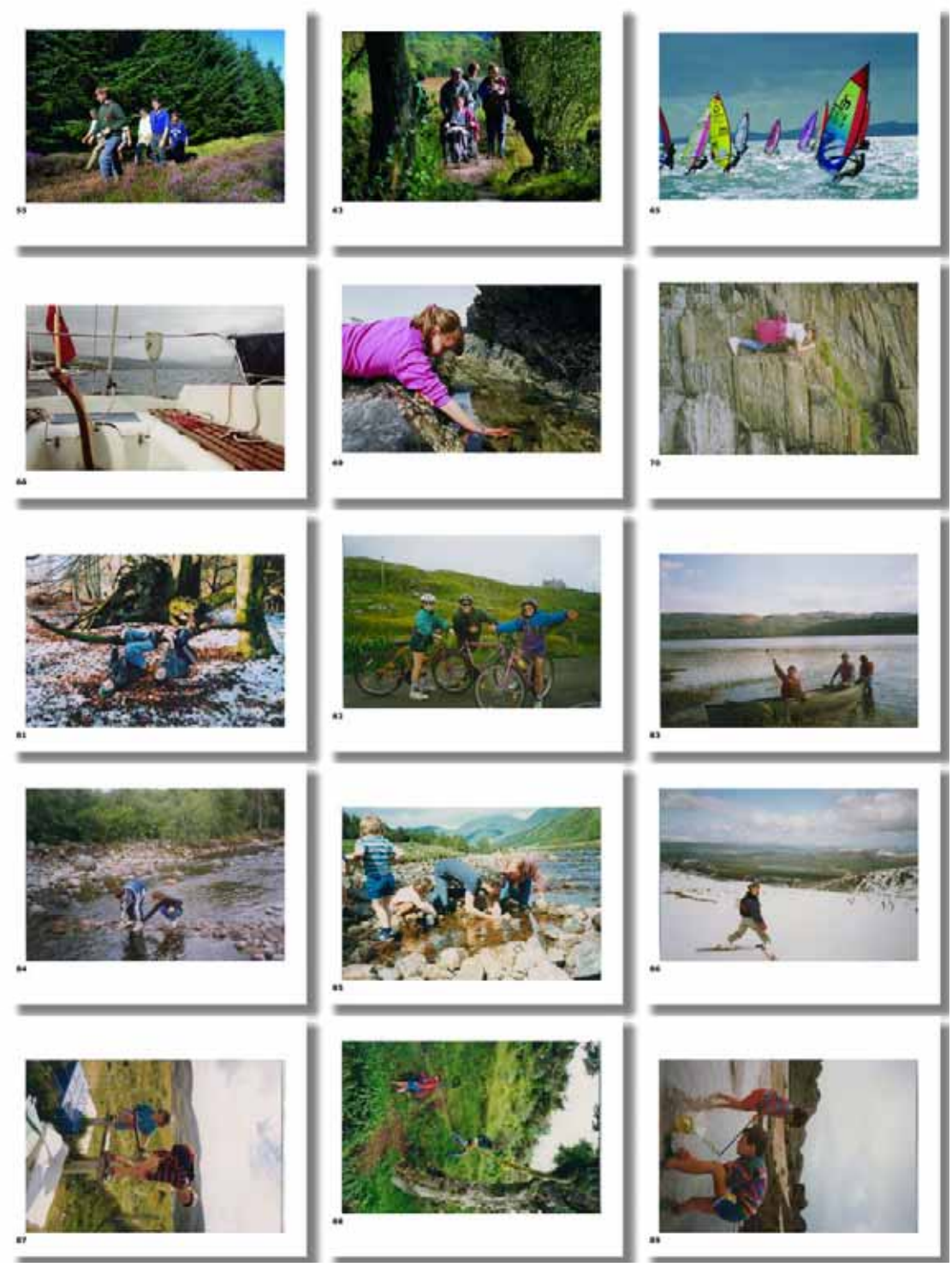
animals used with both age groups

The first two sets of images did not contain people and were used to introduce memories and aspirations about the outdoors and to encourage discussion and stories of personal experience in the outdoors. In their responses the young people were asked to refer to the number of the picture so that once transcribed it was possible to locate the response to an image. The images in the outdoor places set contained a continuum from wild remote places to more local and domestic and familiar places. This was the first set of pictures which was used and was followed by the animal set.

Separate outdoor activities sets were compiled for each of the age groups, however there were some pictures that were common to the two age groups. The purpose was to depict images of young people doing things on their own or with others which would prompt recall of memories of similar activities, related experiences or aspirations for engaging in the activity. Some images are of solitary activity, some with families, some with peers and some in a more formal learning or group setting.

Activities : nursery age group only

Activities: primary and secondary age group only



Activities: both age groups