

A marvellous opportunity for children to learn

**A participatory evaluation of Forest School
in England and Wales**



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Executive summary

Forest School is an inspirational process that offers children, young people and adults regular opportunities to achieve, and develop confidence through hands-on learning in a woodland environment. The new economics foundation (nef) and Forest Research began working in partnership to evaluate Forest School in 2002. This work involved two phases. Phase 1 was undertaken in Wales and developed a methodology for capturing the link between Forest School activities and their impact on individual children. Phase 2 built on this work and tracked a small number of children in England over an eight-month period. This publication describes both phases of the evaluation and presents the results of the evaluation.

The key features of Forest School were identified as:

- the use of a woodland setting
- a high ratio of adults to pupils
- learning linked to the National Curriculum and Foundation-Stage objectives
- the freedom to explore using multiple senses
- regular contact for the children with Forest School over a significant period of time

The participatory action-research approach taken brought together the experience and knowledge of key stakeholders to discuss the impacts of Forest School on the children involved. From these discussions a self-appraisal template was developed for use in the field so that practitioners could track children against a number of positive outcomes. In Phase 2 of the work, eight themes emerged from the analysis of the data. Six were related to the impacts on children in terms of confidence, social skills, language and communication, motivation and concentration, physical skills, and knowledge and understanding. The other two themes were related to wider impacts: practitioners gaining a new perspective on the children, and a ripple effect as children took home their experiences and told family and friends about what they had learnt.

It is evident that some of the children displayed positive changes in behaviour that surprised practitioners and could be attributed to their involvement in Forest School. It was also clear that for many children it takes time for change to occur. They need to become familiar with Forest School and gain confidence, and this can take many weeks. The recommendations at the end of this report highlight that Forest School should be used on a wider basis as a vital part of children's outdoor learning experience. Support from local education authorities is crucial for effective Forest School provision. The role of Forest School in children's physical development also has positive health implications.

Contact with the outdoors is often limited for many children in modern society, and the vital experience of using the outdoors and being comfortable in nature is being lost. The *Education Outside the Classroom Manifesto* is to be published in 2006, highlighting that education outside can motivate pupils and bring learning to life. Forest School can contribute to four of the five outcomes that are part of the government framework, *Every child matters* (Chief Secretary to the Treasury, 2003), identified by children as key to well-being:

1. be healthy
2. stay safe
3. enjoy and achieve
4. make a positive contribution

In addition, the Forest School setting itself can be seen as a useful formative evaluation tool for practitioners in understanding and assessing a child's skills and abilities, and in identifying how these change over time.



PART 1

What is Forest School?



Defining Forest School

Forest School has been defined by the Forest School England network as:

An inspirational process that offers children, young people and adults regular opportunities to achieve, and develop confidence and self-esteem through hands-on learning experiences in a woodland environment.

Forest Education Initiative, 2005a

There are several key aspects to Forest School that differentiate it from many other outdoor education activities. Although some of the individual features outlined below are not unique to Forest School, when brought together they provide an experience for children that they would not get elsewhere. These defining features are important as they emphasise how and why Forest School is different in terms of its benefits for children.

Broadly, these features can be described as follows.

- **The use of a woodland (and therefore 'wild') setting** that is framed by strict safety routines and established boundaries that allows the flexibility and freedom for child-initiated learning and other innovative approaches to learning to take place in an environment of low risk to health and safety. The woodland setting is particularly important for children from areas of Britain where there is little opportunity for contact with the natural environment.
- **A high ratio of adults to pupils** (groups are small, with approximately 12 children per session). This allows children to undertake tasks and play activities that challenge them but do not put them at undue risk of harm. It also allows practitioners to get to know the individual learning styles and abilities of the children in their charge.
- **Learning can be linked to the National Curriculum and Foundation-Stage objectives** while setting those objectives in a different context; it is not just focused on the natural environment. By incorporating a range of approaches to learning (such as undertaking small and easily achievable tasks), children are encouraged to develop their innate curiosity and motivation to learn. This is particularly important for those who find it difficult to learn in a strictly 'classroom' environment.
- **The freedom to explore using multiple senses** is fundamental for encouraging creative, diverse and imaginative play. The focus is on the 'whole child' (not only academic ability) and how they can develop their own learning styles at their own pace.
- **Regular contact for the children over a significant period of time** (including all year round, and in all weathers). 'Regular' can mean anything from weekly or fortnightly for one morning, afternoon or day for 12 months or more. This is coupled with a clear set of safety routines and boundaries that allow children to develop a responsible attitude to risk while becoming familiar and confident enough to interact with an ever-changing natural environment.

Accommodating different learning styles

In Britain, Forest School is being used with a range of groups from early-years children to those with special needs, and young people and adults with emotional and behavioural difficulties. The Forest School setting is adaptable and allows for a flexible approach to learning, which can accommodate a range of learning styles. Learning styles are the different ways in which children best absorb and process information: kinaesthetic (learning by doing), linguistic, interpersonal, mathematical and visual. Forest School is an approach that can allow practitioners to shape teaching methods to an individual's learning style. Research in America (Taylor *et al.*, 1998; Fjortoft, 2004) has found that children who play in natural environments undertake more diverse, creative and imaginative play, forming an important part of a child's development.

Where does Forest School come from?

The development of Forest School began in Britain in the mid-1990s; it is based on a Scandinavian idea that considers children's contact with nature to be extremely important. Forest Schools were developed in Scandinavia in the 1950s and focused on teaching children about the natural world. Nursery-nursing students from Bridgwater College in Somerset visited Denmark in 1995 to see the programme there (Forest Education Initiative, 2005b). They decided that the approach was appropriate for use in Britain and considered how to apply what they had witnessed to childcare provision in the college's Early Years Centre.

The development of Forest School in Britain

There is an increasing number of Forest Schools in Britain. Some are privately run, while others are supported by local education authorities (LEAs) that sometimes employ Forest School Co-ordinators or allow existing personnel (such as an early-years co-ordinator) to have the role as part of their broader remit. Some Forest Schools are part of the Forest Education Initiative (FEI), which was set up in 1992 as a partnership between the Forestry Commission, the Tree Council, the Woodland Trust, the British Trust for Conservation Volunteers, Groundwork, The Confederation of Forest Industries (UK) Ltd (ConFor), Community Forests, the Field Studies Council and the Timber Trade Federation. FEI's aim is to:

Increase the understanding and appreciation, particularly among young people, of the environmental, social and economic potential of trees, woodlands and forests and of the link between the tree and everyday wood products.

Forest Education Initiative, 2005c

The FEI website provides information on what FEI is and provides learning resources written by teachers that can be used to develop knowledge and skills across a range of curriculum subjects. Forest School represents just one aspect of FEI, and not all Forest Schools have links to FEI.

Although this study has focused mainly on the use of Forest School in education, it is important to note that the potential for Forest School reaches far beyond primary and secondary education. There are many practitioners who recognise the value of the experience for young adults or people with learning difficulties. Although the application is different, the same principles hold true of allowing participants to learn by doing, and providing opportunities for personal and social-skills development. This is particularly important where individuals have not been able to benefit and thrive in other educational settings.

How does Forest School work?

A school may be interested in finding out more about Forest School, or it may have been contacted by someone within the LEA about getting involved. The LEA may have identified a site or number of sites for Forest School provision, and these may be privately or publicly owned. The LEA can advise teachers about what Forest School entails and how children might benefit from attending. Some LEAs, such as Oxfordshire, can provide a school with the support of a trained Forest School leader who will lead sessions for the school for the first 6 to 12 months. Teachers within participating schools are then encouraged to train as Forest School leaders for their school in the longer term. Schools have to organise and pay for their own transport for pupils to the site; there are also costs involved in supplying waterproofs for the children and training a Forest School leader.

Training and quality assurance

Teachers, support assistants, nursery nurses and others can train as Forest School leaders at a number of different levels, depending on whether they want to lead sessions or support others who are leading them (Forest Education Initiative, 2005a). Training runs from a basic course at Entry Level to Level 3, which enables those qualified to run a Forest School independently. There are also opportunities for training in teaching others to be Forest School leaders.

Discussions about quality assurance arose because of a range of concerns including how Forest School is run by different groups, ideas about the nature of Forest School and issues of standards and liability. Because of these issues, FEI commissioned a contractor to explore how a quality-assurance scheme might be set up, and what it should include. A consultation document was produced. If a scheme is set up, then a Forest School could work towards accreditation, which would show, for example, that it included a range of systems such as risk assessments, appropriate leader training, Criminal Records Bureau clearance for those working with children and an appropriate environmental assessment of the Forest School site.

What happens at a Forest School session? An early years example

A typical early years session starts with planning by the practitioners, who are often either teachers or Forest School leaders. They will consider beforehand the changes in behaviour that they might expect to see in the children. The children put on outdoor clothing and walk or go by minibus to the woodland site. A number of LEAs and schools try to ensure that they do not have to travel for more than 15 minutes by minibus to get to a site.

Once children become familiar with the wood, they may run and lead the way to the site. So while they are learning to deal with the uneven terrain of the woodland floor, they are also developing a sense of independence and confidence in being outdoors. A later session for children with several weeks' experience of Forest School might include learning how to build a fire on which to toast marshmallows. If this is the case, the children, who will all have been assessed as capable of acting responsibly around fire, will be briefed on what they are going to do, with the safety issues being discussed in detail.

They will be told that they need to gather firewood, and the practitioner will discuss which type of wood burns best by showing examples of green and dead wood. The children will be asked to find three or more different lengths and thicknesses of wood to start the fire, which leads them to practise their mathematical skills as they add and subtract different twigs and try to assess their thickness and dryness. These activities also allow the children to develop linguistically because they are describing spontaneously what they are doing as well as talking about the feel and appearance of the twigs they are collecting (e.g. describing whether they are wet, dry, long, fat or thin).

The children may then be directed, with the help of an adult, to use a penknife to whittle long sticks into a point for holding their marshmallows over the fire. There is likely to be a discussion about what type of stick is needed to toast a marshmallow (e.g. one that is bendy so that it does not burn easily and one that is almost as long as your arm, for safety), again providing opportunities for developing language. The children will learn about safe behaviour around the fire area, and the concept of melting points (Figure 1).

The success of the session depends a great deal on the skill of the Forest School Leader or teacher who is able to identify and capitalise on the varied opportunities for learning that emerge from the children's interaction with the setting. A successful Forest School will excite and inspire participants to benefit from and – most importantly – enjoy the learning experience.



PART 2

Aim and approach to evaluation



Aim and overall approach

The Forestry Commission was interested in the work being undertaken at Forest School and wanted more information about this activity and its impact on children of different ages. The Commission approached Forest Research and nef (new economics foundation) to develop a project that would explore the impacts of Forest School on children attending. The resulting project involved two phases, the first undertaken in Wales and the second in England, incorporating a range of schools, approaches and different ages of children. The overall aim of both phases was to establish an appropriate methodology for evaluating Forest School and to use this to explore the impacts of Forest School in Wales and England.

Participatory action research

For the first phase of the evaluation, the Forestry Commission (FC) approached nef (new economics foundation) to develop a participative methodology. Forest Research (FR) was asked to manage this work. For Phase 2, FR worked in partnership with nef much more closely in analysis and reporting findings. Both nef and FR consider that evaluation should attempt to measure what is important, and not only the things that are easy to count. This gives evaluation a focus that is different from traditional approaches. It looks beyond targets and outputs to desired outcomes and longer-term impacts of an intervention.

Dealing with complex processes of change requires the development and support of an approach flexible enough to be integrated into the practitioners' routines. Where a methodology draws on principles of action research, the emphasis is on '*a full integration of action and reflection and on increased collaboration between all those involved in the inquiry project*'; the measuring process is concerned with the '*formation of a communicative space*' rather than just a snapshot taken by an objective researcher (Marshall and Bradbury, 2003).

A measuring process conducted in a comprehensive, transparent and participative way can contribute positively to the aims of a project. This can happen by ensuring that the people involved take ownership of the process and are aware of the effects that they are having. This is why nef and FR's evaluation focused a great deal of energy on bringing stakeholders together to develop with them and encourage the use of a self-appraisal toolkit. Practitioners can then measure not only *if*, but also understand *how* and *why* what they are doing brings about positive effects. It is an approach that is about proving and improving (Sanfilippo *et al.*, 2005).

An appreciative approach

'Appreciative inquiry' (Elliot, 1999), in its original form, is an organisational development framework for asking affirmative-based questions that change behaviour. It challenges the traditional problem-solving approach to change that views systems as faulty machines with parts needing to be fixed. Instead it encourages the view that an exploration and affirmation of what works in a system is a more effective and sustainable way to maximise effective performance. For this reason, this evaluation focused on the potential for positive outcomes of Forest School. While acknowledging that learning for practitioners comes also from analysis of where things have gone wrong, we advocate here a method not only for gathering information and learning, but also for using evaluation as a way to inspire the people involved.

Phase 1: Wales

The work in Wales was undertaken in 2002 and 2003 through two different case-study settings (Table 1).

Table 1 Phase 1 Forest School: case-study details				
Pilot	Partners	Schools involved	Pupil profile	Contact time
Duffryn Forest School	Forest Education Initiative, South Wales (Forestry Commission) Groundwork Caerphilly Duffryn Community Link Newport City Council	Duffryn Infant and Duffryn Junior Schools, near Newport, Gwent	Nursery (up to 5 years old) Infant – Nurture (5 to 6/7 years old) Junior – Nurture (9 to 11 years old) <i>(Nurture = children with special education needs)</i>	A half-day per week per group of children throughout each school term
Flintshire Transition, Northop Forest School	Forest Education Initiative, North Wales (Forestry Commission) Flintshire Local Education Authority (LEA) The Inclusion Service, Flintshire LEA	John Summers High School, Queensferry Campus, Deeside Feeder schools for John Summers (number of pupils in brackets): Sandy Croft (13) St Ethelwold's (5) Taliesin (4) St David's High School, St David's Terrace, Saltney Feeder schools for St David's (number of pupils in brackets): Saltney Ferry (5) Wood Memorial (6) Derwen (1)	Year 6 (age 11) pupils from the primary (feeder) schools identified using the following criteria: <ul style="list-style-type: none"> generally working at Level 3, expected Maths SATS Level 3 have the potential to achieve Level 4 vulnerable in transition, possibly lacking support at home possibly lacking social and coping skills low self-esteem probably kinaesthetic learners (learn best by doing) probably not having special needs no regular strong behaviour/personality that may squash others 	<ol style="list-style-type: none"> Three full days and three half-days for each group in the Summer Term Three consecutive full days at a summer school Regular sessions at each secondary school throughout the following Autumn Term

Duffryn Forest School

Duffryn Primary School is near Newport, Gwent. The area is known for high levels of child poverty and has been designated a Communities First Area by the Welsh Assembly, as it is in need of community development. In the public woodland next to the school grounds, a patch of the wood is being carefully managed for Forest School activities. Duffryn Forest School has a close relationship with Community Link, a local residents' support organisation on the Duffryn estate. Members of Community Link worked closely with the school, as they had identified common aims for the estate residents such as raising environmental awareness and encouraging young people into outdoor activities.

Flintshire Transition Project

The Flintshire case study looked at the impact of Forest School contact time on selected groups of Year 6 pupils as they moved from primary to secondary school education. Children were identified by teachers at six feeder primary schools as needing extra support during the transition to two secondary schools. The children spent the last six weeks of their summer term attending Forest School and also had a three-day summer school there. They carried on attending Forest School once they had made the transition to their secondary school (Figure 2).

Figure 2 Discussing activities at Forest School



Methodology development and participatory work

The methodology developed through the work in Wales, and used in England in Phase 2, follows a three-stage cycle: hypothesis, evidence and review. This is based on nef's recent work developing **Prove It!**, a participatory evaluation methodology for measuring the impacts of voluntary and community activity (Walker *et al.*, 2000).

1. **Storyboard** – a participative exercise for stakeholders to establish the propositions and underlying *hypothesis* for their particular Forest School and to choose indicators and ways to collect data. The stakeholders could include practitioners such as teachers or Forest School leaders, or representatives of the local education authority, and parents or representatives of local communities with an interest in education.
2. **On-site data collection and analysis** – using self-appraisal recording templates developed by the practitioners appropriate for their own situation. These were designed in order to record and track observations 'in the field' of *evidence* of the changing behaviour of children.
3. **Reflection poster** – another participative exercise with stakeholders to *review* and acknowledge the changes that may have taken place and learn from their experience. In addition, the stakeholders were encouraged to collect feedback from parents, teachers and the children themselves in the form of self-completed questionnaires or informal interviews.

From the storyboard exercises (undertaken as part of an evaluation workshop (Figure 3)), practitioners chose and agreed on the following propositions for how Forest School can have an impact on the children involved.

Forest School:

- increases the self-esteem and self-confidence of individuals who take part
- improves an individual's ability to work co-operatively and increases their awareness of others
- counters a lack of motivation and negative attitude to learning
- encourages ownership and pride in the local environment
- encourages an improved relationship with and better understanding of the outdoors
- increases the skills and knowledge of the individuals who take part

At the Duffryn and Flintshire Forest School settings, self-appraisal templates outlining these propositions were used for the case-study groups to act as prompting sheets for practitioners to record their observations of the children.



Phase 2: England

The second phase of work was undertaken in England in 2004 and 2005. Forest Schools in Oxfordshire, Worcestershire and Shropshire were chosen as case studies. Table 2 outlines the characteristics of each of the school groups. Forest School practitioners and education policy officers from the three case-study areas attended joint workshops to discuss the impacts of Forest School on children and how the evaluation might be undertaken. This approach has the advantage of enabling learning between stakeholders. These key stakeholders then went back to their case-study areas and organised their own storyboard workshops in order to involve local Forest School leaders, teachers and parents. Each case-study pilot chose six propositions describing how Forest School has an impact on children. Although developed independently, they were very similar to the propositions identified in Wales.

The Oxfordshire case study chose to describe their propositions in the following way. Forest School:

- increases self-esteem and self-confidence
- improves social skills
- contributes to the development of language and communication skills
- improves physical motor skills
- improves motivation and encourages concentration
- contributes to children's knowledge and understanding of the environment

The Shropshire case study, which was unable to hold a storyboard workshop, decided to choose the same propositions as Oxfordshire. Worcestershire identified similar propositions with some small differences. This group sought:

- changes in self-esteem and self-confidence
- changes in ability to work co-operatively and in awareness of others
- changes in levels of motivation and attitudes towards learning
- changes in language skills (speech, listening and mark-making¹)
- demonstration of an improved relationship with and understanding of the outdoors
- changes in levels of skills and knowledge (numeracy, information communication and physical development)

In the Worcestershire pilot, a scoring system was used as a guide for recording changes against each of the above propositions. A score of 1 meant that 'no change' was seen in the child, 2 meant 'slight change' and 3 meant 'dramatic change'. Participants in Worcestershire also made weekly notes of general comments for each child.

Oxfordshire and Shropshire chose to use a self-appraisal template in which room for descriptive comments was made for each child against each proposition on a weekly basis. They also gave a baseline score for each child on each proposition before they started their Forest School sessions. This was based on a 1–10 scale with 1 being poor and 10 excellent. These were repeated after the children had finished all their Forest School sessions. In addition, Shropshire decided to use the standard Effective Early Learning (EEL) Programme two-minute observation templates (Betram and Pascal, 1997).

¹ 'Mark-making' is using natural materials to create words and pictures in mud or sand.

Figure 4 Creating a piece of forest art



Alongside this qualitative and quantitative information, practitioners recorded background data for each session, noting what was taking place, the aims of the session, and highlighting weather conditions. These practitioners were not researchers but they did have detailed knowledge of the children and were often able to observe them both in the classroom and at Forest School. Oxfordshire and Shropshire also collected some informal interview data from parents, teachers and children at the end of the series of sessions.

Examples of the methodologies used, the self-appraisal templates and data collected can all be found on the Forest Research website (Forest Research, 2006). Data collection was carried out over an eight-month period. The maximum number of sessions for a school within that period was 24, the average across all the schools was 15 separate sessions per group. Twenty-four children were randomly selected by teachers from the classes that were attending Forest School. Seven schools were involved in total. Parental permission was sought for data collection to take place.

This longitudinal approach, of repeated data collection over eight months, was undertaken in order to explore changes in the pupils over time. Forest School leaders and teachers used the self-appraisal templates to track changes as the children participated in Forest School every week or every fortnight. There was a range of data collected, particularly in Phase 2 of the evaluation, from the descriptions and scores recorded on the self-appraisal templates alongside the interviews and comments from parents, teachers and children. This is important as it provides more robust evidence if changes that are noted by teachers are also identified by Forest School leaders, parents and carers. The recording practitioners, whether they were teachers or Forest School leaders, were all very familiar with the children they were observing, which meant that they could see subtle differences and assess whether any changes for a particular child were unusual and different from their normal behaviour (Figure 4).

Table 2 Phase 2 Forest School: The pilot groups

The site		
Name of Forest School site:	Bishops Wood Centre	Bishops Wood Centre
Ownership of site (public or private):	National Grid Transco	National Grid Transco
Is the site fenced off?	Yes	Yes
The school		
Name of group/school:	The Marlpool First School Speech and Language Unit	The Fairfield Community Primary School
Size of school (small <50 pupils; medium 50–200 pupils; large 200+ pupils)	Medium	Medium
School setting (urban or rural)	Urban	Urban
How long has the school been sending children to FS?	School year 04/05	School year 04/05
How many children does the school send to Forest School altogether?	10	24
Which types of group do they send? (e.g. age, special needs)	Mixed age group, speech and language	Nursery age
How did the school find out about or become associated with Forest School?	Head of school approached the Forest School (FS) Co-ordinator	FS Co-ordinator approached as it is a Fresh Start school
The group		
Role of the recording practitioner for this study	Class teacher	Teacher (nursery)
Number of children in the Forest School group	10	12 (in each group)
Number of children in pilot study sample	3	6 (3 each in morning and afternoon groups)
How familiar is the recording practitioner with the children in the sample?	Some would have been familiar at the beginning; others new to group	Very; she is class teacher to the group
How much discussion is there between the recording practitioner and the class teacher?	They are the same person. Dialogue with FS leader each session	They are the same person. Dialogue with FS leader after each session
Socio-economic status of the children in the study (if known)	Mixed – all backgrounds	Inner city. Sure Start Local Programme. High unemployment/low wage. High percentage lone parents

	Claughton	Westminster College	Foxcombe Woods	Cantlop Wood	Cantlop Wood
	Private	Private	Private	Private	Private
	Yes	Yes	Yes	Yes	Yes
	Finmere School	Pegasus Nursery	New Hinksey	Condoover	Longnor School
	Small	Large	Medium	Small	Medium
	Rural	Urban	Urban	Rural	Rural
	2 years	2 years	3 years	1 year and 1 term	1 year
	16	50	25	8	17
	Key Stage One (KS1) class	Nursery and Year 3 class	Foundation Stage	Foundation Stage	Foundation Stage Forest School/KS1
	Taster day	Taster day for teachers	Through taster days	School approached by Shropshire County Council (SCC)	School approached by SCC
	Teacher (1) and FS leader (1)	FS leader and nursery nurse	FS leader	Pre-school leader	Teacher
	16	10	12	8	17
	3	3	3	3	3
	Very	Very	Very	Very	Very
	Full discussion after each session	Full	Full	Same person	Same person
	Professional intake	Education Action Zone (Oxford Excellence Cluster)	Inner city	Professional	Professional (including farming)

PART 3

Evaluation results: Wales



Overview

The findings in both phases of the evaluation were approached in the spirit of an appreciative inquiry (as explained above in Part 2). The approach started from the point of view of ‘positive propositions’, designed to contribute to the achievement of the initiative by seeking out what was successful, why it was successful and how to do more of it. This did not mean that the lessons to be learned from identifying what can go wrong were ignored. For example, it was clear from the analysis of the data collected that at first some of the experiences for the children and the practitioners were negative. There were a number of reasons for this.

- Some children were initially unfamiliar with, and therefore appeared uneasy in, the woodland setting.
- Being out in all weathers meant that children could get wet, muddy and physically uncomfortable. This concern was often noted by the practitioners in their observations of children who were not sufficiently absorbed in an activity, and expressed by parents who were not aware of the importance of ensuring that their children had appropriate clothing.
- Some of the teachers were unfamiliar with, and therefore somewhat nervous about, teaching and managing children in an outdoor setting.
- Where there were problems with logistics (particularly concerning transport to and from Forest School sites) the failures in communication and resulting delays meant that valuable on-site time was wasted.

Through the reflection workshops, stakeholders were able to identify these issues along with any other difficulties, and consider ways in which they might be addressed.

The results in this section for Phase 1 are presented differently to those in the next section for Phase 2, due to the ways in which data were collected and analysed. One of the aims of both phases was to encourage practitioners to tell the story of their particular setting in relation to the effects of their endeavours on the children taking part. For both phases of the work, the names of the children in the study have been changed.

Results from Phase 1

For each of the six propositions, the findings are presented here by describing the hypothesis for how the Forest School process can lead to specific positive outcomes. For each proposition, the summary boxes illustrate the link between the Forest School process, the short-term outputs and the longer-term outcomes. Evidence is given after each box from the accounts and observations of teachers and Forest School leaders using the self-appraisal templates (Murray, 2003).

Box 1 Proposition (i): Forest School increases the self-esteem and self-confidence of individuals who take part

Forest School process	Specific outputs	These lead to the desired outcomes by...
<ul style="list-style-type: none"> • Low pupil:adult ratio • Tool use: to encourage trust and responsibility • Creating and making things (e.g. shelter, tools, masks) • Child-led games and activities (e.g. songs and actions) • Opportunities to experience a different environment 	<ul style="list-style-type: none"> • More one-to-one time with an adult • Pupils learn new skills, and can recognise that they have learnt something new • Pupils produce physical evidence of work (e.g. shelter, tool, mask) • Taking part in fun group activities, and having the chance to lead them (e.g. choosing words for a song) • A different focus for an individual with a difficult home life 	<ul style="list-style-type: none"> • The extra support assists pupils in achieving goals • Pupils see what they can achieve, which contributes to increased self-esteem and self-confidence • Resulting in happier children who are more independent

Charles was reluctant to make eye contact with adults, and would hold his hand up to his face to avoid looking at people. By the fifth Forest School session he was joining in with the Forest School song, including taking part in the actions. He even smiled at one of the Forest School leaders (Duffryn, Reception).

Andy had no self-confidence. There were difficulties at home; he appeared vulnerable and was easily upset. He was quiet, worried and scared of failure. With the one-to-one support and encouragement he got at Forest School, he started to get involved. He ended up enjoying the cooking and bread-making. He is an ideal candidate for ongoing sessions (Flintshire, Year 6).

Box 2 Proposition (ii): Forest School improves an individual's ability to work co-operatively and increases their awareness of others

Forest School process	Specific outputs	These lead to the desired outcomes by...
<ul style="list-style-type: none"> • Establishing safety routines (holding brambles for others) • Sharing tools and equipment • Sharing tasks (e.g. fire-making) • Building a shelter 	<ul style="list-style-type: none"> • Following safety routines • Making something together as a group • Listening to instructions • Talking to others to share tasks • A visible output of a shared piece of work 	<ul style="list-style-type: none"> • Gaining experience of working in a team • Helping others and sharing tasks and tools • Building trust among peers and towards adults • Understanding and employing safety routines that make individuals more aware of those around them • Seeing the importance of listening to instructions

The original teacher's assessment states that Malcolm has Attention Deficit Hyperactivity Disorder *'and that when moving around the school he can be aggressive and tends to push people out of the way'*. On the last day of the Forest Summer School, the practitioner's notes report that *'He came with his dad, who was very pleased with everything – made a mallet! Malcolm was very helpful to me when I was cooking'*. He was keen to make a cup of tea for his dad using the Kelly kettle (Flintshire Year 6).

Taylor *et al.*, (2001) studied children with Attention Deficit Disorder and their use of greenspace; their findings show that natural areas can help to increase children's attention spans.

The children had to collect twigs of a similar size to build 'Eyore's Shelter'. They searched together and some used a saw to cut twigs, taking it in turns and waiting patiently. Children who would not normally form friendships worked together, taking turns to lead or follow (Duffryn, Reception).

Box 3 Proposition (iii): Forest School counters a lack of motivation and a negative attitude to learning		
Forest School process	Specific outputs	These lead to the desired outcomes by...
<ul style="list-style-type: none"> • Diverse activities and experiences to suit different children (focused on individual learning styles) • Small achievable tasks (e.g. stick-sharpening) • Child-led activities and games • Discussions and reflection activities for children on what they have done and learnt 	<ul style="list-style-type: none"> • Opportunities to take part, and do different things • Small tasks easily achieved (a sharpened stick) • A learnt activity that provides a 'coping strategy' (e.g. stick-whittling to channel anger or frustration) • The need to communicate, more conversation • First-hand experience of the outdoors 	<ul style="list-style-type: none"> • Providing experiences that offer the child something exciting, positive and personal to write/talk about in class • Motivating the child • Improving communication • Wider expectations from teachers • Better concentration because the individual's attention is held by something that interests them • Learning a coping strategy to channel anger or frustration

Jodie was described in her teacher's report as not sufficiently achieving her level in school *'partly due to attitude, not prepared to have a go'*. During the early sessions she was giggly and silly, and worked only when closely supervised. However, at the three-day summer school she *'was keen to finish a shelter'* (Day 1) and *'Concentrated well on making axe, clay and bow drill'* (Day 2) (Flintshire).

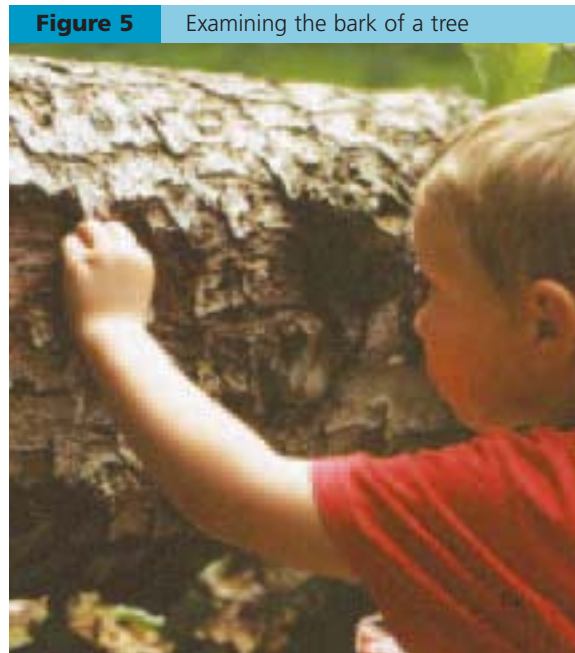
For Sam, feedback from the head described his behaviour as excellent. He developed a 'whittling' coping strategy for when he felt angry (Flintshire).

Box 4 Proposition (iv): Forest School encourages ownership and pride in the local environment

Forest School process	Specific outputs	These lead to the desired outcomes by...
<ul style="list-style-type: none"> • Planting (e.g. a hedge) • Looking after a piece of woodland over time (e.g. clearing scrub and brambles and seeing the results in springtime) • Nature projects • Showing visitors around and involving them in Forest School activities (parents and carers) 	<ul style="list-style-type: none"> • Things made by the children in the woods (e.g. shelter, planted hedge) • Collections for displays and studies • Photographs and diaries describing activities • Parents and carers becoming involved in activities 	<ul style="list-style-type: none"> • Actively taking care of an outdoor space • Becoming more observant of changes when returning to the same plot over time • Encouraging the recognition of sights and sounds of flora and fauna • Talking to others about their Forest School, being able to share experiences out of school

Before coming to Forest School, Russ had no interest in the local woodland. However, in the course of the sessions he took part in all the activities, particularly one exploring the area, collecting materials for a collage. He showed a particular interest in a piece of bark that was coloured differently on both sides (Figure 5). He does not drop litter in the woodland. When the school inspector came to observe, Russ was keen to show him around and talk about Forest School (Duffryn).

Jenny remembered the dragonflies on the bridge from the previous week and seems to notice much more in the forest. She wants to share knowledge and talks a lot, although is difficult to understand sometimes (Duffryn, Nursery).



Box 5 Proposition (v): Forest school encourages individuals to build a closer relationship with and better understanding of the outdoors

Forest School process	Specific outputs	These lead to the desired outcomes by...
<ul style="list-style-type: none"> • The Treasure Tree (finding a hidden object that becomes the focus for the day's activities) • Mini-beast hunts • 1-2-3 where are you? Hide-and-seek game • Being out in all weathers in different seasons • Doing own risk assessment 	<ul style="list-style-type: none"> • Routines in Forest School similar to routines in class • Collection of bugs and insects for classroom nature projects • Exploration of a woodland area • Dressed in suitable outdoor clothing that keeps you dry • Following and understanding safety rules (e.g. crossing roads safely) • A realistic understanding of potential risks 	<ul style="list-style-type: none"> • Linking inside routines with outside ones to provide a safe structure to the unfamiliar surroundings • Demystifying the outside, and becoming more aware of the environment, 'bringing the outdoors inside' • Having the freedom to explore 'wilderness' in a safe way • Encouraging more independent exploration • Building confidence and realising that it is all right to get wet and dirty

In the second session, Barbara got very cold sitting around the log circle. She cuddled up to the helper and did not participate in any activities. In session three she was nervous of the fire, and did not want to help build it or pour water on it to put it out. Session five was another cold day; Barbara participated fully in the session, keeping busy and warm. She helped to build the fire and to put it out (Duffryn, Reception).

'We then started to make goblins, I went with X and we picked the leaves for the goblin; Y was there as well. There was a flower that was poisonous, that would make your heart beat so fast that you would have a heart attack. Now I am careful with every flower that I pick, especially if I have not seen it before.'

Diary extract, pupil in the Flintshire Pilot

Box 6 Proposition (vi): Forest School activities increase the skills and knowledge of the individuals who take part		
Forest School process	Specific outputs	These lead to the desired outcomes by...
<ul style="list-style-type: none"> • Helping to set safety rules • Speaking and listening to others • Writing up and recording Forest School activities (communication, IT) • Making objects (e.g. pictures of houses and shapes out of sticks – measuring, problem-solving, creativity) 	<ul style="list-style-type: none"> • Made objects (e.g. tools, and artwork) • Using maths to measure and sort • Opportunities for more communication • Writing and drawing exercises • First-hand experience for writing exercises • A learned activity that provides a 'coping strategy' (e.g. stick-whittling to channel anger or frustration) 	<ul style="list-style-type: none"> • Expanding use of key skills • Increasing learning • Seeing a connection between abstract concepts and the real world (science and numbers in action) • Becoming more confident to approach problem solving • Learning a coping strategy to channel anger or frustration

Some Forest School activities developed the children's use of language. For example, Tom described a leaf as a 'skeleton leaf... because the fleshy bits have been eaten'; Jenny described a 'SSSShissing' noise when water is thrown on a fire to put it out.

Some individuals became more observant. For example, Russ pointed out the different colours of a piece of bark, remarked on the weather and noticed an aeroplane's vapour trail high in the sky. For Russ, this was all unexpected behaviour.

Duffryn school inspection

An Estyn (Her Majesty's Inspectorate for Education and Training in Wales) Inspection of Duffryn Infant School took place in 2003, and the resulting report included a number of positive comments about the Forest School:

A noteworthy feature of the school's curriculum is the forest classroom created in the nearby woodland area adjoining the school. This provides very good learning and social development experiences out of the classroom, in the natural environment, for pupils.

Kirkham, 2005

This is a considerable achievement as Forest School started at Duffryn only in 2000, and to begin with there were many negative perceptions of the woodland within the local community. The school staff had to work very hard to convince local people that taking children into the woodland for learning purposes was a good idea.

What contributes to an effective Forest School process?

In the reflection workshops, the process of Forest School was explored. These workshops can be undertaken at the end of a project or, if the sessions are on-going, they could be held every 6 to 12 months to assess progress. The success of Forest School relies on specific activities that are managed and supported in a particular way. The background and support against which those activities are carried out is important. Where it works well, the trained leaders are provided with a thorough understanding of the theory and practice of particular tasks. The evaluation of the Flintshire and Duffryn pilots enabled ten important success factors to be identified that practitioners described as generic to Forest School.

1. Trained and experienced Forest School leaders recognised and accredited by the schools, who are confident to deliver sessions.
2. Enough adults at each session to ensure a low child-to-adult ratio. This allows leaders to concentrate on individuals with learning or behavioural difficulties.
3. The same Forest School leaders for each group throughout a series of sessions, who develop a rapport with the children.
4. Close contact and good communication between the school staff and the Forest School leaders, so that it is clear that the sessions are assisting teachers in fulfilling their role back in the classroom.
5. A prepared and established site where all the sessions are delivered, that is safe and easily accessible.
6. Good access to the Forest School so that travel to and from the site is not unduly disruptive to the school routine.
7. Activities linked to the school curriculum.
8. Familiar routines and structures to sessions that encourage discipline, safety and the confidence of the children in an unfamiliar environment.
9. Enjoyment by the teachers and Forest School leaders who gain personal reward by seeing a child achieve something new.
10. Parent and carer involvement in Forest School activities, strengthening the relationship between a school and the local community.

PART 4

Evaluation results: England



Results from phase 2

For Phase 2 of the evaluation, the practitioners and policy officers for each pilot agreed on their own specific positive propositions (as described in Part 2). The recording practitioners sent their completed self-appraisal templates to FR and nef (new economics foundation) for analysis. The data were analysed by exploring in detail the changes highlighted in the children week by week. In this way, themes emerged from the data analysis that cut across each case-study area. It quickly became clear that the themes could not be looked at in isolation. For example, by being better able to communicate, a child might increase their self-confidence, which may mean that they work more as part of a team with their peers to complete an activity and thereby contribute to their continued development of language skills. Eight themes were identified; six related to the impacts on the children (Box 7) and two related to the wider impacts of Forest School (Box 8) (Murray and O'Brien, 2005).

Box 7 Six themes underlying the propositions of change

1. Confidence	2. Social skills	3. Language and communication
Characterised by the self-confidence and self-belief that comes from children having the freedom and the time and space to learn, grow and demonstrate their independence.	Characterised by an increased awareness of the consequences of actions on other people (peers and adults). The acquired ability to undertake activities with others, either by sharing tools and tasks or taking part in co-operative play.	Characterised by the development of more sophisticated uses of both written and spoken language (vocabulary and syntax) that is prompted by a child's visual and other sensory experiences. These experiences can also stimulate and inspire conversation among children who are otherwise reluctant to engage in dialogue with peers and adults.
4. Motivation and concentration	5. Physical skills	6. Knowledge and understanding
Characterised by keenness to participate in exploratory, learning and play activities; also an ability to focus on specific tasks and to concentrate for extended periods of time. In conversation at school or at home, children display a positive attitude to Forest School in particular, and to learning in general.	Characterised by the development of physical stamina and gross motor skills – the physical skills and co-ordination allowing the free and easy movement around the Forest School site. As well as the development of fine motor skills, this includes the effective use of tools and the ability to make structures and objects, e.g. shelters, dens or creative art projects.	Characterised by a respect for the environment and an interest in the natural surroundings: making observations and insights into natural phenomena such as seasonal change, and the ability to identify different species of flora and fauna. This can be reflected in improved academic attainment.

Box 8 Two themes on the wider impacts of Forest School

1. New perspectives	2. Ripple effects beyond Forest School
<p>Forest School can give teachers and practitioners a new perspective and understanding of the child as they observe them in a different setting. A different relationship can develop between children and teachers as the former see the latter in a different setting, and see them coping with some of the same challenges as they face themselves.</p> <p>The Forest School setting also provides an evaluative space to identify the individual learning styles of each child.</p>	<p>As a result of taking an active part in Forest School, teachers gain the opportunity to inform their own practice, and adapt their approaches to outdoor learning.</p> <p>Owing to children's enthusiasm for Forest School, they bring the experience 'home'. This can result in changes to out-of-school routines and behaviour, with parents taking their children outdoors more.</p> <p>Parental interest in and attitude to Forest School can change over time; parents have the opportunity to develop a different attitude to the outdoors, including altered perceptions of risks.</p>

Each of these eight themes is outlined and described in detail in the rest of this section. For each theme there is a brief summary of how each is characterised. The headings in the boxes ('features', 'benefits' and 'example behaviours') can provide the basis for practitioners to choose their own indicators of change – their 'ways of knowing' that change is taking place.

Confidence

This theme is characterised by the self-confidence and self-belief that comes from children having the freedom, time and space to learn, grow and demonstrate their independence.

Box 9 Confidence

Features Forest School is a place where:

- Children take part in regular and frequent sessions throughout the school year in all weathers
- Children are taught strict routines for safe behaviour outdoors
- Children are allowed to explore and discover new experiences for themselves, and often the learning opportunities are child-led

Benefits As a result:

- Children have the time and space to become more at home in a new and unfamiliar environment
- The routines become embedded and provide a framework for safe exploration
- The freedom allows children to develop a responsible independence, and the confidence to take risks and initiate their own play and learning

Example behaviours This is often manifested by:

- Children demonstrating a greater self-belief in their capabilities
- Children relating well to their peers and to adults in the Forest School setting through speech and eye contact
- Children appear more relaxed, keen to learn and assertive in a non-aggressive way

Frequent and regular sessions

One of the key elements that sets Forest School apart from other approaches to outdoor learning is that the children attend on a regular basis and over an extended period of time. In this way they gain benefits that could not be achieved in a few isolated sessions. It is clear from this evaluation that a number of children took a long time to become familiar and confident with Forest School.

It took Wayne (age 4, New Hinksey, Oxfordshire) nine sessions – most of the first term – before it was noted by the practitioners that he was keen to go to Forest School. Chloe (age 4, New Hinksey, Oxfordshire) appeared unconfident in a woodland setting, possibly because this was not an environment she was familiar with. However, after seven sessions she was generally more cheerful about going to Forest School. These long time periods indicate that children who may not have regular contact with the natural environment need time to become familiar and comfortable with it. In this way the children are allowed to develop a relationship with, and understanding of, the woodland at their own pace. Over time, as the children's confidence grows, they become more independent in the free atmosphere of Forest School.

One practitioner found that Greg (age 5) did not seem familiar with woodland when he first started Forest School. However, by his fourth session, it was noted that:

Greg is learning a huge amount about his environment through touching and playing.

Longnor, Shropshire

In his first session, Anthony (age 5) was not confident, did not seem to enjoy the forest and was expressing worries and holding on to an adult's hand. By his fourth and fifth sessions he began to explore the setting more freely.

His confidence with his surroundings has increased dramatically.

Longnor, Shropshire

The practitioner noted that, as his confidence increased, Anthony began to find the wider forest itself more interesting than any task he was engaged in, and this was interpreted as a positive step. The practitioner felt that Anthony was learning to initiate his own ideas for play, thereby demonstrating that he had found the confidence to try out new activities.

Lisa (age 5) had experience of the outdoors, as she lived in the countryside. However, she was very quiet at the beginning of Forest School, whereas by her fourth session she was becoming more confident, independent and starting to face new challenges. She eventually began to take on a leadership role, showing the other children in her group what to do, and in turn they started to see her as a leader. For Lisa, sharing her existing experience with her peers in a slightly different context provided an important opportunity for her own growth in self-confidence. Lisa's mother partly attributed changes in her daughter's confidence to her taking part in Forest School:

Even though we live in the countryside it is lovely for children to explore together in a wood and I feel the total experience has helped improve my daughter's confidence.

Parent, Longnor, Shropshire

Forest School routines embedded

Routines that are learnt and carried out on a regular basis provide stability, consistency and security. Knowing what to expect provides clear boundaries so that children are left to think and undertake activities more freely. This allows them to build confidence through their experiences. Merlin (age 4) was not happy taking risks and did not have the confidence to leave adults or explore the wood without adult support at the beginning. Initially, recording practitioners noted that he was 'not inspired' by the woods. By his thirteenth session, Merlin's confidence had increased and he was able to work independently away from adults for long periods of time.

[Merlin] has become more confident as Forest School sessions have gone by and now uses the forest with more independence.

Practitioner recorded comment, Finmere, Oxfordshire

Freedom to take risks

Increasing confidence can also lead to a child's greater independence and a desire to explore further than before. Where this creates the potential for danger or harm, either from the surroundings or by taking part in specific activities using tools and materials, the risk is managed rather than avoided altogether. Erin (age 4) gained confidence quickly at Forest School; it was noted that her self-esteem improved and that she was enjoying taking some risks with tool use.

She enjoys the tasks and opportunities to use tools. She recognises the fun in using things that have a risk but is fully aware of it and how to behave correctly.

Practitioner, Condoover, Shropshire

Erin is so confident in the outdoors now it's incredible.

Parent, Condoover, Shropshire

Child-led learning

As the children gain confidence and become familiar with the woodland, they start to take on challenges. A key feature of Forest School is that by allowing this safe framework for children to make their own discoveries, the setting is flexible enough to be adapted to what interests them. According to Harris Helm and Gronlund (1999), *'Young children construct their knowledge best through active, engaged, meaningful experiences that provide interaction with their environments and others'*. Esta's mother noted this feature as having a positive effect on her daughter's ability to learn:

She does a lot of nature stuff at home but sometimes absorbs more by doing it at school or repeating something in a different environment.

Parent, Finmere, Oxfordshire

Social skills

Improvement in social skills is characterised by an increased awareness of the consequences of actions on other people (peers and adults) and the acquired ability to undertake activities with others (Figure 6).

Box 10 Social skills

Features Forest School is a place where:

- Children are encouraged to work with each other in the pursuit of tasks that need more than one pair of hands, e.g. sawing a log or building a shelter
- Materials and tools are shared
- Children are given the freedom to play independently of adult intervention, or are guided by the rules of games that encourage co-operation

Benefits As a result:

- Children become accustomed to working independently from adults, and with each other
- They gain an increased awareness of others' personal space and are able to form new friendships as they identify abilities that are valued by their peers
- They learn what can be achieved with more than one pair of hands

Example behaviours This is often manifested by:

- Children negotiating with each other to achieve group tasks
- Demonstrations of 'pro-social' or pro-actively helpful behaviour
- Children relating positively to members of their peer group
- Joining in with group activities, or encouraging others to do so

Figure 6 Building a mini-shelter for toy animals



Pro-social behaviour

Forest School can be seen as successful when children who initially kept themselves apart from the group become much more inclined to take part in group activities and to help others. This can happen to the extent that a child regularly demonstrates what is described as 'pro-social behaviour'. Pro-social behaviour can be characterised by giving, helping, sharing and comforting others, and is a key indicator of the presence of social skills. This is acknowledged as an important part of a child's development as they learn to accept, get along with, and work with others.

Fantastic! Children are happy, calm, helpful to each other. They have bonded as a group better than any group of children I have worked with in 23 years.

Staff member, Longnor, Shropshire

Towards the end of his Forest School sessions, Jeremy (age 4, Pegasus, Oxfordshire) was regularly playing with other children. This demonstrated a change from his initial reluctance to take part in Forest School. It was after his first term that he started to enjoy himself more and when he joined in singing the Forest School song with the other children, the recording practitioner expressed real surprise saying: *'Joining in with singing is not something Jeremy does! Very unusual.'*

Opportunities for helping others

Greg (Longnor, Shropshire) started off at Forest School by not working or walking with others, but by his sixth session he was working as part of a group – *'he was absolutely on task'*. Fiona (age 4, Condoover, Shropshire) did not interact much with other children at the beginning and tended to speak only to adults. By the end of her second term, she had become good friends with Erin, with whom she worked and played regularly. Leanne (Pegasus, age 4, Oxfordshire) was not a naturally collaborative worker but her Forest School activities provided her with opportunities to help others by handing out waterproof trousers or cups at snack time. She was also starting to learn to wait her turn when it came to tree-climbing.

Evidence from the three case studies showed that the time spent in Forest School allowed children who initially were not confident to work or play with others to identify apparently new skills that practitioners were not aware that they had. When these children were given greater freedom to express themselves, this helped to build their confidence. A child's social skills represent one of the more difficult of the propositions to assess. This requires a high degree of insight and intimate knowledge on the part of the practitioner in order to distinguish subtle differences in behaviour. Often it is the small yet significant changes that point towards Forest School having a positive effect.

Serena (age 4, Pegasus, Oxfordshire) was physically confident but unwilling at first to engage with others. When she tried to move a log by herself she realised that she needed help and asked for this from another child. Wayne (New Hinksey, Oxfordshire) was a solitary child who needed a lot of adult support and liked to have familiar adults around him. The practitioner noted that he wanted to be friends with other children but that he found it hard to connect with them. He did find a new friend in session eleven but still tended to follow others and echo them rather than work constructively with them. However, one activity in a later Forest School session saw Wayne leading others with a map. Justin (age 4, Condoover, Shropshire) tended not to engage with his peers partly because he seemed to prefer working alone and was independent enough to do so. He did try to interact more with others when the group went on a special walk in aid of the Asian tsunami disaster. The practitioners encouraged him to work with others in session nine and he did this very well. Merlin also made progress:

Merlin didn't react to the others and was reluctant to join in; he turned to adults for help rather than his peers. At the beginning of July 2005 the fire had been built and three children were left to help with the fire. Merlin helped the children select the right sticks for the fire, and gave them directions about how to approach the fire carefully and encouraged the others.

Practitioner, Finmere, Oxfordshire

Learning assertiveness

Even for children who were already able to work and interact with others, there were improvements in the development of their character across a range of strengths and skills. Esta (Finmere, Oxfordshire) was said to be a sociable child and interacted well with others. However, over her Forest School sessions she became better able to assert her place among her peers and to hold her own with older children than she had done in the classroom. Lisa was quiet and appeared very unconfident at the beginning of her Forest School experience, but she started to work more with others after a number of sessions:

Sam and Lisa were working beautifully, very little conversation used but they both understood the purpose of what they wanted and made a beautiful garden.

Staff member, Longnor, Shropshire

Language and communication

Progress in language and communication is characterised by the development of more sophisticated uses of both written and spoken language (vocabulary and syntax) that is prompted by visual and other sensory experiences.

Box 11 Language and communication

Features Forest School is a place where:

- Practitioners plan activities and allow for opportunities that facilitate natural and spontaneous talk
- Children are encouraged to use all their senses to facilitate the learning process and to excite their imaginations
- There are more variable and unpredictable situations than in a classroom environment, e.g. the weather, found objects and observed natural phenomena, changes to the woodland environment

Benefits As a result:

- Children communicate their ideas to peers on practical issues and in the creation of imaginary play
- They are inspired to talk freely about Forest School back in the classroom and at home
- More descriptive language is used to describe (and try and make sense of) the unfamiliar environment they find around them, e.g. using 'slurpy, squelchy' to describe a muddy puddle

Example behaviours This is often manifested by:

- Children being better able to work co-operatively – as they are able to negotiate with others to achieve group tasks
- Children becoming more confident and feeling better able to communicate with peers and adults
- A developed use of language by children (verbally, and in mark-making and written work)

Increased and developed use of language

Forest School can play an important role in language development and communication as it can help to facilitate natural spontaneous talk and the use of descriptive language. It is often the case that children are so excited and inspired by their experiences in the woodland that they can hardly wait to tell teachers, peers and parents (Figure 7). For example, Leanne is on the Special Educational Needs register; her mother reports that Leanne likes to tell people about Forest School:

Normally she tells family members about it on the day and over the weekend, and any other people such as neighbours she can find to talk about it.

Leanne's mother, Pegasus, Oxfordshire

Leanne has learnt the days of the week due to Forest School because she is so keen on going. She does not need to ask anymore what day of the week it is and how many days there are until the next Forest School as she can work it out for herself. She also started to use descriptive words such as 'squidgy' to describe mud. Greg had a low baseline score for his use of language at the beginning of the first term of Forest School sessions. He had a tendency at first to rush off without thinking and try to do his own thing, although he was often unable to complete a task on his own and needed others to direct him. By his third session he was starting to initiate his own ideas. He also showed that he had thought about and understood fire safety:

Helen (practitioner): Would it be safe to leave the fire burning?

Greg: No, you could burn yourself really hotly.

Helen: How could we put it out?

Greg: Get water and throw it on to it.

Longnor, Shropshire

Figure 7 FC ranger talking with children about what they have found



By his twelfth session, although his descriptive vocabulary was still 'limited', the practitioner said that Greg's recognition of woodland plants was increasing. Also during one session he said he was going to make matchsticks (the session was focused on preparing wood for a fire). The following quote shows that on this occasion he was looking to involve others in this activity. He asked the other children to listen as he broke a twig:

This has got a really good snap hasn't it?

Greg, Longnor, Shropshire

Greg worked hard to gather sticks and snap them to the right size for building a fire. He listened carefully for the dry-twig snapping sound that would tell him it was suitable for the fire. He was obviously proud of his work and said '*look how much I've got*'.

When Serena (Pegasus, Oxfordshire) first started at Forest School she was reluctant to communicate and was verbalising only disjointed ramblings. After seven weeks at Forest School she was becoming more coherent. She could be prone to attention seeking and did this by vocalising – shouting, screaming and saying silly words. The practitioner noted that she could be difficult to engage with in conversation and often said things she thought others would not want to hear. Serena became more communicative after a number of Forest School sessions and by session 18 was talking more with peers, not only with adults as she had done previously.

Improved vocabulary

A key part of language development involves interacting with more competent language users. It also demonstrates another example of how a child can use existing skills and capabilities (like being friendly or clever with their hands) which make them able to contribute value in some other way to work with their peers. Esta (age 4, Finmere, Oxfordshire) is naturally a sociable child. Forest School enabled her to interact with older children whom she might not normally work with in her home or school life. Because of this, her language improved throughout the year. According to her teacher, Forest School allowed Esta to develop a different vocabulary that she can transfer to the classroom environment. Erin had a good grasp of language and was confident enough to speak to grown-ups as well as her peers:

There's a woodlouse. Debbie can you brush it into the pot? I've found woodlice in our logs at home. They're in the bottom of the garden.

Erin, Condoover, Shropshire

It was noted by the end of her sessions that Erin was starting to develop new vocabulary. She used the words such as 'slurpy' and 'squelchy' to describe the mud in the wood.

Communication and self-confidence

It is apparent that an example of a child's improved use of language is often associated with their improved self-confidence. In many cases, increased willingness to communicate provided a positive indicator of significant changes in this area. Anthony (Longnor, Shropshire) had good verbal skills but due to a wariness and lack of confidence primarily talked about his worries and concerns. It was not until he became more confident with his surroundings that he started offering his own ideas.

Lisa was noted as a quiet child who hardly ever spoke in school. Over the weeks when she attended Forest School, her confidence quickly improved to the extent that the recording practitioner noted that *'there was more talk at Forest School than we ever hear in school'*. With her improved confidence, Lisa was able to talk more with others and she began asking questions. In the third week of Forest School she used her improved skills to resolve an argument with another child. She worked with Reuben who has Down's Syndrome and instructed him on collecting sticks. Together they built a house for Sally Squirrel. The following speech was recorded by the practitioner.

Let's get some short ones Reuben; that's a big one Reuben. Let's build the house like this.

Lisa, Longnor, Shropshire

Inspired to learn

Children can often find themselves experimenting with their use of language in the creation of imaginary play. Forest School is a different and sometimes unfamiliar environment; it provides opportunities for children to learn new words and make up stories using materials and ideas from their surroundings. In all three case studies, data made reference to the fact that in the latter sessions children had started to use descriptive words as they familiarised themselves with woodland. This development was highlighted by many of the comments from parents:

...his vocabulary has increased and he can name some plants such as cow parsley, buttercups and daises.

Interview with Jeremy's mother, Pegasus, Oxfordshire

[Esta's] language has improved throughout the year. Forest School has helped her develop different vocabulary which she can then transfer to the classroom environment.

Parent's comments, Finmere, Oxfordshire

A specialist speech and language group

One of the groups in this pilot came from the Speech and Language Unit at Marlpool First School in Worcestershire. The Unit has children from 5 to 9 years old with Special Educational Needs covering a range of language difficulties aligned with emotional and behaviour problems. Some children are on the autistic spectrum. Autism is a complex developmental disability that can range on a continuum from severe to mild for different children; it is commonly associated with disturbances in attention, social interaction, motor control and perception (Tonge, 2002). The three children from this group (Worcestershire Group 3) have receptive language difficulties – difficulty in understanding. For example, the 5-year-olds have an understanding level of a typical 2-year-old. Working with these children, practitioners break language down and speak mainly in verbs and nouns (e.g. *'Wood anemones white; white; what else white?'* or *'Where birds, Jeremy?'*) It is hoped the children will reintegrate into mainstream schooling before they reach secondary age. The observations made of these individuals over time demonstrated that all three showed improvements across a range of behaviours and actions, of which their use of language was just one part.

Jeremy (Group 3, Worcestershire) who was part of this group started to communicate more with others on the minibus by his fourth week, and by the end of his sessions at Forest School his self-esteem had risen slightly, as had his ability to work with others. This was reflected in his speech, as he became chattier. It became clear over several weeks that Kelly G was beginning to enjoy conversing. The practitioner noted that she was much calmer at Forest School than in the classroom. As she became more confident she co-operated with others and made more comments, such as *'I love fresh air'* or *'I enjoyed that'* when she climbed a tree.

Motivation and concentration

The theme of motivation and concentration is characterised by keenness to participate in exploratory, learning and play activities, as well as an ability to focus on specific tasks and to concentrate for extended periods of time.

Box 12 Motivation and concentration

Features Forest School is a place where:

- Subjects on the school curriculum are set in a context that is distinct and different from the classroom, particularly supporting children who learn in a different way
- Learning is encouraged to be child-initiated, allowing for imaginative, creative and exploratory activities to take place
- There is a specific focus on how the whole child can benefit from the experience

Benefits As a result:

- Children are eager to participate, and inspired to explore and learn from an unfamiliar environment
- Children initiate their own learning and play activities
- Children focus and concentrate for longer periods of time on tasks and activities that interest them

Example behaviours This is often manifested by:

- Children wanting to learn and wanting to come back to Forest School
- Children being keen and excited about setting off for Forest School
- Children talking freely about Forest School back in the classroom
- Children demonstrating an increased knowledge of the environment, beginning to recognise tree species and a few mini-beasts
- Parents taking more interest in Forest School, due to children's enthusiasm

Developing interest and curiosity

Bredenkamp *et al.* (1992) suggest that '*Activities that are based on children's interests provide motivation for learning. This fosters a love of learning, curiosity, attention and self direction*'. Children's interests motivate their desire to learn. Outdoor environments tend to fascinate children, and so using these environments and allowing children to explore them will tap into children's innate curiosity. A number of practitioners have highlighted how some children have become increasingly inspired through their interaction with the woodland setting.

Child-initiated learning helps in this respect as the teachers can see what intrigues the children and they can then allow them to work or solve problems related to this interest. An important aspect of Forest School is fun: if the children are enjoying themselves they are enthused and encouraged to learn. One of the staff members at Condover Pre-School described how Forest School was a place where children could learn '*in a sense of wonderment and awe*' by being close to nature.

Chloe's parent outlined the importance of finding out more about woodlands from direct experience.

It's a marvellous opportunity for children to learn to be comfortable in and curious about an environment that might seem alien or threatening to children not familiar with woodland. Since most British children don't have woodland or natural habitats for wildlife in their daily experience, Forest School helps them expand their sense of what is possible and natural. It encourages the development of curiosity, patience and observational skills, since the patterns and forms in a forest are not immediately obvious, but take some seeking out.

Chloe's parent, New Hinksey, Oxfordshire

Curiosity and interest in the woodland setting led the children to ask questions. Leanne was particularly fascinated by a stuffed hedgehog that was introduced into one of the sessions.

Is it dead or real? Will it move? Is it a boy or girl?

Leanne, Pegasus, Oxfordshire

Jeremy (Pegasus, Oxfordshire) was interested in looking at the roots of a fallen tree and he went on to suggest that the bark of a tree was like a cover.

Learning about the environment and using imagination

The children can also become excited when they discover new animals, plants or other natural phenomena they have not seen before. The freedom of the Forest School setting inspires children to use their imagination (Figure 8). Practitioners described several examples of the imaginary games invented by the children. For instance, they dig for gold or find hidden treasure and search for dragons. This illustrates the freer atmosphere that is part of the Forest School approach.

Figure 8 Building a house for Sally Squirrel



Physical skills

Improvement in physical skills is characterised by the development of physical stamina and gross and fine motor skills.

Box 13 Physical skills

Features Forest School is a place where:

- There are challenges to physicality, dealing with rough terrain
- Children handle tools, objects and use equipment
- Children acquire physical skills
- Children are generally physically active for the whole session

Benefits As a result:

- There is improved and increased use of motor skills
- Children improve their balance and, through physical activity, develop their stamina
- In the pursuit of a Forest School task or goal (e.g. creative projects such as whittling a stick or making a tree cookie²), they have the opportunity to make use of gross and fine motor skills

Example behaviours This is often manifested by:

- Increased fine and gross motor control; children are more steady on their feet and don't fall over as often
- Visible improvements to children's physical development
- Improvements to physical stamina
- Children beginning to show awareness of the space around them when they move
- Children being tactile and wanting to touch and feel the natural materials around them
- Children becoming more self-reliant and independent moving around the site

Forest School provides the children with plenty of opportunities to improve both gross and fine motor skills. For gross-motor-skill development they use their entire body or several parts of their body at the same time. Improvements in this area might include a better range of movement, improved quality of movement or increasing muscle strength. Fine motor skills involve smaller and more intricate movements such as tying knots and using a stick to draw or write.

Where it is appropriate, the children are taught how to handle tools such as mallets or how to whittle sticks with penknives. However, rather than bringing materials and equipment with them, the children are often encouraged to make use of natural materials found on site. Planned activity can concentrate on specific tasks such as toasting marshmallows over the fire or building small shelters. In addition, the children climb designated climbing trees, slide on muddy slopes, dig in the ground and balance on logs.

² A tree cookie is a cross-section of a tree, which can be used to determine the age of the tree.

Gaining stamina

The children often have to walk to and from the site, even when they have travelled by minibus to the area, and they can improve physically over the weeks with this exercise and through their activities in the sessions. Improving physical stamina is an important part of a child's overall health and well-being. It was clear that four of the Worcestershire children were getting tired on their return journey from Forest School. By the end of their 17 sessions, two of the children were noticeably gaining stamina and were not as tired.

Not tired at all – quicker on walk back.

Angel, Group 2, Worcestershire

Jeremy's ability to maintain stamina has improved.

JF, Group 3, Worcestershire

For Session 23 with the Pegasus school group, Oxfordshire, the day was spent at Wittenham Clumps (not the usual Forest School site) and the children walked for 3 miles during the day.

Coped with the 3-mile walk without a problem.

Leanne, Pegasus, Oxfordshire

Leanne's physical skills were noted as good when she first started Forest School, and they improved over her 24 sessions there. From the beginning she was keen to climb trees and confident when walking and running over uneven ground. She needed adult help to balance on a log at first but by session 11 she was doing this on her own, and in a later session she worked at balancing on a log and enjoyed falling off and trying again, showing some perseverance and testing her skills.

Esta's mother thought that outdoor experience was important for her child as she identified her as not very sporty. She felt that Esta could benefit from improving her balance and being provided with opportunities to clamber over logs and walk across planks. It also appeared that Esta's health could benefit.

Because she is a 'wheezy' child, anything outside helps.

Esta's mother, Finmere, Oxfordshire

Confidence to take risks and face challenges

The development of gross motor skills requires some confidence, and children need to be able to learn to take risks. In Forest School, they learn how to do things safely such as how to move around the fireplace. This is very important and a number of practitioners have commented that when they organised a celebration day inviting parents and siblings it was noticeable that only the children who attended Forest School observed the fire-safety rules (Howes, 2005). The children also explore the space of Forest School and test its boundaries. In one session in Worcestershire (Group 2 in session 14) the children explored to the furthest edges of the wood and found a new climbing tree.

At first, Douglas (Group 3, Worcestershire) was apprehensive climbing a tree and was not confident with physical experiences, but by his fourth session he was getting more involved with physical actions such as rolling, and a week later was not tripping over as much. By session 16, Douglas had improved enough to enjoy and be happy climbing the Forest School climbing tree.

For Worcestershire Group 1, in session 12, the children were engaged in building a shelter and the quote below illustrates how Barry (age 3) in particular gained confidence in physical work.

Excellent! Barry started quietly, joining in, and went looking for sticks and spotted planks! He looked to the adult for permission and then enthusiastically began carrying them to the other adult. He then took further risks, positioning them so he could balance. He happily included others and showed a lovely sense of humour. A confidence not seen before.

Practitioner, Group 1, Worcestershire

Lisa, as her confidence increased, was seen to be dashing through the wood and was dealing with uneven terrain very well and taking large confident strides and balancing well on a log.

Lisa shows such enthusiasm – a joy to see.

Staff member, Longnor, Shropshire

Others started more cautiously, such as Merlin who was not physically confident at first and was unable to face physical challenges. His lack of activity led him to get cold easily in the winter sessions. His fine motor skills were very good but his gross motor skills were poor. By session 5, he was becoming slightly happier with physical situations and by session 14 his improvement was clear:

[Merlin is] improving week by week and significant this week. He set himself a real challenge to balance on a log over a bridge. Needed help at first but managed on his own later.

Staff member, Finmere, Oxfordshire

It has also been observed by the teacher that Merlin has become more confident in his physical education classes at school. He now shows greater perseverance and does not get upset as quickly when he feels something is too challenging. Through his experiences and improvements he is starting to view physical challenges as fun rather than frightening. By helping to change his outlook on physical work, Forest School has increased Merlin's confidence both outdoors and indoors.

Space and opportunity to learn and experiment

There is spaciousness at Forest School that is not available in the classroom, allowing children to move around in a different way (Figure 9). The tactile nature of the natural environment is also very important and it is clear that the children enjoy touching and feeling what is around them, for example by opening their mouths to taste the rain on their tongues. In early 2005, all of the children had the opportunity to spend a session in the snow. They made snowmen, threw snowballs and stamped on icy puddles to break the ice. Of course these activities could just as well take place in the playground or on the way to school. The subtle difference is that in Forest School the children are experiencing these activities in a more formal setting, so the practitioners are automatically making a studied analysis of how the children react to the situation.

It was clear in this study that adapting to the weather conditions can be a physical challenge. It was repeatedly noted that children with less confidence in their physical ability and lower self-esteem became colder more quickly than the others who would rush around and keep busy. Justin was less clumsy at Forest School than in the classroom, allowing his teacher and the practitioner to see that he could move effectively in a different environment. Because of his developed physical skills he was able to use them to show another child around the site.

[Justin] shows no sign outside of clumsiness or lack of spatial awareness he sometimes shows inside.

Practitioner, Finmere, Oxfordshire

Figure 9 Using logs to create their own seesaw



Knowledge and understanding

Progress in children's knowledge and understanding at Forest School is characterised by a respect for the environment and an interest in the natural surroundings.

Box 14 Knowledge and understanding

Features Forest School is a place where:

- Children are allowed to become more familiar with a natural setting that is different and distinct from the classroom
- Children are encouraged to follow rules and routines to deal with risk and recognise safety
- Learning is predominantly child-initiated and elements of the curriculum are presented in a practical context
- Children are encouraged to use all their senses to observe flora, fauna and natural phenomena

Benefits As a result:

- Children are eager to discover things for themselves and they acquire an innate motivation to learn
- They gain an awareness of seasonal change and an understanding of natural processes
- Children are keen for their parents to take them out into the 'outdoors' more often

Example behaviours This is often manifested by:

- Children beginning to recognise tree species and a few mini-beasts on repeated visits
- Children demonstrating curiosity to find out more about the world around them
- Children noticing more around them and showing a respect for their surroundings, and a pride in their knowledge and familiarity with the site
- Children displaying a sense of ownership of their Forest School site and wanting to show new adults its layout and what they do during their sessions

For some children their time in Forest School represents being in a whole new and unfamiliar environment. For example, a mother of one of the children in the study did not attend an open session, describing it as *'not her thing'*. The family has no garden and sometimes visits a nearby playground but does not go further afield or into the countryside. The child's mother only knows that her daughter has been to Forest School because she comes back with muddy clothes. For children such as this, Forest School is an opportunity for them to experience contact with the natural world.

Knowledge of their surroundings

Through repeated contact with the site, children acquire knowledge of the natural phenomena around them. Although this acquisition of knowledge is prompted by the expertise of the practitioner who is there to explain, much of the learning comes through child-initiated exploration. The following comments represent examples of children gaining knowledge from their experiences.

[Wayne shows] improved knowledge of bugs and flowers.

Wayne's parent, New Hinksey, Oxfordshire

Chloe is certainly now more aware of the natural environment and enjoys pointing things out.

Parent's comment, New Hinksey, Oxfordshire

Leanne identifies plants and in general she seems able to name more things out of doors.

Practitioner's comment, Oxfordshire

When asked about changes they noticed in their child's behaviour that they attributed to Forest School, Greg's parent noticed that their son *'is much more concerned about wildlife and animals, and is very protective of them, particularly small animals'*.

Understanding actions and risk

Learning to remember routines and safety procedures are important features of Forest School, particularly when concerned with safety around a fire. For the children this can extend to a wider awareness of risk. The mother of Leanne, a child registered as having Special Educational Needs at Pegasus School, Oxfordshire describes how she sees a change in her daughter:

[Leanne] talks about the whole process of things such as making a fire. Now has an awareness of appropriate clothing for the weather and outdoor activities.

One practitioner cites the example of Fiona initially ignoring the rules about moving around the fire, and stepping into the fire circle (and therefore too close to the flames), whereas she has now learnt to approach the fire safely by stepping over the fire logs from behind and sitting down. And for Erin:

She is knowledgeable about each week's activity, e.g. splitting wood with a bill hook, and how it is done safely or sitting round the fire/toasting marshmallows – how to approach the fire, how long to blow on the marshmallow to make sure it's not hot. She enjoys the tasks and opportunity to use tools.

Practitioner, Condoover, Shropshire

Ownership of the woodland

Becoming familiar and confident within the setting emerges as a strong indicator of the positive changes taking place in the attitudes and behaviour of the children. Like all characteristics, these develop with time as the children begin to remember where things are and are eager to show others. This is sometimes seen as a child demonstrating a degree of ownership of the site, often by taking their parents there out of school hours.

Although Esta was confident at the start of her Forest School experiences, she did not know the site, but after a few weeks when two visitors came to the site she showed them around. Jeremy's mother said that Forest School has definitely helped her son's confidence. *'To start with he said he didn't want to go but now he checks every day to see if it's Thursday and he can go to Forest School'*. She acknowledged though that other factors, such as school and friends, influenced confidence levels.

New perspectives

Forest School can give teachers and practitioners a new perspective and understanding of a child as they observe them in the woodland.

Box 15 New perspectives

Features Forest School is a place where:

- Pupils and adults (practitioners, teachers and support staff) interact in an environment different from the classroom

Benefits As a result:

- Pupils and practitioners gain a better understanding of each other
- There is an increase in trust between pupils and practitioners
- Children develop a bonding relationship with peers and staff
- There is a comparable difference between children's behaviour in normal settings (indoors/classroom) and in Forest School

Example behaviours This is often manifested by:

- Children acting differently or showing behaviour that has not been seen before
- The children being calmer in the classroom after a Forest School session
- Practitioners seeing the children using some of the experiences or words they have learnt at Forest School in the classroom

Forest School provides an opportunity for practitioners to gain a different perspective on the children. Because the experience is very different from being in the classroom, both children and practitioners see each other in a different environment and sometimes facing the same challenges, such as coping with bad weather. Practitioners are able to see the children enjoying themselves and developing new skills, and they are sometimes surprised that some of them reveal a side of themselves that the practitioners have not seen in the classroom. This can help to facilitate a more positive relationship between child and practitioner.

Forest School provides an opportunity for understanding the whole child. The approach also provides teachers with a better understanding of the potential of using the outdoors for supporting children's learning. The quote below emphasises the positive way in which one teacher viewed their own experience.

I feel very honoured to have shared the Forest School experience with the children. To have the opportunity to spend one year in Cantlop Wood is, like the children, something I will never forget. Together we have learnt and developed so much, which will make us all appreciate what is on our doorstep. Parents have told me that we take the environment for granted. To produce a musical instrument from wood has really impressed them.

Staff member, Condoover School, Shropshire

The different perspectives on the children enable teachers to identify aims for improvement in the future for a particular child. Parents can also gain new insights as the children tell them what they have done and become more aware of their environment. It was noticed by his mother that Jeremy (Pegasus, Oxfordshire) had increased his vocabulary because he was able to name a number of plants that he had found and he was keen to impart this new knowledge. Leanne's mother noticed that she now confidently climbs trees and identifies plants. Parents can also gain confidence knowing that their child has experience of using woodlands. On family walks they may feel more able to let their child wander off footpaths and into the trees. Wayne's parents suggested that every parent should take the opportunity to go along to a Forest School open day.

Some teachers felt that the ethos within Forest School provides a calm atmosphere in which the children could explore and experience the natural world.

This experience has been incredibly valuable to our children. We have been lucky enough to have experienced a full year at Forest School and the benefits have been striking. These children now are independent and confident. They are keen to try new experiences both in and out of the classroom and are not afraid of taking risks. Their love of nature is growing, as is their understanding of the world around them – and I mean real understanding that can only come through valuable practical experiences.

Staff member, Longnor School Shropshire

Ripple effects beyond Forest School

Practitioners gain the opportunity to inform their own practice and to adapt their approaches to outdoor learning.

Box 16 Ripple effects

Features Forest School is a place where:

- There are opportunities for school staff members not regularly associated with Forest School to come along and see for themselves how the children work and play in an outdoor environment
- Open days and celebrations days are held so that others can gain an understanding of what takes place, and the children are able to demonstrate their achievements to parents and family beyond the immediate school community

Benefits As a result:

- Parents take more interest in Forest School due to children's enthusiasm and are encouraged by their children to visit the outdoors more often
- Siblings gain an interest in and want to take part in Forest School

Example behaviours This is often manifested by:

- Parents having an opportunity to gain a different view of the outdoors, e.g. the perceived risks
- A different attitude from external practitioners towards the participants and towards the Forest School in general
- Improved self-esteem for the children
- Children asking to visit woodlands at weekends and in the school holidays, and showing parents their new knowledge

The children's enthusiasm for Forest School means that they bring the experience 'home'. This can result in changes to out-of-school routines and behaviour, with parents taking their children outdoors more. Parental interest in Forest School can change over time, giving parents the chance to obtain a different attitude to the outdoors, sometimes including a changed perception of risks (Figure 10). Open days and celebration days are held at many Forest Schools to allow parents, carers and siblings to gain an understanding of the process and allay any worries that parents may have about risks, the process of learning or exposure to inclement weather.

This evaluation highlights that the impact of Forest School occurs not only in the child who is fortunate enough to attend: there are also 'ripple effects' within the family and within the wider community, including the child's school. Many of the children wanted to take their parents to Forest School or to woodland to display some of the knowledge they had gained. One parent stated that the family liked to visit woodlands at weekends; they all put on their wellington boots and their child has told them about the importance of taking drinks and a snack for everyone.

Figure 10 A celebration day to introduce parents to Forest School



PART 5

Conclusions and recommendations



Cross-cutting themes

By working with Forest School leaders, practitioners, teachers and parents, and by tracking the progress of individual children in Wales and England, this evaluation has highlighted key features of how Forest School benefits children's education and personal development. The themes that emerged from the analysis of the data cut across each case study and help to strengthen the case for them being generic to Forest School.

In Phase 2 of the evaluation, in England, FR and nef (new economics foundation) identified in greater detail the impacts of Forest School over a longer period of time. It is clear from the data that some of the children displayed changes in behaviour that were wholly or partly attributable to their involvement in Forest School. In other areas it is more difficult to say whether the children may have improved anyway through natural development as they grew.

The Forest School ethos

Forest School has a particular underpinning ethos outlined in the analysis of the data and identified through its key features (see Part 1). Some schools are struggling with funding and cannot afford to transport children to Forest School; they are bringing the philosophy into their school grounds by creating more natural areas. While this is a good idea, woodlands have a particular advantage over other habitats as their structure and layout allows for greater adventure and mystery. For example, woodland provides greenery and cover affording opportunities to hide and create secret places, a feature that can be particularly important for a child's development (Guldager and Agervig Carstensen, 2004; Thomas and Thompson, 2004; O'Brien, 2004; O'Brien, 2005).

The results from this evaluation highlight some of the key advantages of woodlands, including:

- opportunities to use natural materials that are easily found, e.g. to build dens and to create structures and artworks out of wood and leaves
- secret places – woods can be used by the children to play hide and seek, and provide a space for them to engage in imaginative, exploratory and creative play
- many opportunities for observing a range of flora and fauna, for touching different textures (e.g. bark, moss) and listening to different sounds
- a wilder more naturalistic setting than a formal park for example, engaging children's imaginations
- multiple opportunities for interaction with the environment, e.g. climbing trees, making a fire to toast marshmallows, having a treasure tree where the children can work together to find a hidden object
- shelter – there is some opportunity in woods to have shelter from bad weather

Long-term contact with Forest School, involving regular sessions, is crucial in allowing children the time and opportunity to learn and develop confidence at their own pace. Stakeholders generally observed that a one-year period at Forest School was the ideal length of time as this allows children to take ownership of the woodland, observe seasonal changes and move onto more advanced practical-skills development. Children who may view themselves as failures in the classroom can discover new abilities and strengths at Forest School. Psychological research has shown that children's senses are stimulated by nature. Research has also highlighted that these experiences form children's relation to natural areas and that this is often remembered into adult life (Kaplan and Kaplan, 1989; Ward-Thompson *et al.*, 2002). Pyle (2002) argues that '*when experiential contact with nature, in the broadest sense, is diminished, negative impacts spread out to every cultural level*'. Children may lose many physical, emotional and intellectual opportunities such as climbing trees, exploring special places and getting off paths to discover hidden spaces for themselves.

Mainstreaming Forest School

Forest School is for all ages and abilities. The practitioners involved in the case studies would like Forest School to become mainstream within early years education so that it becomes an integrated part of the learning environment. It is important that parents and teachers are involved from the beginning in order for them to be able to gain an understanding of what Forest School entails. Both Shropshire and Worcestershire held celebration days where this understanding was encouraged.

In terms of wider context, there is an important link with the Green Paper, *Every child matters* (Chief Secretary to the Treasury, 2003) which outlines five outcomes identified in consultation with children as key to well-being in childhood and later in life. These are:

1. be healthy
2. stay safe
3. enjoy and achieve
4. make a positive contribution
5. achieve economic well-being

Box 17 highlights four of these outcomes and identifies where Forest School can make a contribution (Department for Education and Skills, 2004).

Be healthy

- Physically healthy
- Mentally and emotionally healthy
- Healthy lifestyles

At Forest School children are physically active a lot of the time, and their stamina improves as they go through their sessions. Their experience can also help to lead to the development of healthier lifestyles as children ask parents to take them on trips to woodlands outside school times. As the children gain confidence and improve their self-esteem, this can increase their emotional and mental well-being.

Stay safe

- Safe from accidental injury or death
- Security, stability and being cared for

The 'wild' and yet controlled safe environment of Forest School ensures that children taking part naturally learn to assess risk. They are encouraged to make sensible and informed decisions about how to deal with unfamiliar and unpredictable situations (such as exploring or climbing trees, using tools to build shelters and dens). Much of the learning comes as a result of the opportunities they have for testing their own abilities in a real-life context.

Enjoy and achieve

- Achieve stretching national educational standards at primary school
- Achieve personal and social development and enjoy recreation

Forest School sets learning in a different context for children, in which they can undertake a range of practical activities and carry out small, achievable tasks. Children can develop their team-working skills and also learn to become more independent. Those who are unfamiliar with woodlands can become confident in using them, and this can form the basis of a life-long relationship with, and enjoyment of, natural spaces.

Making a positive contribution

- Develop self-confidence and successfully deal with significant life changes and challenges
- Develop enterprising behaviour

Forest School helps children to develop their confidence. As they become familiar with Forest School they can take their new-found confidence into school and into other areas of their lives. Forest School can be particularly effective for children who do not do well in the classroom environment. Children learn to solve problems and be creative and imaginative, thus showing enterprising behaviour.

Outdoor learning and risk

Thomas and Thompson (2004) strongly suggest that every child should be entitled to outdoor learning. This Forest School evaluation shows the value for children of contact with woodlands, which is limited for many children in modern society. Opportunities for outdoor learning have decreased for several reasons, including health and safety concerns, a lack of funding and pressures to meet curriculum targets. The Education Outside the Classroom Manifesto is to be published in 2006 by the Department for Education and Skills after consultation. The aim of the manifesto is to provide all children and young people with a variety of high-quality experiences outside the classroom: *'The world beyond the classroom can stimulate, motivate and bring learning to life'* (Department for Education and Skills, 2006).

The Campaign for Adventure (Lewis, 2005) is concerned about the current climate of risk aversion and advocates seeing the positive side of risk, for example when children test their skills and learn to face new challenges. Forest School demonstrates that effective measures can be taken to reduce and manage risk to an acceptable standard (Figure 11).

Figure 11 Learning to use tools at Forest School



There is growing concern among environmentalists that many children and young people are not having contact with nature. Research has shown that children who use woodlands when young are more likely to do so as adults (Bell *et al.*, 2003). If this connection to the natural environment is lost due to parents' concerns about children's safety, or because of the dominance of indoor activities, centred on television and computer use, then there is a chance that a vital opportunity for connecting people with the natural environment is being lost. The Real World Learning campaign is currently lobbying the government to promote outdoor education and out-of-school activities for this very reason (Cooper, 2005).

The government has realised that the reduction in the number of school trips in recent years due to concerns about safety and liability might actually be detrimental to children's development. Therefore, it is now encouraging a greater emphasis on the use of the outdoors for learning: *'Outdoor education gives depth to the curriculum and makes an important contribution to students' physical, personal and social education'* (Office for Standards in Education, 2004).

Self-appraisal evaluation

In terms of the action-research process in this evaluation, stakeholders in each of the case studies reported that this was a useful way to learn from each other about the benefits and problems of running and evaluating Forest School. The practitioners gained a sense of ownership of the work because they had been involved from the beginning. Because of the accepted culture of evaluation as being 'the role of the outsider', practitioners in the case studies had not previously concentrated this much energy and effort in collecting such detailed information. They found that using the self-appraisal methodology identified a useful aspect of their work and as a result were able to review and improve their practice.

Action research has been defined as a '*participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview... It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities*' (Reason and Bradbury, 2001). It is clear that this not only describes the self-appraisal approach undertaken for this study but also asserts Forest School itself as a formative evaluation tool for practitioners to assess and better understand the children in their charge.

Recommendations

The recommendations outlined below are based on the two phases of evaluation and the findings of previous evaluations (Massey, 2004; Davis and Waite, 2005). These provide potential ways in which the benefits of Forest School could be more widely disseminated.

Make Forest School more widely available

Forest School benefits many children and should be used on a wider basis as a vital part of children's outdoor learning experience, and to provide many more children with the opportunity to experience this as part of their overall education. Where funding is restricted, criteria could be developed to decide which children would gain most from the experience. These could be kinaesthetic learners, children lacking in confidence, children who are having particular difficulties in coping with learning in the classroom, and children in disadvantaged areas who may have little contact with or experience of the natural environment.

Support from local education authorities is crucial for effective Forest School provision. The case studies in this report all benefited from this support. '*There is a lot of enthusiasm, energy and expertise within the Forest School movement. The most effective Forest School schemes so far are those which enjoy Local Education Authority support and are being used to help meet the Foundation stage*' (Forest Schools England, 2004).

Continue evaluation and self-appraisal

Tracking children over a longer period, such as 2–5 years, is needed to see whether improvements made at Forest School last when the child has stopped attending. It may be that a certain length of time (e.g. 1 year) is needed at Forest School if the benefits to the individual are to last in the long term.

The self-appraisal approach used in this evaluation is an effective method for practitioners to use to gain an understanding of best practice, the importance of Forest School and the way the setting affects children's development. This approach is flexible and could be used more widely to develop the learning capacity of all those involved.

A rigorous self-appraisal methodology undertaken by practitioners could deliver two important benefits: the improvement and enhancement of day-to-day practice; and Forest School itself functioning as an accurate and insightful formative evaluation tool for practitioners. Once embedded in standard education practice, the regular contact and different perspective that the setting gives can be an efficient way to assess the development of children in a way that complements existing ongoing assessments of academic performance.

A better understanding is needed of how learning takes place at Forest School, how this benefits children, and why and how it might affect particular children. Exploring the balance between child- and adult-led activities could provide a useful framework in which to investigate this issue.

Promote Forest School and its health benefits

Successful examples of Forest School should be promoted widely to educationalists, environmentalists and parents so that a better understanding is gained of what Forest School is about, the impact it can have on children and how learning takes place.

The role of Forest School in physical development has health implications, and this should not be overlooked. For schools that are part of the Healthy School Standard (a government initiative to promote pupils' emotional and physical well-being), Forest School could be effective in helping them to meet the requirements of the scheme in an innovative way.

Consider school access in creation of new woodlands

In the creation of new woodland, consideration should be given to its distance from, and accessibility to, local schools. This is already taking place to a certain extent through the Public Benefit Recording System (devised by the Forestry Commission and North West Development Agency) being used in Northwest England (Newlands, 2005). Distance to schools and the number of local schools are criteria used to assess public benefit in this system. Forestry Commission Scotland has mapped schools within 1 kilometre of the national forest estate. This now provides a focus to help facilitate the use of the national forest resource by those identified schools and thus promote an aim of the 'Woods for Learning' education strategy, which is to use local woods for learning (Forestry Commission Scotland, 2005).

This experience has been incredibly valuable to our children. We have been lucky enough to have experienced a full year at Forest School and the benefits have been striking. These children now are independent and confident.

Staff member, Lognor, Shropshire

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Further reading and information

The Social and Economic Research Group: is part of the Environmental and Human Sciences Division of Forest Research. Other titles of interest produced by the Group include:

- **Trees are company: social science research into woodlands and the natural environment** (2002)
edited by Liz O'Brien and Jenny Claridge
- **Health and well-being: trees woodlands and natural spaces** (2003)
by Paul Tabbush and Liz O'Brien
- **A sort of magical place: People's experiences of woodlands in northwest and southeast England** (2004)
by Liz O'Brien
- **Involving people in forestry: A toolbox for public involvement in forest and woodland planning** (2004)
by Max Hislop, Mark Twery and Heini Vihemäki
- **Accessibility of woodlands and natural spaces: Addressing crime and safety issues** (2005)
by Liz O'Brien and Paul Tabbush
- **'Proving It!' Evidence gathering for forest managers** (2005)
by Suzanne Martin and Liz O'Brien
Forestry Commission Information Note 64
- **Public participation and partnership: a review of Forestry Commission practice and governance in a changing political and economic context** (2005)
by Sue Weldon in collaboration with Paul Tabbush
- **Leisure landscapes: understanding the role of forests and woodlands in the tourism sector. In: Forest Research Annual Report and Accounts 2003–04** (2005)
by Suzanne Martin
- **Consultation and community involvement in forest planning: Research in Cranborne Chase and North Dorset** (2005)
by Paul Tabbush
- **Woodland owners' attitudes to public access provision in south-east England** (2005)
by Andrew Church, Neil Ravenscroft and Gill Rogers of Brighton University; co-ordinated by Paul Tabbush
Forestry Commission Information Note 74
- **Trees and woodlands: Nature's health service** (2005)
by Liz O'Brien
- **Growing places: A study of social change in The National Forest** (2006)
by Jake Morris
- **Wild harvests from Scottish woodlands: Social, cultural and economic values of contemporary non-timber forest products** (2006)
by Marla Emery, Suzanne Martin and Alison Dyke

For further information on the above titles email: research.info@forestry.gsi.gov.uk
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